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Senate Hearings

Before the Committee on Appropriations

Department of Defense Appropriations

Fiscal Year 2003

107th CONGRESS, SECOND SESSION

H.R. 5010

DEPARTMENT OF DEFENSE
NONDEPARTMENTAL WITNESSES

Department of Defense Appropriations, 2003 (H.R. 5010)

**DEPARTMENT OF DEFENSE APPROPRIATIONS FOR
FISCAL YEAR 2003**

HEARINGS

BEFORE A

SUBCOMMITTEE OF THE
COMMITTEE ON APPROPRIATIONS

UNITED STATES SENATE

ONE HUNDRED SEVENTH CONGRESS

SECOND SESSION

ON

H.R. 5010

AN ACT MAKING APPROPRIATIONS FOR THE DEPARTMENT OF DEFENSE
FOR THE FISCAL YEAR ENDING SEPTEMBER 30, 2003, AND FOR
OTHER PURPOSES

**Department of Defense
Nondepartmental witnesses**

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**DEPARTMENT OF DEFENSE APPROPRIATIONS
FOR FISCAL YEAR 2003**

WEDNESDAY, FEBRUARY 27, 2002

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 10:25 a.m., in room SD-192, Dirksen Senate Office Building, Hon. Daniel K. Inouye (chairman) presiding.

Present: Senators Inouye, Hollings, Byrd, Dorgan, Feinstein, Stevens, Specter, Domenici, Shelby, Gregg, and Hutchison.

DEPARTMENT OF DEFENSE

OFFICE OF THE SECRETARY

STATEMENT OF DR. PAUL WOLFOWITZ, DEPUTY SECRETARY OF DEFENSE

ACCOMPANIED BY DR. DOV ZAKHEIM, UNDER SECRETARY OF DEFENSE, COMPTROLLER

OPENING STATEMENT OF SENATOR DANIEL K. INOUYE

Senator INOUYE. Secretary Wolfowitz, Dr. Zakheim, on behalf of the committee I would like to welcome you as we begin our deliberations on the Department of Defense (DOD) appropriations request for fiscal year 2003. It provides for the common defense. So states the Constitution in its preamble. This function was so important to the formation of this more perfect union our forefathers placed this clause in the very first paragraph of our Nation's governing document.

The function of this subcommittee is to appropriate the funding necessary to insure that our military can provide for the common defense. It is indeed a critically important task. Last year some would argue we failed in that endeavor. On September 11, 2001, our defenses broke down. Three icons of American strength, the Twin Towers and the Pentagon, the workplaces of thousands of American were attacked with devastating consequences. The attack came not from a hostile nation but from a handful of terrorists armed with jumbo jets. Their weapon, filled with irony, was one which symbolizes American economic success and democratic freedoms. Our airlines have afforded millions of our citizens to fly unfettered for business or pleasure.

As we all know, thousands of lives were lost and had it not been for the heroic efforts of civilians on a fourth plane, another location

would have also likely been attacked. Some would argue we failed in this attack, they want to know how this happened, what went wrong, and who was to blame, and I think these are fair questions. It might not be fair, but it seems to me that many who are quick to point fingers today are the same ones who would have argued that we need to cut defense spending, that we don't need to modernize our forces or pay our troops, many of the same ones who wonder why some of us feel it is necessary that we pay our military personnel a decent wage and why we work to insure that they have adequate housing, acceptable health care and the promise of a reasonable retirement income after they have sacrificed for our country.

I know that our witnesses today and my colleagues here are not among these naysayers. We recognize that less than 1 percent of the American population is willing to wear the uniform of our Nation. We know that we should be grateful to them and we must treat them accordingly. I tell you this because I already hear the criticism of your budget request for fiscal year 2003.

These critics argue that, why should we be giving the Pentagon an increase of \$48 billion when they just had a \$20 billion increase less than a year ago. They point out that at the same time as defense is increasing substantially, all other discretionary spending is being curtailed with a minimal increase only to cover accounting change. They want to know how homeland defense, the protection of the waterways and airports will be safeguarded within this small increase in domestic spending. They find the disparity between defense and non-defense troubling.

Mr. Secretary, Dr. Zakheim, I will not be a party to shortchange defense, but I think that you have your work cut out for you. It will be up to you to convince our colleagues that your needs are greater than those of other Federal agencies, the Federal Bureau of Investigation (FBI), the Customs Service, the Coast Guard, State Department and others. They too must strive to better protect our Nation from another terrorist attack and meet the challenges of this century.

Your task is particularly challenging as you have requested \$10 billion for unknown contingency costs. Your critics call this a slush fund. Any light you can shed on this will help us defend this request. Mr. Secretary, Dr. Zakheim, we look forward to your testimony on these and other important issues.

But before we proceed, it is my privilege to call upon my good friend the vice chairman of the subcommittee, Senator Stevens.

STATEMENT OF SENATOR TED STEVENS

Senator STEVENS. Thank you very much, and I apologize for being late. I was in another subcommittee meeting before that vote. I do join in welcoming these two witnesses.

I think no administration has faced in as short a period of time the range of national security challenges that this one has faced in this first year and I think it is really a change, substantial change in our society. But I think that the men and women of our armed services owe a great deal of gratitude to the two of you for your hard work and your sacrifice in taking these positions, and I do thank you for your extraordinary leadership in meeting these chal-

allenges and I'm sure that you are now and will become even more trusted partners of this committee and our work for defense.

We have got both a blessing and a curse right now. The additional funds that we have before us now requested by the administration will go a long way to address the things that we know exist in our Department of Defense, but it is going to increase the second guessing that we will hear along the line about the choices to be made in the budget and particularly between the budget for defense and non-defense, as the chairman has indicated. We constantly face questions of why there should be such an increase in defense.

We worked with you last year to produce legislation to respond to the attacks of September 11 and I know under the leadership of Senator Inouye we will continue with a sense of determination to meet the needs that you have outlined here today to assist our men and women in uniform both home and abroad.

I joined the chairman and others last week in going to central Asia and I have to tell you, we have traveled around the world to meet with our military forces now for well over 30 years and I have never seen young people so ready and so confident and so able, they really had a tremendous attitude, the morale was very high, and it reflects great credit upon the job that you all are doing and those in the command structure are doing to reassure these young people of what their task is and what their mission is.

I look forward to your testimony and an opportunity to work with you as the year goes ahead. Let me say, I think there are going to be some changes within the command structure that I still do not understand, but we will watch, we will deal with those as they unfold. Thank you very much.

Senator INOUE. Senator Hollings.

STATEMENT OF SENATOR ERNEST F. HOLLINGS

Senator HOLLINGS. Thank you very much, Mr. Chairman. I am glad to meet Dr. Zakheim. I have been an admirer of Secretary Wolfowitz for a long long time and incidentally, I am an admirer of Rumsfeld and was so before he became popular. Last year there was a news story that he would be the first in the Cabinet to leave. I am not going to get into that but since the distinguished gentleman is "clueless in the Nation's capital," I guess that is the Governors that David Broder writes about, because they come to town and they are worried, and they find almost a hedonistic government here in Washington.

Specifically, every one of them have deep deep deficits, there are not any surpluses. The State just over here across the river is over \$1 billion, up in New York the State there is \$48 billion, and the City of New York, Senator Stevens and I were there, and on saving the City of New York, that is \$25 billion in the hole. There are at least a half dozen States trying to not just cut spending but increase taxes. Governor Bush down in Florida, he is holding back, withholding on a tax cut. But he is not calling it a tax increase. When we try to hold the line and practice fiscal responsibility, they said oh no, that is increasing taxes, and you cannot comment on the reality in this town. The pollsters have taken over totally, Mr. Chairman.

But the point is that we just seemingly go on and on in 1999 and incidentally, the Clinton budget, I will have to check it, but he was very sensitive about having ducked the military, it was a point in his campaign and in fact it is an important point down in my State still. But the fact was, he was not going to deny the military in his 8 years as President and Commander in Chief. And while we had in 1999 the \$275 billion, in 2000 we jumped it to \$295 billion, and last year we jumped it another \$11 billion to \$306 billion. Both the year before last we had a pay increase, last year we had a pay increase, and there are increases that you are now submitting. But that is not the point.

The point is that this aura of somehow defense had gone to pot on President Clinton's watch, yet the two distinguished gentlemen and ranking members say the morale is high and everybody knows they have performed admirably in Afghanistan, so we have a strong defense. But last year sitting in that same seat, Secretary Rumsfeld 6 days before 9/11 attested to the fact that he was going to have a new high tech defense, which calls for the old systems to be phased out and the savings were going to pay for the high tech systems. He said it was going to cost more money, but he attested to the fact that the budget you are now here to testify on, Secretary Wolfowitz, is \$347 billion. He said the budget would be \$328 billion for this fiscal year, but the one you're testifying about this morning it was going to be \$347 billion. Of course since that time we have added \$20 billion in the supplemental and we willingly did so, we wanted to show our troops our support.

And yet we find here today, that there is \$50 billion more, like he said, in a contingency fund. The Crusader, the V-22, the F-22—every kind of piece of equipment imaginable. And then in this year's submission, the Navy is not going to start constructing enough ships and everything else, yet there is a projected \$650 billion as what we are going to have to approve this year for the 10-year budget.

So I will be questioning trying to find out how in the world can we maintain the credibility of this subcommittee, Mr. Secretary. I will never forget Schwartzkopf coming up here after Desert Storm, and he did not go to the authorizing committees at all, and he did not go, he said I am coming to this Defense Subcommittee here in the United States Senate because you saved my Central Command. They were about to abolish it, and we saved that. You remember that, Senator Stevens, Mr. Chairman, and we have always had it on the other side, Chairman Inouye. On this subcommittee, we are the ones that are going to provide resources to our Armed Forces.

So I welcome you, but we are going to have to have some cold hard justifications—this town is going to sober up sometime this year. We already ended up last year without a surplus and on the contrary, a \$43 billion deficit. As you sit in that chair we are already 4 months into this fiscal year, almost 5 months, \$190 billion in the red, we have a deficit, and we know it will exceed over \$350 billion by the end of the year. And so the politicians that are running for reelection in October when those figures come out, they will say that we are running a deficit of \$350 billion because of Afghanistan, but that war did not cost that much. But of course when

we say we are not going to pay any bills, all the Governors are having to pay their bills.

We have always paid for our wars. We have to pay our taxes, so that when this committee votes to pay for this war, we have resources to pay the bills. But we say by the way, since we have a war we are going to have deficits and incidentally, the war is never going to end. Thank you, Mr. Chairman.

Senator INOUE. Senator Hutchison.

STATEMENT OF SENATOR KAY BAILEY HUTCHISON

Senator HUTCHISON. I would just like to say that I think that the Department of Defense has done a phenomenal job since September 11. Who would have thought that this would be the mission that you would be undertaking. We thought you were going to be required to update the military for the next century, and you are, but you're also dealing with the crisis of the moment, and I certainly appreciate the increase in needs this demands and we will work with you in every way.

I do have a couple questions which I will save for later. I do want to mention that the Department has always funded the research for Gulf War illness, which I think has enormous implications for the future as well as the past. We must not only make sure that our people are treated right from previous service but also ensure that we find the cause so that we can treat the people who will be subjected to possible chemical warfare in the future. I do not see enough in this year's budget submission for this, so I would like to just point that out and say that I hope that you will be amenable to continuing that research for the cures and the potential vaccines that we will need for our servicemembers who might be exposed to chemical warfare in the field in the future.

I thank you and I will have a few questions later.

Senator INOUE. Thank you. Senator Feinstein.

STATEMENT OF SENATOR DIANNE FEINSTEIN

Senator FEINSTEIN. Thank you very much, Mr. Chairman. Gentlemen, I didn't start out quite where Senator Hollings is in his remarks, but I must tell you, I have come to have a very great appreciation for how the Department is being run, for the leadership of the Secretary. For you, Mr. Wolfowitz, I have had occasion as you know through the briefings and intelligence to follow this, and I think you are doing a very impressive job and I just want to say that.

Now I have some real concerns about this budget and I also want to speak to this. I think my first concern is that perhaps the force structure changes are not always attuned to this new warfare, which is asymmetrical, which is probably going to be with us for a long time, where there is going to be a great deal of difficulty in sorting out combatants from noncombatants, and where the type of warfare may not always be the same as it is in Afghanistan where you have the ability for the Northern Alliance to do much of the groundwork and we just use our technology in the air with great success.

That if this war on terrorism is going to be sustained and no one knows really what victory actually will be, that kind of privileged

position is not always going to be there, and so I have a concern as to whether our force structure is really adequate to reflect this kind of a war concept.

I also believe that because we are in this and we are in it for a sustained period of time, we no longer have the relative luxury to fund systems with questionable applicability, particularly related to the missile defense systems. I am very concerned about the continued priority the Department is placing on the development of a national missile defense program for which I can see little applicability in the war that we are actually going to be sustaining most likely for the next decade, I hope not, but it is very likely that that could be the fallout. And so I am concerned that the testing, the cost, and strategic and arms control implications of the current missile defense plan may well detract valuable resources, time and attention from more pressing security needs. I am willing to support a judicious testing program, because I think it is important to do so, but I have real questions about the administration's development and deployment plan and I hope to ask about that in my questions.

I also have concern about the fact that the Department is asking for the 44 F-18s, the 12 C-17s, the joint strike fighter, the F-22, all of these planes, and I wonder frankly if they are all necessary and what the priority is if there is a priority. I mean, I know the joint strike fighter is not going to come on line soon enough to provide the kind of interservicing we had hoped for, but nonetheless, these are significant new requests.

So, the bottom line is I look forward to discussing that with you and also this \$10 billion fund that is there which concerns me because I have reread the resolution we passed to authorize the action, the military action against those who were responsible for 9/11 or connected to 9/11. I recognize the word connected may also authorize other things, but to put in really \$10 billion seems to me, significantly reduces the Congress's opportunity to exercise the purse strings as we are entitled to do.

So those areas of my concern and I just want to thank you for the very good work that you and the Secretary have done up to this point, and I look forward to having an opportunity to ask these questions at the appropriate time. Thanks, Mr. Chairman.

Senator INOUE. Senator Domenici.

STATEMENT OF SENATOR PETE V. DOMENICI

Senator DOMENICI. Thank you very much, Mr. Chairman. Let me say it is good to have you here, and my comments are going to be brief.

First, I want to say things have been going our way for a change. This was a very difficult war to fight, and frankly I am very proud of the way it has progressed, I commend the Department, the Secretary, those who have helped him such as yourself, and obviously the President for his leadership. There is a long way to go however.

We have also been fortunate in that the recession that we were all worried about may have already bottomed out. Economists are now saying this may be the shallowest recession we have had in modern days, and already the gross domestic product is moving

into a positive mode from having been only 2 or 3 months in the mildest of recessionary numbers.

Our country was faced with both a recession and a war, and there were a lot of people who wondered how long we could continue to fund our defense and other needs and have a recession. I think we are going to have that question answered because I think we are going to be out of the recession. From my standpoint the question is, do you have a need for everything that you have asked us for and if you do, then we ought to fund it. If there are some things we can save money on, it does not mean we ought to give you less, because obviously there are some things that should be funded that are not. I think it is just as important that you tell us, tell this committee, what you think would be helpful that did not get funded because I believe that this is the time to send the right signals and to get started with reference to science and technology. I am somewhat concerned with whether we are doing enough in that area, Doctor, and I would like your comments in terms of research, science and technology.

Actually we are living in an era when about every 10 years we completely change technology as I understand it. My questions will be directed in that area. I thank you once again; it is a pleasure to serve on this committee, and I hope we will be able to do you justice and do the Defense Department justice.

My thought, if nobody else raised it, and if they did I want to lend my voice to it, is about the \$10 billion that you seek in an emergency fund that would not be appropriated for specific programs or items. I think that is new and unique, and I don't know how we can do that and how it sets itself into the budget. So I believe there has to be some discussion about that \$10 billion which you want us to give you the flexibility on; I am not sure that we can do that. But I do share the basic underpinnings of that request; you do need flexibility in fast moving times. You might need a reserve for flexibility, but I am not sure that we know how to do that.

Thank you very much, Mr. Chairman.

Senator INOUE. Senator Dorgan.

STATEMENT OF SENATOR BYRON L. DORGAN

Senator DORGAN. Dr. Wolfowitz, thank you very much for what you are doing, and Secretary Rumsfeld and the administration. I think things are going very well and the Congress and the American people appreciate that. I along with some of my colleagues was in central Asia some weeks ago, and I could not be more proud of the men and women who are serving our country and I know that they recognize your leadership and the support of the Congress in that service.

Dr. Wolfowitz, I would like to call you at some point if you will take my telephone call to visit about a couple issues. There is no money in this budget to buy airplanes for the Air National Guard. We have some of the best pilots flying the oldest planes on Block 15, the F-16s, and you know, we need to do something about that. We talked to the previous administration about it as well, and we need to do something to reconcile that issue.

I would also like to just mention in the area of defense microelectronics, there was an ad in the Post the other day to balance our

procurement for weapons with information. As all of us know, the Department of Defense has trouble keeping up with advances in commercial electronics and information systems. New generations of microchips are being introduced in the commercial world roughly once every 18 months and by the time DOD deploys a system, its electronics are often several generations behind those being marketed in the commercial world. I hope that we can talk about the defense microelectronics activity. Senator Stevens and I have done some work in that area and I think it is an increasingly important area that we recognize, especially in view of what is happening in central Asia.

But again, let me—I know you came to testify and let me allow you to do that. Thank you for being here and I hope we can pursue a couple of these issues to help us address them.

Senator INOUE. Senator Shelby.

STATEMENT OF SENATOR RICHARD C. SHELBY

Senator SHELBY. Mr. Chairman, I ask unanimous consent that my entire statement be made part of the record.

Senator INOUE. Without objection.

Senator SHELBY. And other than that, I just want to welcome Secretary Wolfowitz to the committee and I look forward to what he was to say. But I also want to join the chorus of the committee in commending not only Secretary Wolfowitz, but Secretary Rumsfeld, for the leadership that you have shown over at the Pentagon. I want to say thank you on behalf of my constituents and I think a lot of the American people.

[The statements follows:]

PREPARED STATEMENT OF SENATOR RICHARD C. SHELBY

I want to applaud President Bush and our top defense officials for sending us a fiscal year 2003 defense budget that I think all of us should be encouraged about. While budget restraints necessitate that the push and pull continues for control of limited dollars to fund competing requirements such as recapitalization and transformation, I do believe that things are looking up at the Department of Defense. The past decade has been very difficult indeed. Without congressional action to add defense funding during those years, I would hate to see where the Department would be now.

The Bush Administration's \$379 billion request signals a firm commitment to winning the war on terrorism and to building a force that, through transformation, will become even more dominant across the full spectrum of military operations. After September 11, when we look both internally and abroad and assess the threats we face, it is increasingly clear that we must pass this defense budget and continue to work aggressively to build our defensive and offensive capabilities in future years. The devastating attacks in New York and against the Pentagon prove that we are vulnerable. It is sobering to realize just how vulnerable we are to the myriad of possible attacks we could suffer at the hands of terrorists. While the United States was the target of the attack on September 11, our allies are also vulnerable to attack. I am increasingly concerned when I look across the Atlantic and assess the military capabilities of our allies. I see our most important partners and friends whose militaries are falling further and further behind our own in funding and technology.

I also hear increasingly harsh rhetoric focused on the Administration's prosecution of the war on terrorism and our willingness to act unilaterally. While we are stronger with our allies standing beside us and contributing to this war on terrorism, I do not believe that we should let the coalition dictate our interests. I look to the Bush Administration to explore the "capabilities gap" that exists and continue to work closely with our allies to promote cooperation as we move to the next phase of the war on terrorism.

I intend to do what I can to support and help President Bush, Secretary Rumsfeld, and Deputy Secretary Wolfowitz to win this war as well as rebuild our armed

forces and shape them for the future. These efforts will continue to require a lot from our President and military officials. President Bush has provided outstanding leadership in these efforts and continues to communicate in very clear and precise terms with both the American people and with those abroad who would seek to do us harm.

An honest budgetary assessment of the threats and the risks we face if we are not prepared is represented in the fiscal year 2003 defense request before us. We must invest in our men and women in uniform, in robust research and development programs, in new and technologically superior weapons, in airlift and naval assets that enable force projection, and in recapitalization of legacy systems that will form the bridge to our future objective forces. Each service has needs and we should work very hard to see that as many are met as possible.

We face a delicate balancing act—near and long term threats with limited dollars to buy what we need across the services to modernize our military. The Bush Administration has presented us with an encouraging defense request of \$379 billion that is projected to grow by \$400 billion over the next five years. The war we are waging and the changes we seek to make within our military will take time and will be expensive, but I am confident that we will be victorious on both fronts.

ADDITIONAL SUBMITTED STATEMENTS

Senator INOUE. The subcommittee has also received statements from Senators Kohl and Cochran, which will be inserted into the Record.

[The statements follow:]

PREPARED STATEMENT OF SENATOR HERB KOHL

In his budget request the President proposes a massive increase in defense spending for a nation at war. This budget calls for \$379 billion in fiscal year 2003 defense spending—a \$48 billion increase—to fund pay raises, cover rising health care costs, procure high tech weapons, and prosecute the on-going war on terrorism.

Especially during wartime, we are reminded of how much our security depends upon maintaining a well trained and equipped fighting force. I am encouraged by the investment this budget makes in our soldiers, providing a significant pay raise and boosting the Base Housing Allowance to keep the benefits of military service competitive with the private sector.

I am aware that a significant portion of the budget increase will go to funding the increasing costs associated with providing health care to our soldiers, retirees, and their families. General health care inflation and the new Tricare for Life program provide significant funding challenges, but we must keep our commitment to providing first-class health care to our military personnel.

The events of September 11th and our on-going campaign in Afghanistan demonstrate the vital importance of transforming our nation's military to meet the challenges of the 21st century. Our experience in Afghanistan has highlighted the critical role that intelligence, special forces, and high-tech, guided munitions play in modern combat. But if we are to make a full investment in transforming our military into a more mobile force, then we must have the leadership to make tough choices. In reviewing this budget, I am concerned that while it makes the right investments in developing and procuring the weapons of the future, it fails to make the necessary cuts in legacy systems.

This funding boost is the largest in two decades and the major portion of an overall budget that will return us to deficit spending. While the on-going war calls for increased spending, the DOD must redouble current efforts to improve business practices to get the most out of our tax dollars.

PREPARED STATEMENT OF SENATOR THAD COCHRAN

Mr. Chairman, I am pleased to join my colleagues in welcoming Secretaries Paul Wolfowitz and Dov Zakheim here today. I look forward to working with them and our Defense leadership to sustain and improve our current capabilities while our military transforms strategies and platforms for the 21st century.

I am pleased that this year's budget request attempts to address some of the concerns of this Subcommittee, including fighting and winning the war on terror, maintaining morale and readiness, transforming the military for the 21st century, improving Department of Defense management operations, as well as providing a significant development and deployment program for missile defenses. However, I am

troubled that some areas still fall short of the mark, particularly ship construction. I understand that the Quadrennial Defense Review calls for a minimum floor of 310 hulls to support our maritime strategy. Further, Defense and Navy leadership have stated a requirement for 340–375 ships while the current shipbuilding rate is decreasing. I am concerned by the continued downward trend in shipbuilding and its potential negative impact on our Nation and our Navy's ability to maintain a credible forward presence and perform required missions. Additionally, I am concerned with the harm that the construction rate is having on our shipbuilding industrial base and its ability to meet future requirements.

Full commitment should be given to development of the DD(X) program and its family of destroyer, cruiser, and littoral ship platforms. It will provide the operating efficiencies, stealth, and power projection that will enable us to prevail in future conflicts with less impact to our sailors and Marines.

A renewed commitment should also be given to the Marine Corps-Navy team in the amphibious arena. Modern strategy points to maneuvering and presence in the littorals, yet the amphibious shipbuilding program reflects only five ships through fiscal year 2007. I look forward to your testimony.

Senator INOUE. Thank you very much. I will now call upon Dr. Wolfowitz.

SUMMARY STATEMENT OF DR. PAUL WOLFOWITZ

Dr. WOLFOWITZ. Mr. Chairman, members of the committee, it's an honor to appear before this committee. We are in the presence of three decorated veterans from World War II, members of that greatest generation, and I'm in the presence of a committee that has been in the forefront of providing the resources that have enabled our servicemen and women to accomplish what they are doing for this Nation's security.

RESOURCES FOR THIS HISTORIC CHALLENGE

We do indeed face enormous challenges, in some ways not as big perhaps in terms of the scale or the resources involved, but in terms of the stakes involved, in some ways as big as that great challenge of World War II. We are faced as we are always faced with in wartime with these difficult issues of priorities, and Mr. Chairman, you referred to that in your opening remarks and I'm sure we will in the questions, but I think we all owe an enormous debt, an enormous vote of thanks to what our military has been able to accomplish already so far in this campaign.

If I had come to you in June and said we needed extra money in order to be able to base forces in Kazakhstan, not only would you not have believed me, I'm not sure I would have believed myself. I wouldn't have even been able to tell you that that was in Uzbekistan. We are now performing functions today that were in no military plan as of September 11th, and we're doing them I think with great effectiveness.

And I believe, although one has to realize that there is still a very long way to go, I think it's unquestionable that the success so far in that campaign has done a great deal to protect Americans here at home. Secretary Rumsfeld has said no amount of defenses and barriers and protective activities, and no amount of hunkering down can protect us from every possible way the terrorists can attack. Therefore, while we have to take security measures and we're taking them on an enormous scale, and I might say not just in the FBI or Customs, but also billions of dollars and tens of thousands of people in the armed services are engaged in protecting our facilities here in the United States.

But by taking the war to the enemy and by doing it as effectively as our men and women have been able to do, I believe has made a significant contribution to the fact that so far, and I can only say so far, that they haven't struck again. It's not that they're not trying. We have the evidence of Mr. Reid, who nearly killed 150 people on a civilian airliner, who is clearly part of that same network. We have intelligence every day that says they are still planning.

So there may be some downs as well as some ups, and I think Senator Domenici said, it's nice that things are going our way for a change, and they are going our way for a change. Things may not always be going our way. We've got to have the same kind of staying power for this conflict that your generation had in World War II.

I think we can say thanks that we are able to accomplish this campaign, this war, with a defense budget that even with this very large increase, will be less than 3.5 percent of our Gross Domestic Product (GDP). I don't believe there is any time in history that I'm aware of, certainly not in the history of the 20th century, when we ever were able to go to war with that small a defense burden. I hope it will stay at that level, but I think we should appreciate how much is accomplished with a relatively small piece.

As we look at priorities, it's not to shortchange any of the other things that other agencies have to do for our security or related activities that the State Department does to make this campaign possible, but I do believe that the priority does need to be on all of those activities conducted by government that can help make not only our citizens today safer but to provide a free and safe future for our children and grandchildren.

Mr. Chairman, I have a much longer statement that I would like to submit for the record, and if you will bear with me for maybe 10 minutes, I would like to just summarize the main points in it.

Senator INOUE. Without objection.

ACCOMPLISHING SEVERAL MISSIONS SIMULTANEOUSLY

Dr. WOLFOWITZ. We are in fact trying to do two major tasks at the same time. We are trying to fight a war on terrorism. We are also trying to prepare our forces for the conflicts that might come a decade from now or even longer, and the defense forces of any particular year are very much the product of investments that were made a decade or two decades before. So even as we're fighting this war, we need to be certain that we're doing everything we can to make sure that our successors 10 or 20 years from now have those capabilities they need to protect our country in the future.

When the Cold War ended, Mr. Chairman, we began a very substantial draw down of our defense forces and our budgets, which was appropriate to do so. We cashed a large peace dividend, lowering the level of our defense burden by half of what it was at Cold War peak. Much of that, as I said, was an appropriate adjustment to the great improvement in our security that resulted from victory in the Cold War. But ultimately, that draw down went too far.

While our commitments around the world stayed the same and even grew in some cases, our country spent much of the 1990s living off of investments made in the Cold War instead of making new investments to address the threats of this new century. As I dis-

cussed with this committee last year, even before September 11, we faced the urgent need to replenish critical accounts. After September 11, we find ourselves facing the additional challenge of accomplishing three significant missions at the same time. We can only accomplish those three missions, fighting the war on terror, supporting our people, and selectively modernizing the forces we have and transforming our Armed Forces for wars of the future, with proper investments over a sustained period.

RISING COSTS AND MUST-PAY BILLS

And we have to accomplish these missions in an environment of rising costs, particularly rising costs for the most critical element of the force, our people. Indeed, if one wants to understand properly why we are here for such a large increase, a \$48 billion increase, I think you need to understand that the 2003 budget addresses a variety of must-pay bills, and many of them are personnel accounts. It includes a \$14.1 billion increase for retiree health care and pay raises. If we don't pay our people properly, we risk jeopardizing that critical element of the force.

There are other bills such as realistically pricing the systems that we buy and realistically costing our activities, that's another \$7.4 billion. There is \$6.7 billion to cover inflation, and \$19.4 billion including the contingency fund, for the war on terror. Added together, those bills come to \$47.6 billion, which is why President Bush sent to Congress a 2003 defense budget request of \$379 billion, a \$48 billion increase from the 2002 budget. And if you do that arithmetic, Mr. Chairman, you can see that the only reason we are able to have a considerable amount of money to invest in new programs after paying all of those bills is because we have in fact reallocated priorities, killed programs, and made hard choices and smart choices.

NEW DIRECTIONS FROM THE QDR

The 2003 budget request was guided by the results of last year's strategy review and the Quadrennial Defense Review (QDR). Out of the intense debate that led to those reviews, we reached agreement within the Department on the urgent need for real changes on our defense strategy.

Among the new directions set in the QDR, I've highlighted three as among the most important. First, we decided to move away from the two major theater war force sizing construct to a new approach that instead places greater emphasis on deterrence in four critical theaters, backed by the ability to swiftly defeat two aggressors at the same time while preserving the option for one rather than two major offensives to occupy an aggressor's capital and replace the regime.

Second, to confront a world marked by surprise and substantial uncertainty, we concluded that we needed to shift our planning from the threat-based model that has guided our thinking in the past to a capabilities-based model that is more appropriate for a future that is highly uncertain.

Third, that capabilities-based approach places great emphasis on defining where we want to go with the transformation of our forces.

In the testimony that follows, I'm going to address where we are putting dollars and resources behind that transformation. As Secretary Rumsfeld has said, transformation is about more than just dollars, it's about more than bombs and bullets and dollars and cents, it's about new approaches, it's about culture, it's about mindset and ways of thinking of things. And that by the way, Mr. Chairman, has been characteristic of major military transformations in the past, where frequently we have seen two adversaries, one of whom was equally equipped with the same new equipment, but one of which understood the implications and the organizational doctrine, the cultural changes required to use it effectively and the other didn't.

Indeed, that is part of the reason why the British, many think that is why the British and French lost the Battle of France in a mere 4 weeks to an enemy that was no stronger in equipment accounts. In just the few months of the current campaign, we have seen a great deal of that kind of change underway.

To mention just one example, not long ago I had the opportunity to be briefed by an Air Force F-15 pilot who had been persuaded to forego a rated pilot's job to instead fly an unmanned Predator aircraft from a location far from the field of battle. For a pilot destined for the cockpit, it was a difficult choice for her, yes, it was a woman pilot, especially given concerns among pilots that such an assignment could stymie their careers. There is no question that unmanned vehicles have made a significant impact in the current campaign, and promise even greater operational impacts in the future, which is why the Air Force leadership today is working hard to encourage other such trailblazers to become Predator pilots and help define a new concept of operations. So at this moment, what it means to be a fighter pilot in the U.S. Air Force is undergoing a transformation.

It's also important to note that transformation doesn't mean transforming the entire force overnight. It begins with leveraging the systems we have with new technology and new thinking, and as we begin by changing only a small percentage of the force, we can indeed change the capability of the entire force. That is our aim, and by giving some definition to what transformation is and putting money behind those ideas, we believe we have already energized the defense team in dramatic ways, but we can energize a transformation that will be ongoing and exponential and provide the right forces to our successors a decade from now.

In the QDR and the review that defined our investment priorities in the 2003-2007 budget, we identified six key transformational goals, and I would like to discuss how this budget addresses those goals. I would note that the budget as a whole requests some \$53.9 billion for research, development, test and evaluation (RDT&E). That's a \$5.5 billion increase over fiscal year 2002. And it requests \$71.9 billion for procurement, that's a \$7.6 billion increase over fiscal year 2002. It funds 13 new transformational programs and accelerates funding for 22 more existing programs.

Out of that total investment of some \$125, \$126 billion in procurement and RDT&E, the transformation programs that I am going to discuss in those six key categories account for roughly \$21 billion, or 17 percent of our investment funding, rising to 22 per-

cent over the course of the Future Years Defense Program (FYDP). Let me discuss the details of that \$21 billion into the six key categories as follows:

First, our highest transformational priority and identified as such even before September 11 is protecting our bases of operation and homeland defense. We know that both terrorists and state supporters of terrorism are actively looking to build or buy nuclear, chemical and biological weapons of mass destruction. We also know that a number of hostile regimes, many of them by the way who also support terrorism, are investing heavily in ballistic missile capabilities that threaten our allies and even to threaten the homeland of the United States. To meet our objective in making homeland defense the Department's top priority, the President's 2003 budget funds a number of programs, including not only a \$7.8 billion request for our refocused and revitalized missile defense research and testing program, but it is also important to note that the budget invests \$10.5 billion for a variety of programs directly addressed to combating terrorism. That's almost double, in fact slightly more than double the amount that we were investing in that area just 2 years ago, and approximately \$3 billion more that we are budgeting for missile defense in fiscal year 2003. That is due in very great measure to new priorities that we have to address in the wake of September 11, needs that range from the immediate necessities of hiring guards and building jersey barriers to the long-term necessities of training first responders and refining our intelligence response to the ongoing threat of terrorism.

Of that \$18.3 billion I just identified, we consider some \$8 billion of that to be truly transformational. And I should note that in the totals I'm giving you for transformational programs, we are applying a pretty tight definition to what we consider transformational.

Our second transformational goal from the QDR is denying enemies sanctuary. Again, this was identified as a high priority long before September 11. It has obviously been a major capability we have been using in this campaign. As we root out al Qaeda and members of the Taliban, it is readily apparent how important it is to be able to rob our enemies of places to hide and function.

The key to that is long-range precision strike and I would emphasize that long-range precision strike is not just about heavy bombers. It's also done with ground forces and most importantly, it's done most effectively when we can link ground and air assets together. During my last tour at the Pentagon, Mr. Chairman, during the Persian Gulf War, where we worked so hard to try to stop the Iraqi scud attacks on Israel, we had an almost total inability to take advantage of what we had in the air and link it with the brave people we put in on the ground. Obviously we have come a long way in the last 10 years in what we've been able to do in Afghanistan, but we need to go much further.

As we have seen in the campaign in Afghanistan, Special Forces mounted on horseback have used modern communications to direct strikes from 50-year-old B-52s. When Secretary Rumsfeld was asked why he was introducing the horse cavalry back into modern war, he said it was all part of the transformation plan, and indeed it is. Transformation isn't just developing new systems, it's also

about using old systems in new ways with new doctrines, new types of organization, and new operational concepts.

The fiscal year 2003 budget funds a number of programs designed to help us deny sanctuary to our enemies. It includes roughly \$1 billion of increased spending on unmanned aerial vehicles. It includes another billion dollars for conversion, to start the conversion of four Trident nuclear submarines from a Cold War nuclear mission into stealthy, high endurance conventional strike submarines.

It's important to note as I say, that we are applying a very strict definition to which programs we consider transformational. As an illustration, there are many things in this budget not included in these figures. For example in this budget request, we're asking for nearly \$2 billion, \$1.7 billion precisely, for funding to increase production of the joint direct attack munitions and other precision guided munitions which have proven critical to making transformation work.

With just that strict definition, the fiscal year 2003 budget requests \$3.2 billion for transformational programs to support that objective of denying sanctuary to our adversaries, and \$16.9 billion over the FYDP, an increase of 157 percent.

The third critical category is countering the very determined efforts of those who want to keep us out of their operating areas through what we call anti-access strategies, by attacking our ships at sea or denying us access to bases or attacking our bases. We see both in what our adversaries say and what they do that they recognize that if they have to go head to head with American forces, they will lose. If they can keep us from being able to operate in their area, it's their only chance. We have to be able to counter that. Overall, the fiscal year 2003 budget requests \$7.4 billion for programs to support that goal of projecting power over vast distances, and \$53 billion over the FYDP, an increase of 21 percent.

Our fourth key goal is leveraging information technology, the technology that was key to linking horse cavalry and B-52s. In that example, less than 20 minutes from the time a Non Commissioned Officer (NCO) on horseback entered key information into his laptop, Joint Direct Attack Munitions (JDAMs) launched from a B-52 miles away were dropping on enemy positions just a few hundred meters from that NCO, who was obviously a brave man, I would point out. Clearly a key transformation goal is to leverage advances in information technology to seamlessly connect United States forces to insure that they see the same precise real-time picture of the battlefield.

The fiscal year 2003 budget funds a number of programs designed to leverage information technology. One technology that we're investing in heavily which has very large future potential is laser communications, a promising experimental that if successful will give wide-band satellites the ability to pass data to each other at speeds measured in gigabits per second, as opposed to megabits per second, a significant and dramatic improvement.

I would note, Mr. Chairman, I don't think you had to worry about gigabits during World War II, but it's impressive to see what the young men and women, for example, at Fort Lewis in Washington, what they were able to do with computers. It's almost sec-

ond nature to them, and one example that we got at that same Air Force briefing I referred to, we were told about how the people netting these information gathering networks together are operating in chat rooms, operating six chat rooms at a time. We don't have to teach them the chat room product, they come into the service already knowing this remarkable capability.

The fiscal year 2003 budget requests \$2.5 billion for programs to support this objective of leveraging information technology.

Our fifth objective as information warfare takes an increasingly significant role in modern war is to be able to protect our information networks and to attack or cripple those of our adversaries. Many of the programs in that area are classified, it is a new area, it's one that I think we have to work even harder. The fiscal year 2003 budget requests \$174 million for programs to support that objective, an increase of 28 percent over the FYDP.

Finally, our sixth priority for transformation is space. Space is the ultimate high ground. The fiscal year 2003 budget requests about \$200 million to strengthen space capabilities and \$1.5 billion over the FYDP, an increase of 145 percent.

As important as transformation is, Mr. Chairman, it is even more important to take care of our people. They are the key, not only to the future but also to the present. The men and women who wear our Nation's uniform are doing us proud. Military service by its nature asks our service members to assume risks and sacrifices that the rest of us do not. We should not ask those who put themselves in harm's way to forego competitive pay or quality housing. The President's fiscal year 2003 budget requests \$94 billion for military pay and allowances, including \$1.9 billion for an across-the-board 4.1 percent pay raise.

It also makes major advances in lowering out of pocket housing costs for those living in private housing so that we will be able by 2005 to eliminate all out of pocket housing costs for our men and women in uniform.

Just a word, Mr. Chairman, about cost savings. We understand that we have a requirement to make the best possible use of the very substantial resources that you and your colleagues and the American taxpayers are providing us. We have taken a realistic approach in looking at a number of programs and found areas where we can save money. We have proposed terminating a number of programs over the next 5 years that were not in line with the new defense strategy or were having program difficulties, including the DD-21, the Navy Area Missile Defense, some 18 Army Legacy programs and the Peacekeeper Missile. We also accelerated retirement of a number of aging and expensive to maintain capabilities such as the F-14, DD-963 destroyers, and the Vietnam-era helicopters.

We are also proceeding toward our goal of 15 percent reduction in headquarters staffing, and the Senior Executive Council is finding additional ways and will continue to find additional ways to manage the Department more efficiently.

The budget as I mentioned at the beginning, reflects over \$9 billion in redirected funds from acquisition program changes, management improvements and other initiatives, savings that help to fund transformation and other pressing requirements.

Throughout this budget, Mr. Chairman, we were required to make some tough trade-offs. We were not able to meet our objective of lowering average age of tactical aircraft. However, we are investing in unmanned aircraft and in the F-22 and the joint strike fighter, which require significant up-front investments, but will not come on line for several years. While the budget proposes faster growth in science and technology, we have not yet met our goal of having 3 percent of the budget in that category. And we have not been able to fund ship building at replacement rates in 2003. Although our ships are relatively new, we've got to change that course or we will eventually find ourselves with a substantially reduced force.

In conclusion, Mr. Chairman, a budget of \$379 billion is obviously a great deal of money, but it is misleading to compare this budget to budgets of the Cold War or to the defense budgets of other countries. We do not face other countries' budgets on the battlefield; we fight their forces. The budget of the Taliban would have been a tiny fraction of that of the United States. Yet, it has been unquestionably important that we have had the capability to deploy forces thousands of miles away rapidly and effectively to an unexpected theater of operations to defeat that force.

Our success thus far in meeting this challenge only confirms that ours is the best military force in the world. We must have the best military force in the world. We can't afford to have less than that.

The New York comptroller's office estimated the local economic cost of the September 11 attacks on New York City alone will add up to about \$100 billion over the next 3 years. Estimates of the cost to the national economy from September 11 range from about \$170 billion last year and estimates range as high as almost \$250 billion a year in lost productivity, sales, jobs, airline revenue, and countless other areas. The cost of human lives and the pain and suffering of so many thousands of Americans is incalculable.

PREPARED STATEMENT

The President's budget addresses our country's need to fight the war on terror, to support our men and women in uniform, and to prepare for the challenges of the 21st century. This committee has been and continues to be an important safeguard of the long-term interests of our great nation, and I know you understand there is nothing more important than preserving peace and security. We look forward to working, continuing to work with this committee to insure that peace and security is what we can leave to generations to come. Thank you for your patience.

[The statement follows:]

PREPARED STATEMENT OF DR. PAUL WOLFOWITZ

INTRODUCTION

Mr. Chairman and Members of the Committee: This Committee has provided our country great bipartisan support and strong leadership, and our relationship with the Committee and its staff has been truly outstanding from beginning to end. I appreciate the opportunity to return to this committee to testify in support of the 2003 defense budget request. Since we met last summer, a great deal has changed, of course. I look forward to addressing some of these changes with you.

One of the greatest—and gravest—changes was brought by September 11th—a day that changed our nation forever. September 11th has taught us once again that

when it comes to America's defense, we must spend what is necessary to protect our freedom, our security and prosperity—not just for this generation, but to preserve peace and security for our children and our grandchildren.

Today, we are engaged in the enormous task of fighting a global war on terrorism. As difficult as it is to think about other challenges in the middle of waging this war, it is essential that we think beyond our current effort if we are to face the security challenges and conflicts that are certain to arise throughout this century.

The 2003 Defense Budget request is designed to address the President's goals in five key areas: (1) fighting and winning the war on terror; (2) defending the American people from a range of potential threats, from securing the homeland to defending against ballistic and cruise missiles; (3) restoring morale and readiness of the Armed Forces; (4) transforming the force; and (5) managing the Defense Department in a more business-like manner. Many elements of the budget address more than one of these goals. However, my remarks today will focus largely on what we are doing to transform the force, a critical area in which we need Congress's help.

When the Cold War ended, the United States began a very substantial draw down of our defense forces and our budgets. We cashed a large "peace dividend," lowering the level of our defense burden by half from the Cold War peak. Much of that was an appropriate adjustment to the great improvement in our security that resulted from the end of the Cold War. The draw down, however, ultimately went too far.

While our commitments around the world stayed the same and even grew in some cases, our country spent much of the 1990s living off investments made during the Cold War, instead of making new investments to address the threats of this new century. As I discussed with this committee last year, even before September 11th, we faced the urgent need to replenish critical accounts. After September 11th, we find ourselves facing the additional challenges of accomplishing three significant missions at the same time: First, to win the global war on terrorism; second, to restore capabilities by making investments in procurement, people and modernization; and, third, to prepare for the future by accelerating the transformation for the 21st Century.

It will be difficult and demanding to tackle all three of these missions at once, but we must do it—and without delay. Even as we fight the war on terror, potential adversaries study our methods and capabilities, and they plan for how they can take advantage of what they perceive to be our weaknesses and vulnerabilities. Now is precisely the moment we must begin to build forces that can frustrate those plans and provide us with the capabilities we need to win the wars of the coming decades.

We can only accomplish the Defense Department's three missions—fighting the war on terrorism, supporting our people and selectively modernizing the forces we have now, and transforming our Armed Forces for the wars of the future—with proper investments over a sustained period. And we must accomplish these missions in an environment of rising costs, particularly for that most critical element of the force—our people. Comparisons have been drawn between this budget request and those of the Cold War—but, it is important to consider that we simply could not buy the quality of people that comprise today's force, nor could we equip and train them properly, at Cold War prices.

The 2003 budget addresses "must pay" bills such as retiree health care and pay raises (\$14.1 billion)—if we don't pay our people properly, we risk losing this critical element of the force; and there are other bills such as realistic costing (\$7.4 billion); inflation (\$6.7 billion); and the war on terrorism (\$19.4 billion). Added together, these bills come to \$47.6 billion. That is why President Bush sent to Congress a 2003 defense budget request of \$379 billion—a \$48 billion increase from the 2002 budget, and the largest increase since the early 1980s.

NEW DEFENSE STRATEGY

The 2003 budget request was guided by the results of last year's strategy review and the Quadrennial Defense Review (QDR), both of which involved an unprecedented degree of debate and discussion among the Department's most senior leaders. Out of this intense debate, we reached agreement on the urgent need for real changes in our defense strategy.

I might add that our conclusions have not gone unnoticed. One foreign observer reports that the QDR contains "the most profound implications" of the four major defense reviews conducted since the end of the Cold War. What is most compelling about this analysis is that it appears in a Chinese journal. That Chinese observer thinks the QDR's conclusions are important as a blueprint for where we go from here—and we think so, too.

My statement today addresses how the President's budget intends to meet this blueprint, shaped by the needs of the environment we face today and the environment we could face in the decades to come.

Among the new directions set in the QDR, the following are among the most important:

First, we decided to move away from the two Major Theater War (MTW) force sizing construct, which called for maintaining forces capable of marching on and occupying the capitals of two adversaries and changing their regimes—at the same time. The new approach instead places greater emphasis on deterrence in four critical theaters, backed by the ability to swiftly defeat two aggressors at the same time, while preserving the option for one major offensive to occupy an aggressor's capital and replace the regime. By removing the requirement to maintain a second occupation force, we can free up resources for various lesser contingencies that might face us and also be able to invest for the future.

Second, to confront a world marked by surprise and substantial uncertainty, we agreed that we needed to shift our planning from the "threat-based" model that has guided our thinking in the past to a "capabilities-based" model for the future. We don't know who may threaten us or when or where. But, we do have some sense of what they may threaten us with and how. And we also have a sense of what capabilities can provide us important new advantages.

Third, this capabilities-based approach places great emphasis on defining where we want to go with the transformation of our forces. Transformation, as Secretary Rumsfeld has said, "is about an awful lot more than bombs and bullets and dollars and cents; it's about new approaches, it's about culture, it's about mindset and ways of thinking of things."

Even in just the few months of the current campaign, we have seen a great deal of that kind of change underway. To mention just one example, not long ago, an Air Force F-15 pilot had to be persuaded to forego a rated pilot's job to fly, instead, an unmanned Predator aircraft from a location far from the field of battle. For a pilot destined for the cockpit, it was a difficult choice for her—especially given concerns among some pilots that such an assignment could stymie their careers. But there is no question that unmanned vehicles have made a significant impact in the current campaign and promise even greater operational impacts in the future—which is why the Air Force leadership is working hard to encourage other such trailblazers to become Predator pilots and help define a new concept of operations. So, at this moment, what it means to be a fighter pilot in the U.S. Air Force is undergoing a transformation.

It is also important to note that transformation cannot mean transforming the entire force overnight. It begins with leveraging the systems we have with new technology and new thinking. As we begin by changing only a small percentage of the force we can, in fact, change the capability of the entire force.

That is our aim. And by giving some definition to what transformation is and putting money behind these ideas, we can energize the Defense team in dramatic ways, and energize a transformation that will be ongoing and exponential.

We identified six key transformational goals that define our highest priorities for investments in the 2003–07 Future Years Defense Program (FYDP). First, to protect the U.S. homeland and forces overseas; second, to project and sustain power in distant theaters; third, to deny enemies sanctuary, or places where they can hide and function; fourth, to protect information networks from attack; fifth, to use information technology to link up U.S. forces so they can fight jointly; and sixth, to maintain unhindered access to space—and protect U.S. space capabilities from enemy attack.

We reached these conclusions before September 11th, but our experiences since then have validated many of those conclusions, and reinforced the importance of continuing to move forward in these new directions. The 2003 budget request advances each of the six transformational goals by accelerating funding for the development of the transformational programs and by funding modernization programs that support transformation goals.

The budget requests \$53.9 billion for Research, Development, Test, and Evaluation (RDT&E)—a \$5.5 billion increase over fiscal year 2002. It requests \$71.9 billion for procurement—\$68.7 billion in the procurement title—a \$7.6 billion increase over fiscal year 2002—and \$3.2 billion in the Defense Emergency Response Fund. It funds 13 new transformational programs, and accelerates funding for 22 more existing programs.

All together, transformation programs account for roughly \$21.1 billion, or 17 percent, of investment funding (RDT&E and procurement) in the President's 2003 budget request—rising to 22 percent over the five year FYDP. Let me discuss the details of the \$21.1 billion in each of the six categories that follow.

1. *Protecting Bases of Operation/Homeland Defense*

It is obvious today that our first goal, protecting our bases of operation and homeland defense, is an urgent priority—especially since we know that both terrorists and state—supporters of terrorism are actively looking to build or buy nuclear, chemical and biological weapons of mass destruction.

To meet our objective of making homeland defense the Department's top priority, the President's 2003 budget funds a number of programs. These include:

- \$300 million to create a Biological Defense Homeland Security Support Program to improve U.S. capabilities to detect and respond to biological attack against the American people and our deployed forces.
- \$7.8 billion for a refocused and revitalized missile defense research and testing program that will explore a wide range of potential technologies that will be unconstrained by the ABM Treaty after June 2002, including:
 - \$623 million for the Patriot PAC III to protect our ground forces from cruise missile and tactical ballistic missile attack.
 - \$3.5 million for the Mobile Tactical High-Energy Laser that can be used by U.S. ground forces to destroy enemy rockets, cruise missiles, artillery and mortar munitions.
 - \$598 million for the Airborne Laser (ABL), a speed of light “directed energy” weapon to attack enemy ballistic missiles in the boost-phase of flight—detering an adversary's use of WMD since debris would likely land on their own territory.
 - \$534 million for an expanded test-bed for testing missile intercepts;
 - \$797 million for sea, air and space-based systems to defeat missiles during their boost phase;

It is important to note that the budget invests \$10.5 billion for combating terrorism programs, which is \$5.1 billion more than we were investing in that area just two years ago and approximately \$3 billion more than we have budgeted on missile defense in 2003. That is due, in very great measure, to new priorities we must address in the wake of September 11th—needs that range from the immediate necessities of hiring guards and building jersey barriers to the long-term necessities of training first responders and refining our intelligence response to the on-going threat of terrorism. But, our commitment to missile defense remains as strong as ever—especially in the wake of 9/11, which is just a pale shadow of what adversaries armed with weapons of mass destruction could do.

The budget invests \$8 billion to support defense of the U.S. homeland and forces abroad—\$45.8 billion over the five year Future Years Defense Plan (2003–07), an increase of 47 percent from the previous FYDP. In addition, the budget funds combat air patrols over major U.S. cities (\$1.2 billion) and other requirements related to this transformation goal.

2. *Denying Enemies Sanctuary*

The President's budget funds a number of programs to ensure adversaries know that if they attack, they will not be able to escape the reaches of the United States. As we root out al Qaeda and members of the Taliban, it is readily apparent how important it is to rob our enemies of places to hide and function—whether it be in caves, in cities, or on the run.

Key to denying sanctuary is the development of new capabilities for long-range precision strike, which is not just about heavy bombers, but about linking ground and air assets together, including unmanned capabilities. It also includes the ability to insert deployable ground forces into denied areas and allow them to network with our long-range precision-strike assets.

This is something we have seen in the campaign in Afghanistan. Our Special Forces, mounted on horseback, have used modern communications to communicate with and direct strikes from 50-year-old B–52s. Introducing the horse cavalry back into modern war, as Secretary Rumsfeld has said, “was all part of the transformation plan.” And it is. Transformation isn't always about new systems, but using old systems in new ways with new doctrines, new types of organization, new operational concepts.

The President's 2003 budget funds a number of programs designed to help us meet our objective of denying sanctuary to enemies. They include:

- \$141 million to accelerate development of UAVs with new combat capabilities.
- \$629 million for Global Hawk, a high-altitude unmanned vehicle that provides reconnaissance, surveillance and targeting information. We will procure three Air Force Global Hawks in 2003, and accelerate improvements such as electronics upgrades and improved sensors, and begin development of a maritime version.

- \$91 million for the Space-Based Radar, which will take a range of reconnaissance and targeting missions now performed by aircraft and move them to space, removing the risk to lives and the need for over-flight clearance;
- \$54 million for development of a small diameter bomb, a much smaller, lighter weapon that will allow fighters and bombers to carry more ordnance and thus provide more kills per sortie;
- \$1 billion for conversion of four Trident nuclear submarines into stealthy, high endurance SSGN Strike Submarines that can each carry over 150 Tomahawk cruise missiles and up to 66 Special Operations Forces into denied areas;
- \$30 million for advanced energetic materials and new earth penetrator weapons to attack hardened and deeply buried targets;
- \$961 million for the DD(X), which replaces the cancelled DD-21 destroyer program and could become the basis of a family of 21st Century surface combat ships built around revolutionary stealth, propulsion, and manning technologies. Initial construction of the first DD(X) ship is expected in fiscal year 2005.

It is important to note that we have applied a very strict definition to which programs we include in these totals as transformational. Many things that enable transformation are not included in these figures. For example, the \$1.7 billion in this budget for funding for the Joint Direct Attack Munitions (JDAMs) and other precision guided munitions are, in fact, critical to making transformation work, but are not part of the total I have mentioned here.

With that strict definition, the 2003 budget requests \$3.2 billion for transformational programs to support our objective of denying sanctuary to America's adversaries, and \$16.9 billion over the five year FYDP (2003-07)—an increase of 157 percent.

3. *Projecting Power in Anti-access Areas*

A third critical category is countering the very determined efforts of those who want to keep us out of their operating areas through what we call anti-access strategies, by attacking our ships at sea or denying us access to bases or attacking our bases.

Projecting and sustaining power in anti-access environments has been a necessity in the current campaign; circumstances forced us to operate from very great distances.

In many other cases, U.S. forces depend on vulnerable foreign bases to operate—creating incentives for adversaries to develop “access denial” capabilities to keep us out of their neighborhoods.

We must, therefore, reduce our dependence on predictable and vulnerable base structure, by exploiting a number of technologies that include longer-range aircraft, unmanned aerial vehicles, and stealthy platforms, as well as reducing the amount of logistical support needed by our ground forces so we can deploy them rapidly in an agile, flexible way.

The President's 2003 budget includes increased funds for a number of programs designed to help us project power in “denied” areas. These include:

- \$630 million for an expanded, upgraded military GPS that can help U.S. forces pinpoint their position—and the location of their targets—with unprecedented accuracy.
- \$5 million for research in support of the Future Maritime Preposition Force of new, innovative ships that can receive flown-in personnel and off-load equipment at sea, and support rapid reinforcement of conventional combat operations. Construction of the first ship is planned for fiscal year 2007.
- \$83 million for the development of Unmanned Underwater Vehicles that can clear sea mines and operate without detection in denied areas.
- About \$500 million for the Short Takeoff/Vertical Landing (STOVL) Joint Strike Fighter that does not require large-deck aircraft carriers or full-length runways to takeoff and land.
- \$812 million for 332 Interim Armored Vehicles—protected, highly mobile and lethal transport for light infantry—enough for one of the Army's transformational Interim Brigade Combat Teams (IBCT). The fiscal year 2003-2007 FYDP funds six IBCTs at about \$1.5 billion each.
- \$707 million for the Army's Future Combat System—a family of advanced-technology fighting vehicles that will give future ground forces unmatched battlefield awareness and lethality.
- \$88 million for new Hypervelocity Missiles that are lighter and smaller (4 feet long and less than 50 pounds) and will give lightly armored forces the lethality that only heavy armored forces have today.

The 2003 budget requests \$7.4 billion for programs to support our goal of projecting power over vast distances, and \$53 billion over the five year FYDP (2003–07)—an increase of 21 percent.

4. Leveraging Information Technology

A fourth important goal is leveraging information technology. Information technology was the key to linking the horse cavalry with B–52s in my earlier example. In less than 20 minutes from the time an NCO on horseback entered key information into his laptop, JDAMs launched from a B–52 miles away were dropping on enemy positions—within just a few hundred meters of the NCO. Clearly, a key transformation goal is to leverage advances in information technology to seamlessly connect U.S. forces—in the air, at sea and on the ground so they can communicate with each other, instantaneously share information about their location (and the location of the enemy), and all see the same, precise, real-time picture of the battlefield.

The President's 2003 budget funds a number of programs designed to leverage information technology. These include:

- \$172 million to continue development of the Joint Tactical Radio System, a program to give our services a common multi-purpose radio system so they can communicate with each other by voice and with data;
- \$150 million for the “Link-16” Tactical Data Link, a jam-resistant, high-capacity, secure digital communications system that will link tactical commanders to shooters in the air, on the ground, and at sea—providing near real-time data;
- \$29 million for Horizontal Battlefield Digitization that will help give our forces a common operational picture of the battlefield;
- \$61 million for the Warfighter Information Network (WIN–T), the radio-electronic equivalent of the World Wide Web to provide secure networking capabilities to connect everyone from the boots on the ground to the commanders;
- \$77 million for the “Land Warrior” and soldier modernization program to integrate the small arms carried by our soldiers with high-tech communications, sensors and other equipment to give new lethality to the forces on the ground;
- \$40 million for Deployable Joint Command and Control—a program for new land- and sea-based joint command and control centers that can be easily relocated as tactical situations require.

One technology that we are investing in, which has very large potential implications, is laser communications, a promising, experimental technology that, if successful, would give wide-band satellites the ability to pass data to each other at speeds measured in gigabits per second as opposed to megabits per second—a significant and dramatic improvement.

The 2003 budget requests \$2.5 billion for programs to support this objective of leveraging information technology, and \$18.6 billion over the five year FYDP (2003–07)—an increase of 125 percent.

5. Conducting Effective Information Operations

As information warfare takes an increasingly significant role in modern war, our ability to protect our information networks and to attack and cripple those of our adversaries will be critical.

Many of the programs supporting this objective are classified. But the President's 2003 budget funds a number of programs designed to provide unparalleled advantages in information warfare, such as \$136.5 million for the Automated Intelligence, Surveillance and Reconnaissance System, a joint ground system that provides next-generation intelligence tasking, processing, exploitation and reporting capabilities.

The 2003 budget requests \$174 million for programs to support this objective—\$773 million over the five-year FYDP (2003–07)—an increase of 28 percent.

6. Strengthening Space Operations

Space is the ultimate “high ground.” One of our top transformational goals is to harness the United States' advantages in space where we can see what adversaries are doing around the world and around the clock. As we move operations to space, we must also ensure the survivability of our space systems.

The President's 2003 budget includes funds for a number of programs designed to provide unmatched space capabilities and defenses. These include:

- \$88 million for Space Control Systems that enhance U.S. ground based surveillance radar capabilities and, over time, move those surveillance capabilities into space;
- \$103.1 million for Directed Energy Technology to deny use of enemy electronic equipment with no collateral damage, to provide space control, and to pinpoint battlefield targets for destruction.

The 2003 budget requests about \$200 million to strengthen space capabilities—\$1.5 billion over the five-year FYDP (2003–07)—an increase of 145 percent.

Of course, we cannot transform the entire military in one year, or even in a decade—nor would it be wise to try to do so. Rather, we intend to transform a percentage of the force, the leading edge of change that will, over time, lead the rest of the force into the 21st Century. As Secretary Rumsfeld has emphasized, “transformation is not an event—it is an ongoing process.”

PEOPLE/MILITARY PERSONNEL

While we transform for the future, we must take care of our most valuable resource: the men and women who wear our nation’s uniform. Military service by its nature asks our service members to assume certain risks and sacrifices. But, we should not ask those who put themselves in harm’s way to forego competitive pay and quality housing.

The President’s 2003 budget requests \$94.3 billion for military pay and allowances, including \$1.9 billion for an across-the-board 4.1 percent pay raise.

The budget also includes \$4.2 billion to improve military housing, putting the Department on track to eliminate most substandard housing by 2007—several years sooner than previously planned. It will also lower out-of-pocket housing costs for those living in private housing from 11.3 percent today to 7.5 percent in 2003—putting us on track to eliminate all out of pocket housing costs for the men and women in uniform by 2005. This represents a significant change—before 2001, out-of-pocket costs were 18.8 percent.

We stand by our goal of reducing the replacement rate for DOD facilities from the current and unacceptable 121 years, to a rate of 67 years (which is closer to the commercial standard). We have dedicated some \$20 billion over the 2003–07 FYDP to this end. But most of those investments have been delayed until the out-years, when BRAC is finally implemented and we will know which facilities will be closed.

The budget also includes \$10 billion for education, training, and recruiting, and \$22.8 billion to cover the most realistic cost estimates of military healthcare.

COST SAVINGS

We have taken a realistic approach in looking at a number of programs, and have found areas where we can save some money. We have proposed terminating a number of programs over the next five years that were not in line with the new defense strategy, or were having program difficulties. These include the DD–21, Navy Area Missile Defense, 18 Army Legacy programs, and the Peacekeeper Missile. We also accelerated retirement of a number of aging and expensive to maintain capabilities, such as the F–14, DD–963 destroyers, and 1,000 Vietnam-era helicopters.

We have focused modernization efforts on programs that support transformation. We restructured certain programs that were not meeting hurdles, such as the V–22 Osprey, Comanche, and SBIRS programs. Regarding the V–22, the production rate has been slowed while attention is focused on correcting the serious technical problems identified by the blue ribbon panel and a rigorous flight test program is to be conducted to determine whether it is safe and reliable. The restructured programs reflect cost estimates and delivery dates that should be more realistic.

We are working to generate savings and efficiency in other programs as well. For example, today, the B–1 bomber cannot operate effectively in combat environment where there is a serious anti-aircraft threat. So the Air Force is reducing the B–1 bomber fleet by about one-third, and using the savings to modernize the remaining aircraft with new precision weapons, self-protection systems, and reliability upgrades that will make the B–1 suitable for future conflicts. This should add some \$1.5 billion of advanced combat capability to today’s aging B–1 fleet over the next five years—without requiring additional dollars from the taxpayers. These are the kinds of tradeoffs we are encouraging throughout the Department.

We are also proceeding toward our goal of a 15 percent reduction in headquarters staffing, and the Senior Executive Council is finding additional ways to manage DOD more efficiently.

The budget reflects over \$9 billion in redirected funds from acquisition program changes, management improvements, and other initiatives—savings that help to fund transformation and other pressing requirements.

Currently, to fight the war on terrorism and fulfill the many emergency homeland defense responsibilities, we have had to call up over 70,000 guard and reserves. Our long term goal, however, is to refocus our country’s forces, tighten up on the use of military manpower for non-military purposes and examine critically the activities

that the U.S. military is currently engaged in to identify those that are no longer needed.

The Secretary of Defense and the Defense Department have made one of the highest reform priorities to put our financial house in order. This represents a significant undertaking: managing DOD might be compared to managing several Fortune 500 companies combined. We have launched an aggressive effort to modernize and transform our financial and non-financial management systems—to include substantial standardization, robust controls, clear identification of costs, and reliable information for decision makers. Especially key is the creation of an architecture that will integrate the more than 674 different financial and non-financial systems that we have identified.

Congress's decision to put off base closure for two more years means that the Department will have to continue supporting between 20–25 percent more infrastructure than needed to support the force. The decision to hold up the process another two years will be a costly one for taxpayers. Additionally, because of the post-September 11th force protection requirements, DOD is forced to protect 25 percent more bases than we need.

The two-year delay in base closure should not be taken as an opportunity to try to “BRAC-proof” certain bases and facilities. Earmarks directing infrastructure spending on facilities that the taxpayers of America don't need and that eventually could be closed would be compounding the waste that the delay in BRAC is already causing.

TRADEOFFS

Throughout this budget process, we were required to make some tough tradeoffs.

—We were not able to meet our objective of lowering average age of tactical aircraft. However, we are investing in unmanned aircraft, and in the F-22 and JSF, which require significant upfront investments, but will not come on line for several years.

—While the budget proposes faster growth in Science and Technology (S&T), we were not able to meet our goal of 3 percent of the budget.

—And we have not been able to fund shipbuilding at replacement rates in 2003—which means we remain on a downward course that, if not unchecked, could reduce the size of the Navy to a clearly unacceptable level in the decades ahead. To sustain the Navy at acceptable levels, the United States needs to build eight or nine ships annually. The proposed Future Years Defense Program budgets for procurement of 5 ships in fiscal year 2004, 7 ships in 2005, 7 ships in 2006 and 10 ships in 2007.

CONCLUSION

A budget of \$379 billion represents a great deal of money. But, it is misleading to compare this budget to budgets of the Cold War or to the defense budgets of other countries. We do not face other countries' budgets on the battlefield; we fight their forces. The budget of the Taliban would have been a small fraction of that of the United States. Yet, it has been unquestionably important that we have had the capability to deploy forces rapidly and effectively to an unexpected theater of operations. Our success thus far in meeting this challenge only confirms that ours is the world's best military force. We need the world's best military force. We can't afford to have less than that.

The New York City comptroller's office estimated the local economic cost of the September 11th attacks on New York City alone will add up to about \$100 billion over the next three years. Estimates of the cost to the national economy range from about \$170 billion last year—and estimates range as high as almost \$250 billion a year in lost productivity, sales, jobs, airline revenue, and countless other areas. The cost in human lives, and the pain and suffering of so many thousands of Americans who lost loved ones that day, is incalculable.

The President's budget address our country's need to fight the war on terror, to support our men and women in uniform and modernize the forces we have, and to prepare for the challenges of the 21st Century. This Committee is an important safeguard of the long-term interests of our great nation, and well understands that there is nothing more important than preserving peace and security. We look forward to working with this Committee to ensure that peace and security is what we can leave to generations to come.

STRAINS ON MILITARY PERSONNEL

Senator INOUE. Thank you very much, Mr. Secretary. Because of the constraints of time, may I request that the questioning period be limited to 10 minutes per member.

Six days ago, Senator Stevens and I had the privilege of visiting our troops in Uzbekistan and Pakistan and Afghanistan. As the vice chairman pointed out, we were not just impressed but amazed at the high level of morale. However, the personnel tempo which is now being driven by the war on terrorism and the pace of deployments, I believe is putting a significant strain on our personnel and their families.

So my question is, are our current end strength levels adequate to meet the U.S. military commitments at home and around the world? And secondly, have the events of 9/11 impacted the Department's ability to recruit and retain military personnel?

Dr. WOLFOWITZ. Let me answer the second part of the question first and the answer is, we seem to be doing very well on retention and recruitment. The willingness of Americans to come forward and serve their country and the willingness of reservists to serve on active duty is remarkable and heart warming.

You are, I think, correct in identifying the fact that we are pushing our forces hard. In addition to what you have mentioned we have, and I would like to get the exact number for the record, but well over 80,000 people now called to active duty, many of them on homeland security missions. Indeed, during the time of the Olympics in Utah, we had more people on active duty in the State of Utah than we had on active duty in Afghanistan.

We can't keep calling people back to reserve duty and expect them to stay in the reserves, that isn't quite what they had in mind when they joined. So we are looking very hard at what our long-term personnel requirements will be. But Secretary Rumsfeld has been pressing people to not simply say we need extra people to do all these extra tasks, but also to identify where perhaps there are things that we don't need to do, so we can reduce that strain not by adding people but by reducing some unnecessary missions.

As you may know, we had been trying long before September 11 to get our 2,000 or so people out of the Sinai where in our view at least, the military mission is no longer needed. For reasons I cannot understand, we are told that politically it's not a very good time. That's the kind of example of what we run into when we try to find ways to reduce those burdens. But we would like to try to manage, if we can, without increasing end strength, but we can't do that on the backs of the men and women in uniform, or even worse, the backs of their families.

As you know, Mr. Chairman, nothing will send somebody out of the service faster than being sent away on a deployment or an unaccompanied tour, leaving his family at home for intolerable periods of time.

[The information follows:]

	ARNG	USAR	ANG	USAFR	USNR	MCR	USCGR	TOTAL
NOBLE EAGLE	10,826	6,103	15,966	6,082	7,859	4,047	1,566	52,449
ENDURING FREEDOM	7,232	7,680	7,562	8,189	636	117	.....	31,416

	ARNG	USAR	ANG	USAFR	USNR	MCR	USCGR	TOTAL
TOTAL	18,058	13,783	23,528	14,271	8,495	4,164	1,566	83,865

NOTE: Numbers are as of June 6, 2002.

Summary

National Guard (Air and Army):	
Homeland Security (Noble Eagle)	26,792
Enduring Freedom	14,794
Reserves (Army, Navy, Air Force, Marines, & Coast Guard):	
Homeland Security (Noble Eagle)	25,657
Enduring Freedom	16,622

Senator INOUE. It is true that the retention and recruiting in general will be acceptable, but I am certain you have some shortfalls in certain areas like pilots and nurses. Have you provided any incentives to recruit or retain men and women in those categories?

Dr. WOLFOWITZ. Let me try to get a more detailed answer for the record. I have been given the impression that we're doing quite well on the recruiting side and that we haven't needed extra incentives. Where we are not doing so well is, we had to put stop loss orders in for a lot of military specialties. I don't think it's a recruiting problem, I think it's that we can't train up the number of people you need fast enough to meet the needs, and that is a real issue and one we have to address, because keeping people in the service when they have made other plans is again, not the way we want to treat our people if we can avoid it.

[The information follows:]

The Critical Skills Accession Bonus (CSAB), enacted into law in 2002, authorizes the Secretary concerned to pay up to \$60,000 in lump sum or installments, to new officers who accept a commission and serve on active duty in a designated critical skill for a specified period of time. Services are drafting proposals to use this authority in 2003 to enhance their nurse accessions.

The Department accesses sufficient numbers of pilots; our challenge is retaining them. We continue to monitor our pilot shortage and offer the Aviation Continuation Pay (ACP). Continued utilization of the enhanced aviation continuation pay program resulted in a substantial increase in additional years of committed service from pilots and aviators throughout the Department enabling the Services to man aircraft cockpits. Continued use of the ACP will enhance our ability to retain these critical assets.

The Critical Skills Retention Bonus (CSRB), enacted in 2001, incentivizes the retention of officers with selected critical skills. The Air Force 2003 program includes Developmental Engineers, Scientific/Research Specialists, Acquisition Program Managers, Communication/Information Systems Officers and Civil Engineers; the Navy proposal offers the CSRB to Surface Warfare and Submarine Support Officers. No Service has proposed using this authority to retain nurses, but the health communities are evaluating the use of this authority to target their critical health profession skills.

Enlisted retention programs rely primarily on the Selected Reenlistment Bonus (SRB). The SRB is intended to encourage the reenlistment of sufficient numbers of qualified enlisted personnel in critical military specialties with high training costs or demonstrated retention shortfalls. Services periodically review the skills eligible for the SRB against the criteria and adjust their programs accordingly.

THE \$10 BILLION CONTINGENCY REQUEST

Senator INOUE. And now the \$10 billion question. How do you respond to the critics of this request?

Dr. WOLFOWITZ. First of all, it's absurd to call it as some do, a slush fund. The purpose of this request is very clear. It is to continue the kind of operations we are conducting today, and basically

at the level we are at today. One of your colleagues earlier referred to this as a new and unique request. It isn't actually new or unique. It is pretty much exactly part of what we came to the Congress for last fall; in fact, it is less. We came to you with a request for a \$10 billion fund that could be used for any purposes in the war on terror and another \$10 billion that could be used with a 15-day notification, and another \$20 billion that might be required. You might think of this as the front end of the \$20 billion request we had, and I think it's the only prudent way where we expect to meet the need to continue to conduct operations, at least something like this level.

For those who were concerned that this was some kind of writing a blank check to some unlimited expansion of the war, this has been shown that this isn't going to fund anything much more than roughly the level of activity we are at for approximately 5 months into fiscal year 2003. We don't know what we're going to need in fiscal year 2003. I suppose it's possible that we will be able miraculously to say we don't need to conduct military operations at that level. It's equally possible and maybe more likely that we will find that in many ways our expenses and burdens are rising.

It seems to me the only prudent thing to do, especially when thinking about allocating resources for the next fiscal year, is to assume that at least a \$10 billion amount is necessary and we ought to have that available going into the year and not have to come with a supplemental on October 1, which is where we would be if this money were not appropriated.

Senator INOUE. Since I am from the Pacific, I am certain you understand my special concern for the Navy, and I have been concerned about the ship building program because it continues to be plagued with cost overruns and delays. In the fiscal year 2003 budget request, there is \$645 million to complete prior-year ship building programs. This is on top of the \$729 million provided for the same purpose. What is your plan to address these issues and getting the ship building program back on track?

Dr. WOLFOWITZ. I am going to ask Dr. Zakheim to add some more detail here, but you are correct in identifying the fact that we have some problems in how ship building is going, and while we would like to see our ship building at a higher level in this budget, the leadership of the Navy after a lot of careful thought decided it was a much higher priority to get the readiness accounts up to improve the operation, the care of the present force. And they do have the advantage that, as I mentioned earlier, our current fleet is relatively new, I think the average age is about 16 years. And while we're not building at replacement rates, we don't have to be quite at replacement rates yet. Even if we were to put more money into ship building this year, we're not so sure we would be putting it into the right programs, partly because of some of the problems that you have identified.

Dov, do you want to add to that?

Dr. ZAKHEIM. Only to say that the way the Navy approached its overall budget was to fully fund readiness, and in the past as you know, Mr. Chairman, what has often been the case is that readiness programs were underfunded and funds migrated from procurement accounts to the readiness accounts, so that the ships that are

in the budget, and one could I think make a reasonable argument that the two ballistic missile carrying submarines (SSBNs) count as part of ship building, but those five plus two are likely to be protected in a way that previous ship building budgets have not.

We went back to restricted funding, the priority of funding 5-year contracts, and we feel reasonably certain about this budget and about the rest of the 5-year ship building program, where we will have up to 10 or so ships by 2007.

OFFICE OF STRATEGIC INFLUENCE

Senator INOUE. Thank you. Just for the record, the Office of Strategic Influence is now out of business?

Dr. WOLFOWITZ. That's correct. It was never in the business of producing disinformation or misleading people, I would like to make that clear. That is not our business and I think quite fundamentally, we understand as I think the whole country and the rest of the government understands that truth is on our side in this war and truth is one of the more important aspects, and we would not want to do things in any way to diminish our goal to deliver the truth by allowing people to think that we are doing something else.

FISCAL YEAR 2002 SUPPLEMENTAL APPROPRIATIONS

Senator INOUE. We have been told that you may have a supplemental request submitted by the end of April, but it does not appear to be that that will be done. What is the status now?

Dr. WOLFOWITZ. I'm very hesitant to predict how long it takes things sometimes to get out of the executive branch. There is an urgency to get a supplemental request up here because we are starting fairly soon to run out of the supplemental appropriation that you passed last fall, and it would be unfortunate if we end up back in the situation that we have been in so often before where we are dipping into a future account in order to cover expenses and the expectation that we will get reimbursed from a supplemental. We are trying to work it as fast as we can and our colleagues at the Office of Management and Budget (OMB) are working hard with us, and we will just try to get it here as quickly as possible.

Senator INOUE. I thank you. My time is up. Senator Stevens.

C-17 FUNDING

Senator STEVENS. Thank you very much. Secretary Wolfowitz, we have followed the C-17 for years. At one time all three of the other defense committees or subcommittees had opposed the C-17 and it still proceeded. We still have an overwhelming support for that system. As a matter of fact, the availability of that aircraft is a limiting factor on our ability to redeploy our forces today.

This budget request reduces the procurement rate by 20 percent to 12 aircraft in 2003, but it does not decrease the overall buy. And so my question to you is one, why did you do this? And two, what will be the additional cost in the procurement if we follow your request?

Dr. WOLFOWITZ. My understanding is that first of all, I agree with you strongly about the importance of the C-17 and applaud

you and others who made sure this program survived, and we have the benefit of it today. My understanding is that the 12 aircraft budgeted for in 2003 will be combined with the previous multiyear purchase to maintain the economical production rate of the plant during fiscal year 2004, where the rate is 15, and that our follow-on multiyear procurement will sustain the C-17 production profile at that rate through fiscal year 2007. So that, I am told that this profile results in the same total costs and the same delivery schedule but to revert to a traditional multiyear at this point would require an additional \$650 million in 2003 appropriations without accelerating the delivery schedule. So I think, as I understand it, it's a matter of trying to match up the year by year funding with the actual production capability but not to add anything to the cost of production.

Senator STEVENS. I would request that you give us the detail for the record. Last year we were told the most efficient and cost effective rate of production was 15 a year, and we authorized that and we funded it at that level. Now it's going down to 12 and you're telling us that somehow or another, that that 12 next year will continue the rate of 15 this year. I have serious questions about that and I hope you will give us some details of that analysis for the record.

Dr. WOLFOWITZ. I would like to see them myself, Senator, and will get them to you.

[The information follows:]

The C-17 Multiyear Procurement (MYP) is structured so that Boeing maintains their most efficient and cost effective rate of production at 15 aircraft a year. While the budget indicates that only 12 aircraft are being procured in fiscal year 2003, the use of advance procurement funding for long-lead components, parts, and materials, and some fabrication and assembly, allows the contractor to maintain the optimum production rate and delivery of 15 aircraft per year.

MISSILE DEFENSE TEST FACILITY AND X-BAND RADAR

Senator STEVENS. Secondly, I understand that we are going forward now with what really is a test facility for a national missile defense system. Can you tell me when you believe the test facility will be operational?

And secondly, the X-band radar proposed out of that system for Shemya has been delayed, and I am told that there is some concept of placing those radars on ships at sea. It was sure my understanding, and the committee's understanding, that the X-band radar, Shemya would be part of the worldwide deployment of X-band radars. I have never heard of putting X-band radars on ships at sea and I would like to know, is that correct, is that going to be the functional addition to the national missile defense system X-band radar for the Pacific?

Dr. WOLFOWITZ. Fort Greeley, Senator, we started site preparation in the August, October time frame, and cleared land and started grading some roads. The Ground Base Missile Defense (GMD) validation of operation and concept environmental assessment for Greeley has been performed and is ready for public comment, and upon completion of that 30-day public comment period in April, we will be awarding contracts, the Army Corps of Engineers will be awarding contracts for starting actual test bed construction. That would include roads, a readiness control building, a missile assem-

bly building, mechanical/electrical building, electrical substation, interceptor storage building, and several other smaller buildings.

In late June we will reach the expiration period of our 6-month Anti-Ballistic Missile (ABM) Treaty withdrawal notification and at that point we would begin excavation and construction of six missile silos. All of those facilities would be completed and in operation as part of the ground-based missile defense field with five prototype interceptors, should be installed and checked out and ready by September of 2004. That would give us a capability we've never had before for validating construction techniques, validating the operational concept and putting it in a representative Arctic environment.

On the X-band radar, my understanding is that the Missile Defense Agency is still looking at the best location deployment systems for X-band radars, including very definitely the possibility of Shemya. Indeed, I think they feel that Shemya is an operational requirement for an effective system. But they are also looking at ships and other locations with respect to a test bed, not an operational system.

MISSILE DEFENSE SUPPORT GROUP

Senator STEVENS. Thank you for that. Could you tell me, what is the Missile Defense Study Group? We have read about it in the press and I have not been informed and I do not think any of us have been. What is that? We have Missile Defense Agency and the Ballistic Missile Defense Organization (BMDO) under General Ron Kadish, and we have the statement of the Under Secretary of Defense for Acquisition that there is now a new group, the Missile Defense Support Group. Can you tell us what that is?

Dr. WOLFOWITZ. It's part of the oversight mechanism that was put in place when we restructured the BMDO office into the Missile Defense Agency. We tried to give General Kadish and his people more flexibility to pursue things that work and stop doing things that don't work, but we wanted some mechanism that would insure a reasonable level of oversight in reviewing those decisions. The Missile Defense Support Group is the group that performs that function as an adjunct of the Senior Executive Council, which consists of the three service secretaries and under secretaries. So, I would describe it as a management tool that is meant to give General Kadish a great deal of flexibility but keep a reasonable level of oversight at the same time.

Senator STEVENS. Will that be then that the Missile Defense Agency will be the organization that will comply with the Federal acquisition procedures, contract awards, other functions and that this Missile Defense Study Group is an oversight policy group? We worry about this second level here now that might second-guess the decisions of the Agency.

Dr. WOLFOWITZ. Well, the level that would have any authority to overrule the decisions of the Agency would be the level of the service secretaries and the under secretary for acquisition and myself. In the past arrangement, we could have those decisions second guessed by the Defense Acquisition Board, which is a whole other large bureaucracy. I think we have actually given him more flexibility, but there has to be some degree of oversight. But he is the

accountable official and my understanding is, and if it's wrong, I'll get back to you for the record, but my understanding is that it is the head of the Missile Defense Agency who has the responsibility for complying with acquisition regulations.

Senator STEVENS. I see our distinguished chairman has arrived and we want to give him the opportunity to ask his questions.

DOD CONSULTANTS

We tried to implement a program for reduction of our consultants in the Department of Defense. As a matter of fact, we made a reduction in the budget itself to reflect that, coming from this subcommittee. I would like you to document how many consultants are currently employed by and how much is actually spent for non-career workers in that capacity by the Department. Will you please provide for the record a statement of how many consultants and contract workers the Department employs now, how many they plan to employ in 2003, and how much will the Department spend for such services in 2002 and 2003?

Dr. WOLFOWITZ. We will do that, Senator.

[The information follows:]

The Department of Defense has no central repository of data on the number of consultants and contract workers employed by the Department, how many are planned to be employed in 2003, nor how much the Department will spend for such services in 2002 and 2003.

Senator INOUE. I thank you very much, and along with Senator Stevens, I want to recognize the chairman of the committee, Chairman Byrd.

FUNDING WAR ON TERRORISM

Senator BYRD. Thank you. I have had the pleasure and the privilege of hearing Mr. Wolfowitz recently and I am glad to have this opportunity to ask just a few questions again, and I thank you, Mr. Chairman, and I thank you Mr. Ranking Chairman, for inviting me.

Doctor, instead of concentrating on completing our operations in Afghanistan, the Pentagon seems to be looking for opportunities to stay longer and to extend itself further into the region. This concerns me. I think that we seem to be good at developing entrance strategies, not so good in developing exit strategies. I see that the Pentagon is basing a \$30 billion projected cost of the war on a series of assumptions regarding operations. According to the information I have received from your office you have calculated that America's war on terrorism will cost a total of \$30 billion in fiscal year 2002. Congress has already provided \$17.4 billion, which means that the Defense Department will need a \$12.6 billion supplemental just to cover the cost of the war for 1 year. Does the Pentagon have a list of goals that it expects to accomplish, Dr. Wolfowitz, with the \$30 billion?

Dr. WOLFOWITZ. The \$30 billion is basically a projection and I would emphasize, at every stage of this campaign things change, they change rapidly. Just as we had no idea on September 10 that we would be engaged in a conflict halfway around the world in Afghanistan, we also had no idea on October 15th that we would be deploying forces on the ground in Afghanistan as quickly as we did,

we had no idea the Taliban would collapse as quickly as it did, we had no idea that we would be putting people on the ground to pursue al Qaeda terrorists in caves as quickly as we did. Everything here has gone in ways that have been unpredictable.

I say that by emphasizing that whatever I'm going to say about where we will be in June or in August or in September is a prediction of the unpredictable. What we have basically done is to say it's a reasonable assumption that we will continue to operate at roughly the level we're at today. And I would emphasize, the level we're at today, particularly for a major conflict of this kind, is very very low. We only have about 5,000 people on the ground in Afghanistan; that's one one-hundredth, 1 percent of what we deployed in the total coalition force in the Persian Gulf 10 years ago.

They are engaged in primarily, our major objective is to continue to pursue al Qaeda terrorists, to capture them or kill them, to obtain information and intelligence about what they were doing there and what their ties are to people elsewhere. Not so long ago, we picked up a videotape in Kabul, I believe it was, or somewhere in Afghanistan, that led to the arrest of terrorists in Singapore who were planning to attack American Navy ships.

This is a global network and by what we have been able to do in Afghanistan, I think we have significantly disrupted that network and given ourselves more intelligence to go after. At the same time, we do not want to see Afghanistan become again in 2 or 3 or 5 years, a haven for the same group of terrorists or another group of terrorists, and that requires some attention to maintaining the security conditions of the country after we're finished.

But I would assure you, Senator Byrd, we have no desire to stay one day longer than we have to, or use one soldier, sailor, airman or Marine more than we have to. Our basic principle of long-term security in Afghanistan is to try to train and equip the Afghans to do as much of the job for themselves as possible, I think that is the strategy and that's the basis on which we have made what I admit, again, is a guess as to what our costs will be.

AFFORDABILITY OF DEFENSE REQUEST

Senator BYRD. Well, Dr. Wolfowitz, General Franks is a good commander, he takes his orders, as you do, from the President. What I see here appears to be an expanding agenda. I read all of these accounts about creating an army in Afghanistan. We went there to hunt down the terrorists. We don't know where Osama bin Laden is, whether he is alive or dead, or where Mullah Omar is hiding. We have bombed the caves of Afghanistan back into the dark ages, which lasted 1,000 years, and we've killed Afghans who are not our enemies. We killed 16 just a few days ago because we dropped, apparently didn't have the correct intelligence. There have been a lot of bodies I'm sure brought out of those caves. So we don't have Osama bin Laden. And if we expect to kill every terrorist in the world, that's going to keep us going beyond doomsday. How long can we afford this? How much have we spent in Afghanistan already to date?

Dr. WOLFOWITZ. I believe the total that we've spent on deployments, and I think that includes money that we spent for Operation Noble Eagle, which is the air defense of the United States,

is \$10.3 billion through the end of January. That includes a number of immediate security measures that were taken for homeland security force protection after September 11, which totals \$3.9 billion.

Senator BYRD. So we have spent how much in Afghanistan?

Dr. WOLFOWITZ. Dov, do you have it broken down between Afghanistan and Noble Eagle? What I have is a \$7.4 billion figure which, I'm sorry, Senator, I don't have the breakdown on it, I will try to get it for you. The \$7.4 billion figure covers our operation in Afghanistan and our air defense requirements in the United States, those two together. I would guess that roughly \$6 billion of that total is Afghanistan.

Senator BYRD. And the President is asking for \$379 billion for defense for fiscal year 2003, which is more than \$1 billion a day. How long can we stand this kind of pressure upon our Treasury? And the President has committed our country to build an Afghan national army, according to what I read in the press, and to spend hundreds of millions of dollars to rebuild that country, and there is no end in sight, no end in sight to our mission in Afghanistan.

Look at the Philippines. We are sending 660 troops there to fight a rebel group there. Already, 10 soldiers on that mission have lost their lives in a helicopter accident. Look at Colombia. I have yet to see any effect of the \$1 billion in U.S. aid that has been sent to the jungle down there. The drugs that were supposed to be eradicated are still finding their way onto our streets. But as the Colombian government heats up its war against the rebel drug dealers, the President is considering sending more aid, perhaps more U.S. troops to that country. And then there is Iraq. And so on and so on.

U.S. COMMITMENTS IN AFGHANISTAN

Mr. Chairman, you have been very liberal with my time. Let me ask just one final question. I have not heard any estimates of how much it will cost to train and equip an Afghan national army that the President has said, the United States will assist in its creation, but Congress has control of the purse string, if we pay attention to Section 7 of Article 1 of the United States Constitution. We have to begin asking some questions. No blank checks to be written. Do we know how much it will cost, Dr. Wolfowitz, to follow through on the administration's promise or have we committed in essence to giving Afghanistan a blank check? Where are we, what is it going to cost, what is the end game here? When will we know that we have achieved victory and that we need to get out of Afghanistan?

Dr. WOLFOWITZ. Senator, we are actually still in the process of trying to assess what would be the right kind of army for Afghanistan and what it would cost. And frankly, the push in our assessments is to get people's expectations down to be more realistic and not to try to create some giant force that they don't actually need. And we strongly agree with the thrust of your comments that we don't want to have a long-term continuing American presence in that country if we can help it. That is I think the main reason why we want to see the Afghans themselves have something to do with the security function.

The other side of the coin, and I'm pretty sure you would agree with this, because I know how stalwart you have been in support of our defense programs over many years and you know that, as I know, that we enjoy a much safer world today because we persevered through the Cold War. I think we will enjoy a much safer world 4 or 5 or 10 years from now, maybe sooner, but I don't think much sooner than that, by persevering in this war on terrorism.

But you are absolutely right, that we have to be careful about overcommitting ourselves, we've got to be very careful about not taking on other peoples jobs for them, and looking for ways to get out of places as well as ways to get in. So it's balancing those two things at the same time, but I can't tell you when we will have won. Unfortunately, that's something we will sort of know only when it's, the terrorists have stopped. We do know that they are still out there in large numbers, and it's not only in Afghanistan, but we do know that what we are able to accomplish in Afghanistan even as we speak is helping us to prevent terrorist acts here in the United States.

Senator BYRD. Thank you, Doctor. Thank you, Mr. Chairman, and I thank my colleagues for your patience.

Senator INOUE. Senator Hollings.

Senator HOLLINGS. Back to the original theme, Secretary Wolfowitz. Every response up here is to the needs of the reelection campaign and not the needs of the country, and if there is any division, then we just move on. That old political axiom, when in doubt, do nothing. That comment is made as a result of your comment on the Sinai. I find that you and I are going down the same side of the street together. We have got 13 peacekeeping; now we're going to add 2 more in the Philippines and in Georgia. Now we are going into the old Soviet Union, and I thought we would never get in there, but you got us in there according to my morning paper.

I can get reelected on that down in South Carolina, we are confronting Communism once again. But the truth of the matter is that you have to go into these places to eliminate the terrorist element. I am not worried so much about Afghanistan because I know you are sincere about it, but there can be no sincerity to the Balkans. Ten years ago we went there for 1 year, now it's 10 years later. In other words, we are in a sacrificial mode around here which doesn't exist, but tell the Europeans they are just going to have to take over or let them run the operation. We have to sit here and argue with the council of foreign relations, are they going to run the government? Why not cut back with the Balkans? Kosovo, they are just hunkered down by themselves there, all those troops, why not cut back the Kosovo operation?

U.S. TROOPS IN THE SINAI

It seems to me that you agree with Secretary Rumsfeld on the Sinai, and the people around in that area are not very friendly to us, they are not very understanding and cooperative, they do not want us there, so why do we not get out of the Sinai?

Dr. WOLFOWITZ. Well, I agree with Secretary Rumsfeld. Unfortunately, the people there do want us there. That's what we're grappling with.

Senator HOLLINGS. You know that from the 900 that we got—

Dr. WOLFOWITZ. Oh, our people don't want to be there.

Senator HOLLINGS. No. The 900 people who are there are telling you the people around them do not want us there, they are not very friendly about our deployment there at all. Go over and talk to them.

With respect, since my time is limited, with respect to the C-17, it was Secretary Perry that we put him in the cockpit up in Charleston, someone on this committee said, and I agree with Senator Stevens, let us get that procurement up at least to the 15 or more. I visited with him and I agree with his comments about the Reserves, they are going around the clock. In Charleston you have the 437th regulars, a C-17 outfit, and you have the 315th reserves, by General Black, and they are going around and around the world. I think about 78 percent of everything going into Afghanistan is on a C-17.

And yes their morale is high, but how are they going to keep it up in the Reserves? Like the frustration noted in the distinguished gentleman's question, when are we going to have victory, they want to know, when are we going to get some relief? So you need more regular crews and more planes in the C-17 force.

I am for the high tech, for the new defense as Secretary Rumsfeld testified to last year, and reiterated by the Commander in Chief. I went down with him 1 month ago to The Citadel when he announced the end of the ABM Treaty and he says yes, we are going to take the savings from cutting legacy systems and put them into this new highly technological defense force, and balance off those costs. And we now are asking for three new strike fighters. Yes, let us go with the F-22 and maybe even limit the first buy of F-18s. Can we economize there and be realistic? I'm trying to pare down this additional \$50 billion that was not needed last September and is all of a sudden needed when we have not even spent the additional \$20 billion we added in the supplemental. Could we do that and not hurt defense?

SPENDING OF SUPPLEMENTAL APPROPRIATIONS AND BRING DOWN
OVERSEAS DEPLOYMENTS

Dr. WOLFOWITZ. First of all, to say that we haven't spent the supplemental, we are spending it at a great rate.

Senator HOLLINGS. You have spent \$20 billion already?

Dr. WOLFOWITZ. Not yet.

Senator HOLLINGS. That is not what our budget figures show.

Dr. WOLFOWITZ. We have spent \$10.3 billion already

Senator HOLLINGS. About half of it.

Dr. WOLFOWITZ. It's actually, the amount we got totaled, I believe it was \$17.3 billion and as of the end of January we had spent \$10.2 billion of that. We are spending at a rate that will need more money by late spring, and as I said also, there are some costs like healthcare bills and things like that that you simply have to pay.

On the question of these deployments, which we are trying to bring down, we have had some success, particularly in the Balkans. In Bosnia we had nearly 4,500 troops there in January of last year. As of last month, we have gotten that down to 3,160, so that's more than 1,000 troops down in that area. And we are trying to take ad-

vantage of the fact that our allies have said they want to help. They are helping by the way, substantially in Afghanistan today.

Those numbers change, but we have roughly in Afghanistan today roughly 5,000 Americans and I believe, and I will get exact numbers for the record, our allies have something in the neighborhood of 6,000 troops, they have more than we do by roughly 1,000, and the combination of the peacekeeping force in Kabul and people on the ground, as well as including Australian, Canadian, New Zealand, British Special Forces. So we're getting a lot of help from people, but this is a difficult and strenuous operation, and I think indeed what is remarkable is that we are able to do it without an enormous increase in our defense budget, the type we were talking for World War II or the Korean War, or even for Vietnam. We are looking for every place that we can save some money.

[The information follows:]

U.S. personnel in Afghanistan (as of June 2, 2002)	7,259
Allied personnel in Afghanistan (as of June 2, 2002)	4,760

CUTTING UNNEEDED SYSTEMS

Dr. WOLFOWITZ. And we raised the question of the three new fighters. The problem is they don't come in at the right times. If we had joint strike fighters available today, we could do without the F-18, but absent the joint strike fighter, you have to do something or our Navy aircraft are just going to get terribly old. They are already too old already, and that leads to maintenance problems or accidents and things of that kind.

Senator HOLLINGS. The Crusader, do you think we need that?

Dr. WOLFOWITZ. I think we need some of it, a lot fewer than the Army had planned on. We have cut that program by almost two-thirds, and they have done a lot to cut the size and weight of the system. But I'm not one of those people who think I can bet the farm on not needing artillery 10 years from now, and I think it's the best artillery system available.

Senator HOLLINGS. The V-22 has killed more men than the enemy.

Dr. WOLFOWITZ. We know that it is a troubled program. We had a very senior level group look at it. They believe that those problems can be worked out. We will know sometime over the course of the next year whether that optimism is justified or not. If it's not, we are going to have to look at it again.

Senator HOLLINGS. It is our design, Mr. Secretary, as you and I know, we clear an area with air power, not like on the Normandy beaches, and the Blackhawk helicopter flies our troops where we want after we flatten the area with our air assets. It seems to me that the V-22 is a luxury that's not needed.

NEED FOR NEW SUBMARINES

With respect to the new Virginia class submarines, I agree on the requisition for the regular force with respect to Tomahawks and carrying on Seal cruise, but do we need another new one with the subs?

Dr. WOLFOWITZ. I think we do, Senator, and we may at some point figure out more fundamental changes in how to use our submarine force and then maybe we will look at different designs. But

I do think that if you look at 10 years from now, look at what an adversary can do with out technology against ships on the surface of the sea, you can only conclude that we are going to need more subsurface capability, not less. And that means also that we have to sustain the remarkable industrial base that builds those incredible ships.

So that's the context in which I think one has to look at the Virginia class, not as a Cold War function we don't need anymore, but part of that subsurface force for the future.

Senator HOLLINGS. Thank you, Mr. Chairman.

Senator INOUE. Senator Shelby.

CAPABILITIES GAP BETWEEN ALLIES AND THE UNITED STATES

Senator SHELBY. Thank you, Mr. Chairman. Mr. Secretary, I am glad you are with us today. Last June I asked General Ryan about what he called the growing asymmetry of technology between the United States and our European allies. Also last year, Lord George Robertson said, "We have a glaring trans-Atlantic capabilities gap and an interoperability problem between the allies."

The Bush administration has consistently pushed, and I have supported them, for the modernization of our military.

Even attributing much of what is being said by our allies to political posturing and rhetoric, I'm increasingly concerned about the capabilities gap and how this would translate to the battlefield.

One, in terms of concrete military capabilities, how big is the current capability gap between us and our North Atlantic Treaty Organization (NATO) allies?

Dr. WOLFOWITZ. It's very large.

Senator SHELBY. Since our allies' current military budgets do nothing that I know of to narrow this gap and presumably will restrict their ability to join the fight in the future, I would submit that the prospect of having to go it alone puts even greater pressure on us to provide more funding if we hope to be able to execute future operations and defeat future threats. Would you agree?

Dr. WOLFOWITZ. If the implication is that we have to spend more because our allies are spending less, I'm not sure I would agree with that. I would like to see them spending more.

Senator SHELBY. We all would.

Dr. WOLFOWITZ. It's also, in fairness, I agree with the thrust of what you're saying and I agree with Lord Robertson's criticism of the inadequate defense spending levels of our allies. At the same time, I really do want to emphasize particularly for those British and French and Canadian, Australian troops that are risking their lives on the ground in Afghanistan with us today, and in fact the most recent casualty we had was an Australian. We enormously appreciate the effort they are making. I think it would be much better for them and for us if they were investing more in their future forces as we are doing.

Senator SHELBY. They might be willing in the future but they might not be capable.

Dr. WOLFOWITZ. There is that distinct danger. And even today they are very very dependent on our lift and our other support capabilities to get them to the battlefield. I believe it was Senator

Hollings who was pointing out that now, lift is one of the most constrained resources.

Senator SHELBY. I know, Mr. Secretary, that the gap concerns Lord Robertson pointed out in the conference, it has to concern them in the future and their ability to project force and to be a player around the world, doesn't it?

Dr. WOLFOWITZ. I think so. And you know, I do think you have heard some of the political posturing that's going on over there during an election year.

Senator SHELBY. It is an election year over there.

Dr. WOLFOWITZ. I guess so. It always seems that there is an election somewhere every month. It is a fact that we were attacked on September 11th and they weren't, but I would hope for a greater understanding on their part that they could be next, that we were attacked by hijackers who didn't just come from the Middle East, some of them came from Europe, the worst of them came from Hamburg, as a matter of fact. And I think we really are in this thing together and on the whole we have been. The voices that get the most attention are the noisiest ones. That's what I keep coming back to, what we're seeing on the ground in Afghanistan, it's a different picture and it's not one you hear about enough in my opinion.

TRANSFORMATION

Senator SHELBY. To another area, transformation. Almost all the talk about transformation revolves around technology solutions to future tactics with the big issue of course being funding or money. Each service is working to transform its fighting forces. This budget includes \$21 billion for transformation programs, and over the next 5 years, \$136 billion is projected to go to fund transformation efforts.

Debate has heated up, Mr. Secretary, as you well know, over the need to buy more tactical aircraft, ships, ammunition, and to recapitalize more systems in an effort to keep our forces ready while we build this transformation bridge to the future. I don't hear much about fundamental force structure transformation these days.

When I think about the money you are asking us to spend, I think about an article which appeared in the San Diego Union Tribune on January 30 of this year. In it, a retired rear admiral discussed fundamental transformation ideas and the need to take steps to eliminate interservice duplication. The example used was to combine the medical, logistical and intelligence groups currently serving each military branch. In the context of the budget hearing, I think this article asks an important question, and I would like to know your answers. Mr. Secretary, if you were building a new military from scratch, and I know we are not, today, would it be structured like our military is currently structured? How do we get to where we want to go, I guess is the real question.

Dr. WOLFOWITZ. It's an unusually important question and is as I think you stated in asking the question, transformation is about more than money and as Secretary Rumsfeld said repeatedly, it's probably the changes in the way people think that are the most important piece of it, the way they organize and the way they oper-

ate. That includes looking systematically at how we do things and whether we are continuing to do things just because we have done them for the last 10 or 20 or 30 years and we don't need to do them anymore. That's the Sinai, for example, where the President of Egypt and the Prime Minister of Israel disagree, and I think that's an example. We're looking very systematically at where we want to be combining either for efficiency or for improved combat effectiveness. We now have Army guys on the ground interacting with long-range bomber pilots in ways that—

Senator SHELBY. And it is working too, is it not.

Dr. WOLFOWITZ. It is. So we really do have to think differently, and we do have to keep in mind this Legacy force which you referred to and we are investing in it. The real reason for the three tactical fighters is to make sure that the Legacy force works, I don't really like that word, but that the main part of our force can fight our wars for the next 10 years while we build those future capabilities.

Now, I cannot remember how many smart comments I have read about how if the previous budget did not cut 30,000 people out of the Army or out of the Navy or the Air Force, I have not read it about the Marine Corps, but at any rate, imagine where we would be, I think now, in light of the questions the chairman was asking about the possibility of even an increased end strength, if we had started whacking away force structure. We took a very careful look at force structure during the summer in the QDR and we concluded that we could reduce the strain on the force structure by changing our strategic concept, but given the deployment requirements that we had, that we needed something roughly the size of what we have today. It's not an accident that we are the only country in the world that can even think about mounting operations in a remote place like Afghanistan on 3 weeks notice. We are a much safer country today because we were able to do that and I think it's an investment that is worth it.

Senator SHELBY. And I thank you.

Senator INOUE. Senator Specter.

Senator SPECTER. Mr. Secretary, I join my colleagues in welcoming you here. How are you enjoying the job?

Dr. WOLFOWITZ. Enjoying it.

Senator SPECTER. We see that Iraq has dominated a good bit of the news. When Secretary of State Colin Powell recently commented about the "axis of evil," he said we do not plan to go to war against North Korea and we did not plan to go to war against Iran, but Iraq was conspicuously absent with a nondeclaration. By 20-20 hindsight, I think most would agree that we made a mistake in not proceeding against Osama bin Laden and al Qaeda. This is based on the indictments which have been returned in Federal court against bin Laden for killing Americans in Mogadishu in 1993, the embassy bombings in 1998, and the implication of the U.S.S. *Cole* and his worldwide "jihad." What Saddam Hussein is doing is a real problem.

Aside from the comments which have been made by the officials, it seems to me that it might be very useful for this subcommittee or the Appropriations Committee sitting as a whole, or perhaps Armed Services or Foreign Relations, to conduct hearings to try to

get as much on the public record as we can so that the public understands. Some things would have to be said confidentially in closed session, but it would be useful in my view to know, as specifically as we can in public session with the balance in closed session, the threat which Saddam poses with weapons of mass destruction, the specifics of what he has done by ignoring the United Nations, and the chances of his compliance. I see the Secretary General is now going to meet with him. He has a track record of backing down when things look like they are getting tough. What is the game plan and a rough outline, again perhaps in closed session, and what happens after he is caught? It could hardly be a surprise to Saddam Hussein to know that is something that may happen.

CONGRESSIONAL HEARING ON TERRORISM POLICIES AND
CONSULTATION

What is your thinking on the utility of such congressional hearings?

Dr. WOLFOWITZ. Senator, you raise a whole series of unquestionably key issues that people have to think through. I think you can understand that for any of us in the executive branch, these are decisions that can be taken only by the President, and he has made some very clear and important statements.

Senator SPECTER. He did this only for the press. What happened to consultation with Congress?

Dr. WOLFOWITZ. Well, I think there are appropriate ways to do consultation. I think what the President laid before the Congress and the country on January 29th is the fact that we have a problem. The problem is countries that are openly hostile toward the United States, supporting terrorists and pursuing weapons of mass destruction, and the implications of where that is heading is too dangerous for us to sit back and wait for it to happen and react afterwards.

I think you made the very correct analogy that we should have dealt with bin Laden before September 11th. And of course you recognize as we all do, that had we done so, no doubt people would have said we didn't have sufficient evidence. We're in that zone where we can't wait until we have proof beyond a reasonable doubt.

Senator SPECTER. What is the congressional role on a declaration of war or the authorization of use of force? The President came to the Congress and formed a resolution for the use of force against al Qaeda. Of course he knew he would get it.

In 1991, some recollections differ, but I have a pretty firm recollection that President George H.W. Bush did not want a resolution, but he got one. It was a tough debate. It was the most important debate that has happened in the 22 years I have been here.

Dr. WOLFOWITZ. That's correct. He did want a resolution, and some debated that, and he made the decision to in fact ask for it. But you are right, it was an absolute critical debate, and I think it was very important.

Senator SPECTER. Is not the country better served for the issue to come before the Congress if there is consideration by the President on the use of force against Iraq?

Dr. WOLFOWITZ. The problem is, I think in your question, you're sort of assuming that he has made decisions that I don't know that he has made yet, and I am not at all in the position to start speculating.

Senator SPECTER. There is a lot of attribution that he did make the decision.

Dr. WOLFOWITZ. Well, and a lot of it is completely erroneous, so don't believe everything you read.

Senator SPECTER. That is why I used that word attribute, there was no charge there.

Dr. WOLFOWITZ. And I don't make decisions about that sort of thing.

Senator SPECTER. Mr. Secretary, you have done an outstanding job for years and years. I know there is going to be some resolution and when it comes, you will get it. However, I want to state one member's opinion, that the Congress ought to be involved and the American people ought to be involved and there ought to be a guideline. One way to get there—I do not know of another good way to get there—is on the hearing law, and it seems to me imminent enough so that the Congress ought to consider the matter. As to how we resolve it, I do not know that I raise it, but I do want to talk to you about this latest proposal.

Dr. WOLFOWITZ. I would add, Senator, that there are obviously things that are easily discussed in closed sessions that we wouldn't want to be sitting out here discussing while Saddam Hussein or Mr. Khomeini or other people are listening to us, so that is one aspect of the dialogue that I think you need to keep in mind as well. And we have had, I think I have participated by now in four or five of them, I think very good closed sessions with the full Senate.

Senator SPECTER. I agree with you about the closed sessions. Although the sessions we have in S-407 are very helpful, they are not really like hearings where you have 10 minutes to pursue a question and even that is not necessarily enough. However, I commend you for your consideration, because some of us feel very strongly that the Congress ought to get involved at an early date, and you cannot quite wait until the President has made a decision to use force, because then the Congress is out of it.

ARAB-ISRAELI RELATIONS

Let me ask you about the proposals for Israel to go back to pre-1967 borders and for the Arab states—to say normalized is the wrong word because they have never been normal—to recognize Israel and Israel's right to exist. Concerns which trouble me are how do you do that and protect the Israelis who are in settlements outside the 1967 borders. When we talk about relations, how do we deal with Saudi Arabia, other foreign countries, or other Arab countries in order to have a real peace?

Since Camp David, the United States has given \$50 billion plus in aid to Egypt, and there is a very cool peace. When President Mubarak has been asked about it, he says that is the best he can do, but they do not have real trade, visitor exchanges, they do not really have a warm peace, so if the matter is to be pursued, what can be done on those two big issues for assurances to Israel so that

they will be getting something in exchange for that kind of concession?

Dr. WOLFOWITZ. I think ultimately the Israelis have to make the decision about what, if anything, to do. I know when President Sadat made his courageous visit to Israel in 1977, so in that time in fact we have made progress. If you think back to then, it was a time that Sadat used the word Israel when speaking to the Israeli press, and it was the first time in history that an Arab leader had referred to Israel by its proper name. And he changed, as I think you remember, I remember vividly, in just 24 hours, changed the whole psychological outlook of the Israeli public, Israeli people toward making peace with Egypt, and in fact led to a return to the 1967 borders and a peace which for all of its coolness, has actually been sustained to this day.

But that coolness, unfortunately, is one of the things that contributes, I think, to Israeli reluctance now to take risks, and I think it certainly would make a big difference in moving toward a peace settlement that I think the Israelis desperately want, we certainly want to see it, I think the Palestinian people desperately need to create that atmosphere, where people are willing to take risks.

Senator SPECTER. I quite agree with you, it is an Israeli decision, but the President purportedly told the Crown Prince, and I think the United States is going to be involved.

Mr. Chairman, I want to close by posing two questions and asking for written responses, Mr. Secretary. I am pleased to see that there is a request for \$1.9 billion for the V-22 Osprey. I would appreciate a response in writing on how the Osprey is looking, what are the tests showing. There were lots of problems on falsification of records, but I think it's a great plane, let us see where that stands.

Dr. WOLFOWITZ. We will get that for you, Senator.

[The information follows:]

The V-22 returned to flight test in May 2002, and as of 10 June 2002 has flown four sorties for a total of 5.5 hours. The comprehensive inspections indicate that the current modifications made to the hydraulics system with respect to line clearance are effective and safe. These modifications will continue to be assessed as we complete more flight tests. Flight tests that have been conducted have exceeded all expectations in regard to aircraft performance and reliability. Test pilots report that the aircraft is performing well.

The flight test program has been thoroughly restructured to assess the effectiveness of solutions, regarding reliability of hydraulic system components and flight control software, overall aircraft and reliability rates and operational effectiveness. By October of 2003 the flight test program will have gradually increased from one to seven Marine (MV) variants actively involved in flight testing. Flight testing of the Special Operations (CV) variant is scheduled to start in August 2002.

Senator SPECTER. The second question I would like to ask is, you have almost \$400 million for the C-130 aircraft, including \$176 million for the C-130J, but there is nothing for the EC-130J, which is used by the 193rd Special Operations Wing, which has done extraordinary service in Kosovo and elsewhere. The wing is desperately in need of two new planes to carry on their mission. If you can, please give me a response to that.

Thank you very much for the good work you are doing, Mr. Secretary and Dr. Zakheim.

[The information follows:]

EC-130 AIRCRAFT

I am very proud of the job that has been done by our special operations Commando Solo crews in Afghanistan. Commando Solos are unique, high demand/low density platforms and continue to be an asset for the department. Commando Solo is also wholly comprised of volunteer air national guardsmen.

Thanks to Congressional support, the transition from the EC-130E to the EC-130J model was made possible by additional funds in fiscal years 1997 through 2001, providing five of the planned eight C-130J aircraft and special operations-unique modifications. The Air Force Master Plan provides funding for the remaining three C-130J for conversion to EC-130J in fiscal years 2006 through 2008. The 193rd Special Operations Wing is the only unit that flies the EC-130 and will receive all eight EC-130J aircraft. In addition, the fiscal year 2003 budget request contains \$79.4 million to mitigate special mission equipment obsolescence and degraded capability equipment issues on EC-130 aircraft.

Dr. WOLFOWITZ. Senator, forgive me for the reminiscence. I remember when you visited Indonesia when I was Ambassador, and you were there as I recall, as the junior Senator from Russell, Kansas, but you are now the senior Senator, am I right?

Senator SPECTER. That is right, I was the junior Senator from Russell, Kansas, and Senator Dole is still the senior Senator from Russell, Kansas.

Dr. WOLFOWITZ. I just thought it was remarkable, two Senators from different States and both born in the same small town in Kansas.

Senator SPECTER. It is in the water, Mr. Secretary.

Senator INOUE. Mr. Secretary, Dr. Zakheim, we thank you very much for appearing before the subcommittee today, and we will continue our discussions throughout this year.

ADDITIONAL COMMITTEE QUESTIONS

Several members have requested that they be permitted to submit questions to you for your consideration, and I hope you will do so.

[The following questions were not asked at the hearing, but were submitted to the Department for response subsequent to the hearing:]

QUESTIONS SUBMITTED TO DR. PAUL WOLFOWITZ

QUESTIONS SUBMITTED BY SENATOR DANIEL K. INOUE

BALLISTIC MISSILE DEFENSE-MISSILE DEFENSE AGENCY

Question. Mr. Secretary, the Department recently established the Missile Defense Agency to take the place of the old Ballistic Missile Defense Office. We have heard many concerns about this new agency being shielded from appropriate oversight both in the Pentagon and by Congress. Can you give us your assurance that this is not the case?

Answer. I can assure you that the changes to our missile defense structure, rather than shielding the MDA from appropriate oversight, will provide for more consistent and immediate oversight by the Department's most senior leaders.

The Secretary of Defense redesignated the Ballistic Missile Defense Organization as the Missile Defense Agency (MDA) to underscore the national priority placed on missile defense and to provide MDA the authority and structure consistent with development of a single, integrated missile defense system. But while the Secretary provided the MDA Director with new authorities that differ from traditional Department processes, he has taken action to ensure that the Department has direct and focused executive oversight. The Senior Executive Council (SEC), which I chair, provides the primary oversight of the MDA. Among its other responsibilities, the SEC

will provide policy, planning and programming guidance to the MDA; decide whether to stop, start, slow, or accelerate their efforts; and approve transition and fielding recommendations. In addition to the SEC, the Under Secretary of Defense for Acquisition, Technology, and Logistics [USD(AT&L)], has established a Missile Defense Support Group (MDSG) of Department experts that provides advice to him, the MDA Director and supports SEC decision-making. While not an oversight group, the MDSG does perform independent analyses. Both the MDA Director and the MDSG chairman report to the USD (AT&L), providing senior Department officials real-time involvement in MDA activities and helping reduce our decision-making cycle time.

With regard to congressional oversight, the Department will continue to provide Congress the same documentation as we have in the past. Although there are changes in the information we will provide, the changes will be consistent with the changes to the missile defense structure. For example, we will submit a Selected Acquisition Report (SAR) for the BMD System RDT&E program that includes major schedule objectives, an estimate of RDT&E funding, and major prime contractor cost performance data. However, unit cost data for individual elements will only be included once the SEC decides to start procurement of that element. An example of this is the PAC-3 program where the Department submitted a separate SAR this year to support its transition to the Army. In addition to the BMD System SAR, we continue to provide Congress our annual detailed Budget Justification materials. These materials include detailed budget and schedule summaries for all major budget projects. Finally, the Department will continue to provide extensive briefings to both Members of Congress and their staffs.

Question. Since the military services ultimately will be the ones who procure and implement BMD systems, what role will they play in shaping ballistic missile defense policy and programs? Do the services have a say in ballistic missile defense budget matters?

Answer. The Management structure of the Ballistic Missile Defense System (BMDS) is designed to allow the MDA to focus on research, development, testing and demonstration of BMD capabilities, while providing for the transition of proven capabilities to system development and the transfer to the services for procurement, operations, and support. The Services have an important role throughout the BMDS life cycle, both in policy planning and budget development.

BMD policy is guided by a Senior Executive Council (SEC) established by the Secretary of Defense (SecDef). The SEC includes the Service Secretaries, the Under Secretary of Defense (Acquisition, Technology and Logistics) and chaired by me. The SEC reviews and approves MDA and service planning and budgeting for the fielding of specific capabilities, through system development and transfer to the user Service for procurement. The Services, in concert with the Joint Staff, determine force structure requirements, and budget for procurement, operations and support within the service TOA.

At the RDT&E project level, service liaison offices are being established within the MDA to ensure that force integration planning and requirements are included in the MDA-funded capability development and demonstration phase. The Director, MDA will also have individual Service Boards of Directors with each Service Acquisition Executive to provide regular consultation and to resolve issues that cannot be rapidly satisfied at a lower level. Potential system cost estimates must include full provisions for Service procurement, operations, and support. Service participation in development and planning will increase during the transition phase, in order to ensure a smooth transfer of management and system support responsibilities.

DEFENSE HEALTH PROGRAM

Question. In past years the Department has seldom been able to project its required expenditures for the Defense Health Program (DHP). The Department deserves praise for its efforts to provide realistic costs in the fiscal year 2003 budget request for the DHP. However, the expansion of TRICARE and rising health care costs will continue to generate stress on the military health system, which supports 8.3 million military beneficiaries. Assuming there is no supplemental in fiscal year 2003, and shortfalls in military healthcare arise, how will the Department cover those shortfalls without jeopardizing the health care of patients?

Answer. The Department recognizes that health care is an entitlement and will not jeopardize the health care of patients. If there is a shortfall in the budget for military health care and there is no supplemental, the Department will have to reprogram resources internally to cover the shortfall. However, we believe that the fiscal year 2003 Defense Health Program (DHP) is adequately funded based on recent healthcare cost experience and do not anticipate a shortfall. The pharmacy program is budgeted at 15 percent and Managed Care Support Contracts are budgeted at 12

percent over fiscal year 2002 levels to account for anticipated inflation and program growth. These are areas that have been budgeted at lower levels in the past and contained the greatest risk for our program. As a result of these increases, a significant portion of our fiscal risk has been mitigated. The establishment of the DOD Medicare Eligible Retiree Health Care Fund also serves to limit some of the financial risk in the DHP and the Department as a whole by providing a mandatory funding source (independent from DHP appropriations) to pay for Medicare-eligible care.

Question. How will the Military Treatment Facilities accommodate the expansion of TRICARE benefits, particularly with the influx of older retirees who tend to have unique health care needs, tend to require more patient visits per year, and tend to require more prescription drugs?

Answer. Overall, the Military Health System will handle the expansion of TRICARE to include 65-and-over beneficiaries by implementing the Medicare Eligible Military Retiree Health Care Fund, authorized by section 713 of the National Defense Authorization Act for Fiscal Year 2001. This will provide resources to fund the out-of-pocket costs of these beneficiaries after Medicare pays, as well as to pay for their care in Military Treatment Facilities.

Our senior beneficiaries continue to be eligible for care in military facilities, but it is important to recognize that the capacity of military facilities did not increase by virtue of the enactment of TRICARE for Life. We recognize that many beneficiaries want to continue to receive care at military facilities, while also taking advantage of TRICARE for Life benefits. Therefore, last year we established a new program called "TRICARE Plus," a primary care enrollment program that gives seniors (and other beneficiaries not in managed care plans) an opportunity to enroll and be assigned to a primary care doctor at the military facility. This opportunity is limited by local capacity. When these beneficiaries need care beyond the capabilities of the MTF, they use their civilian health care benefits, in most cases TRICARE for Life.

Question. How does the fiscal year 2003 budget request address the problems of recruiting and retaining medical personnel, particularly in the reserves?

Answer. The Defense Health Program portion of the budget designates an increase in funding of \$8.2 million to the Armed Forces Health Professions' Scholarship Program (AFHPSP) to increase scholarships by approximately 282. The budget also includes an increase of \$3.75 million to expand use of the Health Professions' Loan Repayment Program (HPLRP).

TACTICAL AIRCRAFT PURCHASES

Question. Secretary Wolfowitz, it is a well known fact that modernizing our tactical air forces is critical to sustaining our military superiority in the future. Yet, in many top-of-the-line DOD aircraft procurement programs, such as the F-18 fighter and C-17 cargo aircraft, the Department's fiscal year 2003 request cuts the number of aircraft to be bought compared to last year. What are the Department's reasons for not increasing tactical aircraft purchase rates at the same time that your budget is increasing by \$48 billion?

Answer. We believe that the Department's long-term tactical fighter modernization efforts are leading to a truly "transformational" fighter force structure. We are moving as rapidly as feasible toward a highly survivable, capabilities-based fighter force that meets the future needs and provides the users with an asymmetric capability advantage. The Department is trying to balance the procurement of adequate numbers of F/A-18E/F fighter aircraft with simultaneous wise investment in the development and procurement of the next generation of more capable fighters. The Department's fiscal year 2003 budget request demonstrates this time-phased TACAIR modernization plan. With regard to existing fighter aircraft procurement, the budget request continues to support the full-rate production of the F/A-18E/F aircraft. Likewise, the Department continues to aggressively pursue an increasing ramp-up of F-22 aircraft towards full-rate production (e.g., the program is currently in low-rate production). It should be noted that combined F/A-18E/F and F-22 procurement has increased by 6 aircraft from fiscal year 2002 to fiscal year 2003. The Department's commitment to next generation fighter development is demonstrated by aggressive efforts to complete F-22 development, and our continued increase in the Joint Strike Fighter System Development and Demonstration program from approximately \$1.5 billion in fiscal year 2002, to \$3.5 billion in fiscal year 2003. The fiscal year 2003 request also funds the follow-on multi-year procurement of 60 additional C-17 cargo aircraft, which maintains a production delivery rate of 15 aircraft per year until fiscal year 2008. In terms of procurement spending, a comparison of fiscal year 2002 to fiscal year 2003 spending in the U.S. Navy and U.S. Air Force aircraft

procurement reflects the Department is spending about \$2 billion more on its recapitalization efforts. In addition to the aforementioned efforts, the Department has expanded selected transformation initiatives, such as the Unmanned Combat Air Vehicle, that may offer the potential as a force enabler to augment manned aircraft by enhancing our ability to hold certain military targets at risk with decreased risk to personnel. The Department considers that the President's Budget provides the appropriate balance between current acquisition programs and future development efforts to ensure needed future air warfare capabilities.

Question. Mr. Secretary, isn't it true that, over the long term, if we don't purchase modern aircraft at a sufficient rate, we will have to cut our force structure? Do you anticipate that this will occur in the near future?

Answer. When we construct our annual acquisition program plans, we try to account for the projected phase out of aging aircraft types in an effort to maintain adequate force structure into the future. Combat aircraft typically have a service life of 20-30 years, depending upon type. Therefore, combat aircraft forces need to be sustained with recapitalization programs that anticipate future needs well in advance. The Department reviews threat estimates and emerging operational needs in updating force structure and modernization plans as needed. In some cases, new operational concepts, weapons, and support systems eventually may permit some force structure reductions. In other cases, new operational needs may call for selected increases. The DOD's acquisition program plans factor all these considerations into our annual acquisition program request. The Department considers that the President's fiscal year 2003 Budget provides for procurement of the aircraft needed to achieve required modernization and maintain sufficient force structure for the foreseeable future.

Question. We have just returned from a trip to the war region in Central Asia where we heard from our military commanders there that the one system they needed more of was the C-17 airlift aircraft. Have you heard these reports? What are your thoughts about which aircraft have been the most useful in our Afghanistan engagement?

Answer. It is true that airlift, especially the C-17, is high on the CINC's priority list. However, to suggest that one aircraft in particular has been the most useful in carrying out Operation Enduring Freedom would not be appropriate. Comparisons between the contributions of the different platforms tend to obscure the fact that different aircraft, both sea- and land-based, provide unique and complementary capabilities. The success that we have enjoyed has been the result of the flexible mix of aircraft systems available to support military operations.

During Operation Enduring Freedom, land-based United States and British tankers refueled carrier-based fighter-bombers, while B-1s and B-52s relied heavily on the Navy's electronic warfare EA-6B and strike aircraft to disable or destroy enemy air defenses helping to assure access to targets, and helping to assist in providing access to assure targets access. Much of the success of the Navy's tactical aircraft TACAIR success was the direct result of the support provided by Air Force KC-135 and United Kingdom Royal Air Force UK RAF Tanker aircraft. Pilots from all services benefited from targeting information provided by special mission aircraft such as Joint STARS, P-3s, and Predator and Global Hawk unmanned aerial vehicles. U.S. Special Operation Forces and anti-Taliban Afghan observers provided eyes on the ground. Army Apache and Marine Cobra helicopters provided close air support to our troops fighting on the ground, as recently witnessed in Operation Anaconda. Other aircraft, such as the AC-130 gun ships, conducted effective missions by night and struck terror in the hearts of terrorists while hunting them down in the dark of night. Transports such as C-17 and C-130 provided critical logistic support while Army and Marine helicopters furnished mobility and supplies to dispersed forces on the ground.

All of these aircraft are playing a vital role in Operation Enduring Freedom.

TANKER AIRCRAFT LEASING

Question. Mr. Secretary, last year the Congress enacted legislation allowing the Air Force to lease up to 100 Boeing 767's for replacing its aging air-refueling tanker fleet. It is my understanding that no contract agreement has been reached on this program. What is the status of this program? When do you anticipate an agreement to proceed on this program will be reached?

Answer. Pursuant to the legislation, the Air Force intends to negotiate with Boeing for up to 100 Boeing 767 tankers. Currently, the Air Force is reviewing information provided by both Boeing and Airbus in an effort to gauge available technology and properly bound and define the business case required by the 2002 statute. An agreement to proceed on this program will not be reached until we have negotiated

a good deal for the department and I have reported to the Congressional Defense Committees. I anticipate reporting my findings to Congress in accordance with the legislation this summer.

Question. Secretary Wolfowitz, do you agree that the Air Force's tanker fleet is aging and in need of replacement?

Answer. Yes, I agree the Air Force's tanker fleet is aging and in need of replacement. The vast majority of the tanker fleet is comprised of KC-135s, which were delivered between 1957 and 1965 and have an average fleet age of over 41 years. The operations and sustainment costs for this aging fleet are projected to rise in the years to come, while operational availability is expected to decline, making recapitalization crucial. While we recognize the need for replacement, any approach to modernizing the fleet, whether by leasing aircraft, buying new aircraft, or some other approach, will be reviewed by the Department prior to any decision being implemented to ensure the approach represents best value to the Government.

Question. Moreover, do you agree that contingency operations, such as the one we have ongoing in Afghanistan, place a great burden on our tanker aircraft?

Answer. Yes, I agree that contingency operations, such as Operation Enduring Freedom, place a great burden on our tanker aircraft.

Question. Do you also agree that, in the absence of adequate procurement funds, that an operational lease program is the best way to modernize our tanker aircraft force?

Answer. We are still considering the most efficient way to modernize our tanker aircraft force. An operational lease program is one option under consideration, but it is premature to state if leasing is the best approach.

BALLISTIC MISSILE DEFENSE

Question. Mr. Secretary, the Department's Ballistic Missile Defense program has recently suffered some significant setbacks. First the Navy Area Theater missile defense program was terminated. And second, the Space Based Radar—Low program is being dramatically restructured. The Department, to date, has provided no clear indication of how it intends to address these issues. Can you recommend to the Committee how we should proceed to deal with these issues?

Answer. A sea-based terminal ballistic missile defense capability is only one of the opportunities that exist for the development of a multi-tiered land-sea-air-space-based missile defense. Mr. Aldridge has tasked the Missile Defense Agency in close consultation with the Navy, to address sea-based terminal ballistic missile defense capability as part of the integrated Ballistic Missile Defense System and for the Navy to address its extended-range anti-air warfare needs in light of cancellation of the Navy Area Missile Defense Program.

The prior plan for SBIRS Low was based on a stressing requirement set tailored for the difficult, sophisticated threat projected for the National Missile Defense Program. The schedule for the launch of the first generation satellite was considered moderate to high risk. MDA expects to present, by 15 May, a restructured program adopting an evolutionary approach to the performance of the sensor system element, and a more realistic schedule.

Question. Secretary Wolfowitz, do the problems in these two missile defense systems undermine the concept of developing a "layered" missile defense?

Answer. No. The actions taken by the MDA, with the concurrence of the SEC, regarding SBIRS Low and Navy Area, demonstrate the flexibility inherent in managing the BMD program as an integrated system. The program envisions a layered defense with evolving capability objectives, based on the projected threat capabilities and the phased deployment of system elements in blocks of demonstrated missile defense technologies.

The MDA, with participation by the services and CINCs, is working to develop a Ballistic Missile Defense System (BMDS) that layers defenses to intercept missile in all phases of their flight (i.e., boost, midcourse, and terminal) against all ranges of threats. In doing so, the MDA plans and executes work such that efforts in a particular area of the BMDS may be truncated or stopped if the results are unsatisfactory or where the development effort should be shifted to another integrated BMDS element to permit its acceleration.

The Navy Area program suffered technical and schedule challenges, that impacted cost. This put the Department in the position of being unable to certify to the Nunn-McCurdy stipulations and resulted in the program's cancellation. The MDA is addressing the Sea-Based Terminal element in the context of its role in fulfilling a portion of the layered BMDS. As part of the SBIRS Low restructure the element is converting to a spiral development, capability-based approach. The initial satellites will support the BMDS Test Bed. These first satellites may have less capability and

therefore lower schedule and technical risk of achieving launch. Subsequent satellites will have greater capability as technology matures. This will allow for early contingency operations and increasing capability. Lessons learned from the initial satellite operations will feed back to later satellites, increasing their capability and lowering their schedule and technical risks. An adjustment to the funding profile across the Future Years Defense Plan (FYDP) may be required to provide the best capability for the country.

Question. What are the arms control treaty implications of your ballistic missile defense budget request? Is the ABM Treaty violated if the Committee approves your program as requested?

Answer. All DOD activities, including those in the Missile Defense Agency budget, will be conducted in compliance with U.S. arms control obligations. With respect to the ABM Treaty of 1972, on December 13, 2001, the United States gave notice of its withdrawal from the Treaty, effective six months from that date (June 14th). The ABM Treaty will not be violated if the Committee approves the missile defense program as requested.

SPACE PROGRAMS

Question. Mr. Secretary, achieving dominance in space is a key to transforming our military. Unfortunately, some of our more critical space programs—the Space Based Radar satellites and the Advanced EHF satellite, to name a few—have experienced delays, cost overruns and other performance problems. Does the Department have a plan to manage these programs in order to avoid additional cost overruns and delays?

Answer. Yes. For example, the Space Based Radar is a relative new start. We stood up a program office to manage this effort last May 2001. Although there has been considerable discussion between the Air Force and the National Reconnaissance Office over how to optimally structure the program office, so far we are unaware of any other management, cost or schedule problems.

In the case of the Advanced EHF, which provides protected satellite communications for a number of high priority command and control functions, we have taken several actions. In response to the Advanced EHF problems, caused by an attempt to accelerate the launch schedule as a result of the loss of a Milstar EHF satellite in 2000, we have increased the oversight of the execution of this program and are also evaluating alternatives for meeting the operational requirements after satellite three. Our objective is a transformational communications architecture that supports the expanding bandwidth requirements of the warfighter.

Question. Do you view the problems in these programs to be more a function of management difficulties or technical difficulties?

Answer. At this time I am not aware of any significant management or technical issues with Space Based Radar. Some have expressed concern about management challenges associated with effectively integrating Air Force and National Reconnaissance Office (NRO) expertise into a single program office, but these concerns are mitigated by the assignment of Mr. Peter Teets to serve as both the Undersecretary of the Air Force and the Director of NRO.

As described in the previous question, the Department has taken several actions to address the Advanced EHF management issues. Additionally, the Department has identified a new approach to technically satisfy the expanding warfighter requirement for very high bandwidth capacity and the continuing need for secure national level command and control. Instead of proceeding beyond satellite three with the Advanced EHF, the Department is proposing two new start satellite communication programs in fiscal year 2003, as follows:

- The Advance Wideband Satellite program, for which we are asking \$200 million in fiscal year 2003, will utilize Laser communications to relay surveillance and reconnaissance information for processing and dissemination.
- The National Strategic Satellite Communications System, for which we are asking for \$10 million in fiscal year 2003 with a significant ramp up in the out-years, will provide highly protected communications for national level command and control.

DEFENSE EMERGENCY RESPONSE FUND

Question. Secretary Wolfowitz, earlier this month you testified before another Senate Committee that the Defense Emergency Response Fund would run out of funds sometime in April. What is the current status of Defense Emergency Fund balances available to the Department, and is that still your forecast?

Answer. I continue to estimate that Defense Emergency Response Fund balances will be fully exhausted in April. Through the end of February, \$11.9 billion of the

\$15.2 billion appropriated to DERF has been committed, obligated or pending transfer to restore funds advanced from the baseline appropriations for the cost of the war on terrorism. However, the funds appropriated and apportioned in the last supplemental for increased OPTEMPO and the pay costs of Guard and Reserve personnel who have been mobilized are already depleted. The Military Departments have begun to advance funding from the fourth quarter operation and maintenance and military pay accounts to fund the high OPTEMPO and pay costs associated with continuing the war on terrorism. However, I anticipate that the supplemental funds that will soon be requested will be sufficient to make the operation and maintenance and military pay accounts whole again, and therefore there will be no impact of DOD readiness.

Question. Secretary Wolfowitz, for how long does the Department envision maintaining the reserve mobilization at the current levels?

Answer. The global war on terrorism will be variable and dynamic and, as the President has said, will more than likely go on for years. Thus, there are many unknown factors, including how long it will be necessary to maintain the current level of reserve mobilization. As the global war on terrorism evolves, the Department will continue to evaluate the use of Reserve Component personnel and ensure that they are being employed effectively for essential requirements. Judicious use of resources is a critical element of executing the war on terrorism over the long term and it is important that we not exhaust the available pool of Reservists and Guardsmen in the early phases of this operation.

Question. Are the respective armed services using current year operation and maintenance funding to provide for increased force protection costs, or are these being covered by Emergency Response Fund dollars?

Answer. The DOD's baseline budget in fiscal year 2002 for force protection was \$4.5 billion for the protection of DOD personnel against acts of terrorism. After threat conditions markedly changed, the Department sought additional funds for force protection last autumn. An additional \$1.4 billion was provided. I intend that all additional force protection requirements in fiscal year 2002 be funded via supplemental funding. To do otherwise would threaten the ability to sustain readiness funded in the baseline operation and maintenance accounts.

QUESTIONS SUBMITTED BY SENATOR HERB KOHL

STRATEGY ON FUTURE CONFLICTS

Question. Recent articles and statements by Administration officials have indicated that we are not ready to engage in a conflict with Iraq at this time. I am not advocating such a move, but I am surprised that the United States is not prepared. Our previous national strategy was to be ready to fight and win two major regional conflicts, our current strategy is to fight and win against a major regional adversary, while defending against another regional adversary in another theater. If that is our strategy, why are we unprepared to deal with Iraq? Why do we not have enough precision guided munitions to fight a relatively small conflict and then take on a regional adversary? Is this a failure of the Department of Defense to accurately plan what we need to fight these future conflicts?

Answer. The current strategy requires the United States to fight and win two overlapping wars, and we are capable of prosecuting that strategy today. Our armed forces have many capabilities that can be brought to bear against an adversary. The skillful orchestration of these various capabilities in the right mix appropriate to the threat is the objective of advance planning. In light of our increasing usage of precision munitions in recent combat we are adapting our production rates and planning accordingly.

ELIMINATION OF COLD WAR ERA PROGRAMS

Question. I am concerned that since the Department of Defense funding is increasing by such large amounts there is no political will to eliminate Cold War era programs that are no longer relevant to future conflicts. The Secretary has talked about making tough choices to move the military toward transformation, but this budget doesn't seem to make any choices. Instead of transformation over tradition we are getting both the old systems and the new. Can you provide some examples where the Department of Defense has decided to eliminate weapon systems or programs, outside of missile defense, in favor of newer approaches? Where has the Department of Defense decided to skip a generation of technology as the President proposed?

Answer. There are several examples where the Department of Defense is eliminating weapon systems and programs. Recently the Army terminated 18 of its pro-

grams that are not planned for the Objective Force. Eleven (11) of those programs will be terminated in fiscal year 2003, while the remaining seven (7) will be terminated between fiscal year 2004 and fiscal year 2007. The funding associated with these 18 systems has been realigned to support higher Army priorities. The Army will also eliminate several different rotor aircraft in its inventory upon fielding the Comanche helicopter. When the Comanche is fully fielded, the Army will have only three types of helicopters (Comanche, Black Hawk, and Chinook). By eliminating 1,000 Vietnam-era aircraft from the force, AH-1 Cobras this year and UH-1 Hueys by fiscal year 2004, the Army will free the resources needed to support other transformation goals. The Navy cancelled the DD 21 Land Attack Destroyer program and will satisfy those requirements through the DD(X) program which will focus efforts on maturing transformational technologies. This move will also increase risk reduction efforts while establishing a family of ships that will include the future cruiser (CG(X)), the future destroyer (DD(X)), and a littoral combat ship (LCS). The DD(X) program is also an example of the Department's efforts to skip a current generation of weapons in favor a greater future capability.

REQUIREMENTS GENERATION PROCESS

Question. The Goldwater-Nichols Act helped establish a process to ensure the requirements of the warfighter initiate and guide the development of military weapons programs. Congress felt that identification of warfighter requirements should be a documented process in any weapons development program. The Department of Defense has exempted the missile defense program from the Requirements Generation Process, thereby taking the warfighter and documented warfighter requirements out of the development process. Outside of allowing the warfighter to provide unofficial and verbal input to the development process, what efforts will the Department take to ensure that warfighters are allowed to document their requirements and establish performance parameters which the acquisition community must meet to ensure the missile defense programs have adequate military utility?

Answer. Under the new management approach for Ballistic Missile Defense (BMD), warfighter involvement in establishing the needs of the fighting forces will be robust and ongoing. In fact, under this new approach, there will be even greater opportunity for the warfighter to influence the development of BMD and its earliest deployment to the fighting forces than ever before.

Developing BMD as a single program with a capability-based approach will produce a better outcome and provide greater Service involvement. Under the new approach, the warfighter will provide the Missile Defense Agency (MDA) with the desired operational features and approaches to system development. The Joint Theater and Missile Defense Organization (JTAMDO) will serve as the voice for the Commanders in Chief (CINCs) and the Military Services to lead the collaborative effort with the CINCs and Services on operational matters. JTAMDO will also develop the operational concepts, develop the operational architecture, and assess military utility, during BMD System (BMDS) development and transition to production. Further, MDA will work closely with JTAMDO in developing the joint command and control architecture for the BMDS and integrating it into the applicable joint command and control architectures for air and missile defense.

Under the new approach, the Chairman of the Joint Chiefs of Staff and the Services will be included in deliberative and advisory bodies that will influence BMD development on an ongoing basis. The Chairman of the Joint Chiefs of Staff and the Services are included in the Missile Defense Support Group (MDSG) and the Working Group which supports the MDSG principals. Under the former process, meetings of principals from the Services with senior officials of MDA were infrequent, normally occurring on the occasion of a milestone decision or other significant program event. By contrast, the MDSG meets frequently, providing a unique opportunity for the warfighter to voice concerns on BMD development.

Additionally, MDA has created a separate forum for intensive engagement with the Services. A Joint Board of Directors between MDA and each of the Military Services has been created. Meetings of the Board of Directors will be conducted frequently to ensure that BMD development effort is conducted with full involvement of the Services.

Finally, the Services will be involved in the decision to transition an individual element of the BMDS to deployment as a military capability for the fighting forces. A recommendation from the Director, MDA, that the BMDS or a BMDS element should be considered for transition to production would be approved by the Senior Executive Council (SEC), which includes the Service Secretaries. Upon SEC approval, USD (AT&L) will establish necessary product teams to support a Milestone C decision after receiving advice from the Defense Acquisition Board (DAB). Fol-

lowing this decision, a capability-based ORD will be produced and approved by the Joint Requirements Oversight Council (JROC). Legacy processes of DOD acquisition regulations, with full Service involvement, would be fully implemented at this point.

FEDERAL ACQUISITION SYSTEM

Question. The role of the federal acquisition system is to guide programs through stages of development with reporting requirements which allow senior leaders to evaluate system capability, performance, cost and schedule. Now that the Department has exempted the missile defense programs from the federal acquisition system, how will the Department ensure adequate review is provided in the development of missile defense programs? What reporting requirements and measures of effectiveness will missile defense programs have to provide during their development to allow for review of their progress? How will these reporting requirements determine if the programs are running at high cost or behind schedule? How will the reporting requirements judge the trade off of additional development risk for additional performance or additional cost? What reporting requirements will be used to determine if a missile defense program should be accelerated, decelerated, modified, or terminated?

Answer. On January 2nd of this year, the Secretary of Defense redesignated the Ballistic Missile Defense Organization as the Missile Defense Agency (MDA) and changed the responsibilities and authorities of the Director. The Secretary gave the Agency new priorities and direction, and expanded responsibilities and authority to execute the missile defense program. The Secretary has set up a formal oversight process for the missile defense program. The Director, MDA, will report directly to the Under Secretary of Defense (Acquisition, Technology and Logistics). The Senior Executive Council, or SEC, chaired by myself, provides executive oversight of the program. Permanent members are the Service Secretaries and the Under Secretary (AT&L). Other Department officials will be included as needed, depending on the subject at hand.

The SEC conducts periodic formal and informal reviews of the program. The SEC has met six times since last summer to review the Ballistic Missile Defense program. Reviews include such topics as program plans, management approaches, test performance, system architecture, technological alternatives, basing options, and threat. The SEC provides guidance regarding policy, planning, and programming; makes the decisions as to whether to stop, start, slow, or accelerate efforts; and approves recommendations on fielding elements of the system. This group demands high standards of accountability.

Additionally, the Department has created a new, standing Missile Defense Support Group (MDSG), the Chairman of which reports directly to the Under Secretary (AT&L). The MDSG provides advice both to the Under Secretary and Director, MDA, as well as input to the SEC. It performs independent assessments, and is supported, in turn, by a working group. The members of the MDSG are all senior department officials, and experienced in missile defense. These changes provide more direct and focused executive oversight and reporting than that provided under the former approach. It will enable the Department to respond more rapidly to emerging events. They provide for more internal accountability at a more rapid pace than we have had in the past.

QUESTIONS SUBMITTED BY SENATOR THAD COCHRAN

SHIPBUILDING

Question. Secretary Wolfowitz, as you know, I have been concerned about the low rate of shipbuilding. I am not only troubled with the size of the Fleet but also about the industrial base. I am pleased to see you have recognized that the shipbuilding rate needs to be higher than the current rate of five ships, however, your current projections show construction of only five to seven hulls over the next four years while accelerating ship inactivation's. How do you plan to ensure the Fleet is sufficiently sized to fully support a forward-deployed, combat-credible posture while maintaining an operational tempo that supports Quality of Life and retention efforts?

Answer. The request for five ships in fiscal year 2003 and 34 ships across the FYDP provides the best balance between the Department's competing requirements and available resources. While the Department recognizes that the build rate of five ships in fiscal year 2003 and approximately 7 ships per year across the FYDP is insufficient to sustain the current fleet size over the long term, we are making substantial investments now in programs such as CVN(X) and DD(X), as well as SSBN

conversions to cruise missile carrying submarines (SSGN) that represent the bridge to the transformed Naval Forces of the future.

Question. Secretary Wolfowitz, I understand that Navy priorities for accelerating procurement of additional ships, if funds were available, would first be a DDG-51 and then an LPD-17. If additional funds were available, do you support these priorities?

Answer. The Department is currently reviewing ship requirements for the future fleet. The Navy is participating in the review, and if additional funds were available for accelerating ship procurement, the Department would review the latest information from the ongoing review and determine the shipbuilding priorities at that time. Both the DDG-51 and LPD-17 programs could be accelerated if additional funding were available. However, the current budget request meets the current requirements for the Navy.

MARINE EXPEDITIONARY BRIGADE VEHICLES

Question. Secretary Wolfowitz, I understand that the current amphibious lift capacity for Marine Expeditionary Brigade vehicles will support only 2.1 brigades. How do you plan to meet the current and future brigade lift requirements given that the average age of almost half of your amphibious Fleet is over 30 years old?

Answer. Both the Secretary of the Navy and the Commandant of the Marine Corps have recognized the Marine Corps' fiscally unconstrained requirement to simultaneously lift the assault echelons of three Marine Expeditionary Brigades (MEB AE). There are no current plans to satisfy this unconstrained requirement.

Current ship building plans require keeping amphibious ships well past their Expected Service Lives (ESLs). Many vessels with planned replacement will have to serve approximately a decade beyond their intended life expectancy. Once the final LPD-17 is delivered, around 2015, amphibious lift capacity will achieve 83 percent of the 3.0 MEB AE lift required for one Major Theater War. The LPD-17 class ship will provide greater amphibious lift capabilities as they replace four classes of older ships, including the aging LPD-4 AUSTIN class ships that are now in service. For comparison purposes, the vehicle capacity of an LPD-4 class ship is 11,800 square feet and for the LPD-17 class ship it is 24,600 square feet.

The second element of the future lift capability involves the replacement of the LHA class of amphibious assault ships. The LHA Replacement Analysis of Alternatives (AOA) is expected to be released in June 2002.

To help correct the near-term vehicle lift shortfall, the Navy created the Amphibious Lift Enhancement Plan (ALEP) which has 5 decommissioned LKAs and 4 decommissioned LSTs in Mobilization Category B. As part of a major wartime mobilization, these vessels would take approximately 180 days to return to service. While their capabilities are not compatible with today's operational concepts, they could provide the additional vehicle square.

One note regarding the recent use of high speed ferries as transportation assets: while useful in an intratheater logistics role, they are not acceptable substitutes for lifting elements of an Assault Echelon into a combat environment lack both the survivability and sustainment to steam with an Amphibious Task Force and deliver an assault echelon in a hostile environment.

DD(X) PROGRAM

Question. Secretary Wolfowitz, could you provide an update on how the DD(X) program is progressing? Do you believe that down select for design will remain on schedule for April of this year?

Answer. The Navy cancelled the DD-21 Phase III Request for Proposal (RFP) on 30 November 2001 and issued a new Phase III solicitation based on the DD(X) strategy. The award of that Phase III contract will represent the down select to one team led by a shipbuilder which will become the design agent and technology developer for DD(X). Both of the industry teams competing to design DD(X)—the Blue Team, led by Bath Iron Works with Lockheed Martin Corporation as the systems integrator, and the Gold Team, led by Ingalls Shipbuilding Inc. with Raytheon Systems Co. as the systems integrator—responded with proposals in February 2002.

The Navy is scheduled to award a best value contract in April 2002.

REDUCTIONS IN FUNDING FOR TRAINING ROCKETS

Question. Secretary Wolfowitz, I am concerned with the Department's decision to slash funding for the Hydra-70 rocket system in fiscal year 2003 by nearly 85 percent, at a time when our nation's front line forces are deployed with these systems in Afghanistan and other countries. This seems to be inconsistent with the direction provided by this committee last year and this could put combat readiness at risk.

How does the Department plan to maintain the combat proficiency of aviators with such dramatic reductions in the procurement of training rockets?

Answer. The Army has made a tough choice to move the military toward transformation. This is a clear example of where the Department of Defense has decided to move forward and accept risk by reducing the amount of Hydra-70 rockets procured and move toward rocket technology that will give the war fighter a low cost precision engagement capability far greater than he possesses today. To mitigate the near term readiness risk, Army anticipates no change to current training strategies for the next two years. As part of its continuing and ongoing review process, the Army staff is reassessing rocket strategies.

RECAPITALIZATION OF AGING WAR RESERVE

Question. Secretary Wolfowitz, how will the Department address the recapitalization of the 2.75-inch war reserve that is aging and less capable than the current production configuration, and incapable of being deployed on Naval aircraft carriers because of safety issues?

Answer. The Department is recapitalizing a limited number of unserviceable 2.75-inch war reserve rockets, by refurbishment. The upgrades result in these items being reclassified as Combat Useable Assets and address safety issues. As a parallel effort, the Department is also engaged in modernizing this weapon to address the need for increased precision capability and to satisfy insensitive munitions requirements. Items remaining in war reserve will continue to be screened for component re-use and for use in training.

FUTURE COST INCREASES

Question. Secretary Wolfowitz, how will the Department mitigate the future cost increases to the Air Force, Navy and Marine Corps users that rely on the Army as the Single Manager for procurement of this vital weapon system?

Answer. The Department is conducting a study of the 2.75-inch rocket industrial base which will determine cost drivers that influence rocket procurement prices. The project manager will work closely with industry to develop and implement solutions to minimize cost increases to the other services.

SBIRS-LOW

Question. Secretary Wolfowitz, the following statements have been issued by administration officials in recent months:

The Statement of Administration Policy on the fiscal year 2002 Defense Appropriations Bill, issued on November 28th of last year, declared that "The President is committed to the development and deployment of effective missile defenses to protect the United States, our forces, and our friends and allies as soon as possible."

In a letter to the Chairman of the Armed Services Committee dated November 14, 2001, Secretary Rumsfeld stated that a key element of the Administration's national security strategy was "the intention to develop and deploy limited defenses against ballistic missiles as soon as technologically possible."

In a letter to Senator Kyl dated November 27, 2001, the President's National Security Adviser stated that SBIRS-Low "is a critical part of this Administration's missile defense program."

Do these statements still reflect the views of the Administration and the Defense Department?

If not, please explain what has changed.

Answer. SBIRS Low is a critical component of the Ballistic Missile Defense System (BMDS).

Question. If all those statements still hold, the Defense Department's actions with respect to SBIRS-Low are puzzling. According to information provided by Defense Department officials, both program contractors are currently on schedule and within budget. Yet DOD has slipped the program two years in anticipation of delays that might occur in the future, and removed substantial funding over the Future Years Defense Plan. How does delaying a critical element of the missile defense program because of possible future problems promote the deployment of effective missile defenses as soon as technologically possible?

Answer. The prior plan for SBIRS Low was based on a stressing requirement set tailored for difficult, sophisticated threats. The probability of achieving the first launch of the complex satellite on schedule was considered low. The program was restructured to create a more realistic schedule. Part of the SBIRS restructure is converting the program to a spiral development, capability-based approach. The initial satellites will support the BMDS Test Bed. These first satellites may have less capability and therefore lower schedule and technical risk of achieving launch. Sub-

sequent satellites will have greater capability as technology matures. This will allow early contingency operations and increasing capability thereafter. Lessons learned from the initial satellite operations will feed back to later satellites, increasing their capability and lowering their schedule and technical risks.

Question. Secretary Wolfowitz, there is always some risk a program won't complete its work in the time desired—schedule risk—and there's some risk that a program won't achieve all its technical goals—technical risk. Can you please explain how reducing funding for SBIRS-Low by approximately \$1.5 billion over the Future Years Defense Plan reduces either of those risks? Doesn't a funding reduction increase those risks?

Answer. The prior plan for SBIRS Low was based on a stressing requirement set tailored for difficult, sophisticated threats. The probability of achieving the first launch of the complex satellite on schedule was considered low. The program is being restructured to create a more realistic schedule. Part of the SBIRS restructure is converting the program to a spiral development, capability-based approach. The initial satellites will support the BMDS Test Bed. These first satellites may have less capability and therefore lower schedule and technical risk of achieving launch. Subsequent satellites will have greater capability as technology matures. This will allow early contingency operations and increasing capability thereafter. Lessons will be learned from the initial satellite operations that will feed back to later satellites, increasing their capability and lowering their schedule and technical risks.

Question. Secretary Wolfowitz, there has been some suggestion that SBIRS-Low would be unnecessary if a series of large, land-based X-band radars could be placed at various locations around the world. Doesn't such an approach have serious drawbacks in terms of the political difficulties of securing and maintaining basing rights—especially in the face of possible regime changes—as well as significant challenges in protecting those bases from attack?

Answer. That is correct. A space-based sensor constellation provides the opportunity to view missiles launched anywhere on the globe, aimed at any point, reducing the dependency on foreign basing, reducing the vulnerability to direct attack and, mitigating the geographic viewing limitations of surface-based radars. That is precisely why the SBIRS Low capability is key to an effective, reliable sensor suite. In addition, a balanced infrared and radar sensor suite ensures that no single countermeasure is able to negate our sensor capability. Complementary sensors based on different methodologies (i.e., radar and infrared) create a capability that is highly effective against a wide variety of countermeasures.

QUESTIONS SUBMITTED BY SENATOR ARLEN SPECTER

MILITARY COMMISSION PROCEDURES ACT

Question. I have introduced along with Senator Durbin the Military Commission Procedures Act, S. 1937. Have you had the chance to review the bill and do you have any comments? Can you comment on the status of the procedures for the military commissions being prepared by DOD and do you know of any plans to conduct such commissions in the foreseeable future?

Answer. Before Secretary Rumsfeld publicly announced the military commission procedures on March 21, 2002, DOD gave careful consideration to all inputs provided by Congress, including S. 1937, S. 1941 (a separate draft bill sponsored by Senator Leahy), and the views of other Senators and Congressmen. The result of this critical deliberation is a set of procedures that we believe is fair, balanced, and just.

A comparison of DOD's military commission procedures with S. 1937 reveals more commonalities than differences. Both provide that the accused is presumed innocent, that he is not required to testify, that he may obtain witnesses and documents to use in his own defense, that the standard of guilt is proof "beyond a reasonable doubt," and that a unanimous vote is required to impose the death penalty. Although there are some differences concerning composition, certain trial procedures, handling of classified information, and appeals, DOD's procedures taken as a whole are entirely appropriate to the unique circumstances of the war against terrorism and comply with the President's directive to provide each accused with a full and fair trial. While we appreciate the thought and effort that went into drafting the legislation, we do not believe any additional legislation in this area is necessary or appropriate.

There is no timeline in place for trials. The President has not designated anyone for trial before a military commission, and law enforcement intelligence, and military personnel continue to conduct their respective investigations.

MAJOR THEATER WARS

Question. Secretary Wolfowitz, prior to September 11th, persistent funding shortfalls, compounded with expanding requirements and record high operational tempo, had resulted in significant risk in executing the national military strategy of fighting two nearly simultaneous major theater wars. Now our country faces just that scenario should we choose to escalate our activities in Iraq? Does the increase in the proposed fiscal year 2003 budget eliminate this risk?

Answer. The fiscal year 2003 budget contributes significantly to improving the health of the Department and its ability to execute the Nation's defense strategy. The fiscal year 2003 budget balances funding that contributes to near-term readiness—and our ability to fight two overlapping wars—with funding that begins transforming our Armed Forces. I am confident of our ability to execute the strategy, and this budget will only improve our posture in that regard.

 QUESTIONS SUBMITTED BY SENATOR PETE V. DOMENICI

DIRECTED ENERGY

Question. As you know, our National Laboratories, particularly those in New Mexico, as well as our military research labs, have made tremendous advances in directed energy and in particular, in laser development. Both Kirtland Air Force Base and White Sands Missile Range in my home state have been at the forefront of many of these breakthroughs and continue to develop these technologies for military applications that can drastically reduce collateral damage on the battlefield.

Does the Administration envision directed energy technologies as ranking prominently in the transformation capabilities of our military forces, and do our military labs and testing grounds currently have the resources to adequately accommodate such an expanded mission?

Answer. Directed Energy provides the Department of Defense with unique opportunities to augment and improve its operational capabilities and tactics as we work to transform our military forces and continue to deal with the complex national security environment currently unfolding. The Services all have implemented energy programs and recognize that the potential for speed-of-light long-standoff-range engagements, unique damage mechanisms, greatly enhanced multi-target engagement, and deep magazines are desirable attributes for a 21st-century arsenal. Directed energy technologies have matured to the point where it is feasible, over the next two decades, to include systems on aircraft, space vehicles, ships, and ground vehicles. The remaining science and technology challenges include work on power generation and storage, power conditioning and component development, thermal management, weapons effects, high power microwave pulse forming technology, a verity of laser sources and beam control, and atmospheric understanding and compensation. There are continuing engineering challenges to improve reliability and reduce the cost and size of directed energy systems.

Current directed energy programs supported by the military include the airborne laser acquisition program, the airborne tactical laser and area denial system Advanced Concept Technology Demonstrations, technology oriented space based and ground based laser thrusts, and the new starts in the areas of mobile tactical high energy laser and free electron laser. Although the engineering and technology challenges for directed energy systems are formidable, we consider these programs and related enabling technology programs to be adequately funded to meet validated DOD mission requirements. We, of course, are continuing to review the potential of directed energy systems and to maintain the necessary flexibility to exploit technology opportunities that may arise from current research.

CRITICAL INFRASTRUCTURE

Question. One of the issues I have worked very hard on is that of addressing the non-traditional asymmetrical threats, such as chemical, biological, nuclear, and even cyber attacks. We now know these are a very real challenge, not only to our assets around the world, but also to our own critical infrastructures here in the United States. Our national laboratories in New Mexico have significant experience and know-how in the field of computer modeling that can be applied to risk assessments of our critical infrastructures.

Please describe how RDT&E funding is being directed in this budget to meet these challenges, and how the notion of transformation plays into this effort.

Answer. The Defense Threat Reduction Agency's (DTRA) RDT&E funding is being directed to develop the National Infrastructure Simulation and Analysis Center

(NISAC). Further, DTRA RDT&E funding continues to support the Mission Degradation Analysis (MIDAS) program. NISAC is an effort to develop architecture to simulate and analyze the nation's civilian infrastructures. NISAC will leverage Sandia National Laboratory and Los Alamos National Laboratory modeling and simulation expertise. The NISAC will provide an enabling capability to help national, state and local leaders deal with protecting the nation's critical infrastructures. In fiscal year 2002, the NISAC effort was funded at \$20 million. The MIDAS program, started in December 2000, is a research and development effort to develop methodologies and automated tools to enable an integrated assessment of the degradation of critical infrastructures upon selected DOD missions and functions. The MIDAS effort was funded at \$2.7 million for fiscal year 2002. While NISAC is a national-level initiative, MIDAS focuses on the DOD. MIDAS is also developing methodologies to enable the assessment of future infrastructures to integrate protection as these future infrastructures are created. Both efforts will provide capabilities for risk assessments: NISAC at the national level and MIDAS at the DOD level. These two separate, but related, efforts will help the nation to understand, analyze and protect critical infrastructures to ensure continuity of government and DOD mission accomplishment. With this insight into the infrastructure, we will be better positioned to shape changes to our infrastructure to support increased homeland security in the face of our war on terrorism.

Question. In addition, what role do you envision for both Los Alamos and Sandia National laboratories as we continue in the war against terrorism?

Answer. Sandia National Laboratory (SNL) and Los Alamos National Laboratory (LANL) will play a vital role in the war against terrorism via the National Infrastructure Simulation and Analysis Center. SNL and LANL have expertise in modeling and simulation which will couple with their high performance computing capability. SNL and LANL have already completed some of the building blocks of creating models for specific pieces of our nation's extremely complex infrastructure. The existing capabilities and initial infrastructure modeling efforts will build upon each other to enable a growing understanding of the operation of the nation's infrastructure and the interdependencies among the infrastructures. SNL's and LANL's participation will facilitate the proper protection of the nation's infrastructure.

MILCON

Question. It is my understanding that DOD has made the decision to postpone significant investment in military construction to align with the delay in BRAC. However, there are a number of bases throughout the country, including four in my state, that are so unique in their missions, and so vital to our national security, that in order to maintain their maximum level of operation, they will require capital improvements before 2005. Many of these bases already have significant milcon backlogs and further delaying milcon investments will exacerbate this problem.

This is also true for military housing on these bases. For example, the budget does not provide for military housing projects at Kirtland Air Force Base or White Sands Missile range. Ultimately, a lack of adequate housing reflects directly on the retention and morale of our military servicemen and women.

Does the increase in out-year milcon funding take this growing backlog problem into full account, and can aging workplace facilities at bases like Kirtland Air Force Base and White Sands Missile Range be sustained in their current condition without significantly affecting operations?

Answer. Yes, our military construction and Sustainment, Restoration and Modernization budget requests take the backlog problem into full account. The Defense Facilities Strategic Plan, published in August 2001, defines our facilities vision for the future—healthy; productive installations and facilities that are available when and where needed with capabilities to support current and future military requirements. The first step in this is to sustain what we own. Our fiscal year 2003 budget request of \$5.6 billion increases sustainment funding to 93 percent of the requirement, from 89 percent in last year's budget. Full funding of sustainment throughout the program is an appropriate investment that will avoid significant costs in the future by stabilizing facility conditions and preventing further erosion.

Also, the Department is requesting \$3.3 billion for recapitalization (including both operations and maintenance and military construction funds) to restore and modernize our facilities. Recapitalization is important not only to restore the readiness of poor facilities, but also to maintain the relevance of all facilities to future missions of the Department. A consistent modernization program tied to expected service life best accomplishes this. The Department stands by its goal of achieving a recapitalization rate of 67 years. We currently plan to achieve this goal by fiscal year 2007.

QUESTIONS SUBMITTED BY SENATOR KAY BAILEY HUTCHISON

U.S.S. "INCHON"

Question. Secretary Wolfowitz, in December of last year, the Pentagon publicly announced that it would retire the Navy's only mine warfare command ship, the U.S.S. *Inchon*, prior to the end of the fiscal year. A letter was sent to my office, a month later, informing me of the decision. Just last week, the Navy came by my office to brief me on the way ahead.

The plan:

—The *Inchon* is retired, and with it goes 25 percent of the uniformed billets at Naval Station Ingleside.

—The Navy will deploy, on a rotational basis, additional mine warfare equipment on big-decked amphibious assault ships.

—\$53 million has been identified in the FYDP to study replacements.

—New platforms may be procured by fiscal year 2007.

This plan raises more questions than it answers.

What impact will the retirement of the *Inchon* have on the Navy's mine-warfare capabilities?

Answer. The near-term impact on dedicated Mine Countermeasures (MCM) capabilities has been minimal. Since fire damage in October 2001, *Inchon* has been precluded from operational tasking. Available large-deck amphibious ships (LHA/LHD class) have been on call to provide the MCS deck of opportunity. The optimum long-term solution is the subject of an ongoing Navy study.

Question. How suitable are large amphibious ships as substitutes?

Answer. Large amphibious ships are possible substitutes for the *Inchon* because they can provide support for all three legs of the MCM triad, particularly MH-53E mine countermeasures aircraft. The large deck amphibious ships are capable of providing full support for this type of aircraft and related MCM equipment. In addition, large-deck amphibious ships also have a well deck—which *Inchon* did not—which can support, among other things, the Marine Mammal System.

Question. What impact will this dual-hatting have on the Marine Corps ability to execute its missions?

Answer. The Navy does not plan to deploy, on a rotational basis, additional mine warfare equipment on big-decked amphibious assault ships. The Navy's interim plan for a Mine Countermeasures Command and Control Ship (MCS) is to employ a host of shared usage, on-demand, multi-purpose ship platforms of opportunity, most preferably a big deck amphibious (L-class) ship with a "Plug and Play" mine warfare package. This package will include a temporary MCS deployable team that will provide the mine countermeasures (MCM) specific command and control and mission planning expertise that has previously been provided by the MCS. How "dual hatting" will impact USMC missions will depend on the situation facing the operational commander. In some scenarios *Inchon* would not have been available due to higher priority commitments, maintenance and training cycles, and excessive transit time to the theater of operation. As was then the plan and remains for the foreseeable future, operational commanders will task organize to utilize other MCM options including use of alternative platforms, shore basing and operational maneuver over and around mined waters. Where the operational commander chooses to exercise the traditional big deck amphibious ship MCS option, USMC operations may or may not be affected, depending upon the urgency of the amphibious assault, availability of alternative deck space on other amphibs, and difficulty of the MCM operation. In a worst-case scenario, some combination of Marines and their equipment will be off-loaded at an appropriate support base until the mine threat is neutralized or alternative lift becomes available.

Question. Perhaps most importantly, what will become of Ingleside? What new missions will the Navy establish at Ingleside to offset the projected loss of jobs?

Answer. Naval Station Ingleside is a viable installation that is home to the Navy's Center of Excellence for Mine Warfare. This base is homeport for 21 MCM and MHC Class ships, provides facilities to Mine Warfare Training Center and is the future home of Commander Mine Warfare Command.

There are numerous transformational initiatives and systems, which might be suited for assignment to Naval Station Ingleside. The Navy is studying options to replace the dedicated MCS functions that U.S.S. *Inchon* performed. This MCM initiative, coupled with future initiatives and requirements, should be considered for location at Ingleside, Texas.

TRANSFORMATION

Question. Secretary Wolfowitz, while I am encouraged that the budget submission includes increases for transformational initiatives such as the procurement of additional unmanned aerial vehicles and extra research dollars for space-based radars, I was surprised by the modest goal you endorsed during a public appearance last week.

In a speech before the American Institute of Aeronautics and Astronautics, you indicated that it would be unreasonable to expect more than 10 percent of the military to be transformed before the end of the decade. This plan raises more questions than it answers.

Hasn't the impressive performance of many of our systems in the current war on terrorism encouraged you to proceed at a more ambitious pace?

Answer. The performance of our forces in the current war on terrorism has been most impressive. In fact the current war on terrorism underscores the fact that transformation is about much more than technology, systems, and programs—it is about transforming how we think, how we lead, how we train, how we exercise, and how we fight. Transforming 10 percent of the force over the course of a decade can make a dramatic difference in the capabilities of the entire force. In one of the famous historical examples of transformation—the development and combination of armored warfare, air warfare, and tactical radio communications by the Germans during the period between the two World Wars—10 percent is roughly the percentage of the German army that had been transformed to effect blitzkrieg in 1939 and 1941.

Our expectations for transformation are indeed ambitious. We are examining activities that will create and anticipate the future. We expect to co-evolve concepts, processes, organizations, and technologies to produce new sources of military power. Our approach to transformation is grounded in the Information Age and represents a continuous process that fosters a culture of innovation to produce dramatically improved future capabilities. Transformation is not an end-state, nor strictly a synonym for modernization. We intend to expand the boundaries of existing competencies and develop new competitive areas. During our ongoing dialog and as we deal with the near term issues, it will be important that we also take the long view. There is no near term destination for transformation. This is an area, for example, that will be difficult to put on a budget cycle. But as we move forward it will be important for us to identify those few lead elements which have the potential for changing our current operational concepts and the way the force operates.

VACCINE PRODUCTION

Question. Secretary Wolfowitz, I am discouraged that the budget submission does not include any funds for the Department to pursue an organic vaccine production capability.

The Congress was expecting that the fiscal year 2003 submission would contain the down payment for a government-owned, contractor-operated (GOCO) vaccine production facility. Site selection was supposed to be conducted this December. This facility is needed to produce small quantities of vaccines to combat the exotic pathogens that appear on the Department's "Validated Threat List"—vaccines for which there is no national demand or commercial market.

Now I understand that the Department has abdicated its responsibility, hoping that HHS will foot the bill for the project. While I concede that the Department of Health and Human Services may be the ideal agency to take the lead on vaccines to be procured in quantities sufficient to inoculate the entire population, such as Small Pox, the Pentagon's requirements are very unique, and do not overlap with HHS's public health mission.

Why has the Department backed away from pursuing an in-house solution to the unique threats that face our men and women in uniform?

Answer. DOD is not in favor of building new infrastructure unless it can be determined that industry cannot meet DOD needs for production of vaccines to protect U.S. Service members. Whereas in the past there was limited industry interest, the events following September 11, 2001 have indicated an industry desire to assist DOD with its vaccine production needs. Over the past year, interagency DOD/HHS meetings, including representation from other interested Executive Branch agencies, have focused on vaccine acquisition for the nation and military force protection primarily focused on bioterrorism threat agents. The DOD and HHS continue to have discussions with leaders in the biotechnology and pharmaceutical industry to evaluate whether industry can meet our needs and to gain their views as to how actual or apparent barriers can be overcome so industry will readily participate in research, development and acquisition. To pursue a DOD only vaccine production fa-

cility at this time would be premature and could lead to duplication of infrastructure investment.

Question. What leads you to believe that HHS will be willing to pay for a facility whose laboratory space would be dominated by the production of DOD-specific vaccines?

Answer. DOD and HHS are continuing to work together identifying requirements for vaccines that address unique military requirements and the larger need for public health vaccines. Each Department will need to identify resources necessary to meet their needs. If a dedicated facility is needed to meet national requirements, we expect multiple agencies will share the cost to construct and operate such a facility.

MILITARY CONSTRUCTION

Question. Secretary Wolfowitz, I am particularly troubled by the Administration's decision to defer, potentially, hundreds of military construction projects. The publicly stated rationale—a desire not to construct new facilities at bases that may soon be closed—is unsatisfactory. Are we to assume that the projects included in the budget are for facilities that the Pentagon has already determined will not be closed?

Answer. No. The Department has made no determination of which bases will or will not be closed. The projects included in the budget reflect the Services' priorities for the current inventory and mission requirements within fiscal and planning guidance provided by the Secretary.

Question. How can you justify enormous MilCon increases for Germany and Korea at the expense of domestic projects? After all, Fort Hood is home to more service members than all of South Korea.

Answer. Our service men and women stationed overseas deserve the same quality of life as our service men and women stationed in the United States. Moreover, the facilities overseas are usually in much worse condition than those in the United States. For instance, 83 percent of the Army facilities overseas are rated C3/C4, whereas the Army rates 78 percent of their worldwide facilities as C3/C4. The Air Force rates 82 percent of their overseas facilities as C3/C4 whereas they rate 63 percent of their worldwide facilities as C3/C4.

EXPANSION OF ROLE IN AFGHANISTAN

Question. Secretary Wolfowitz, the press has recently reported that the United States military would soon assume the responsibility of training Afghanistan's new Army. Please describe exactly what that will entail?

Answer. President Bush announced on January 28 that the United States will assume responsibility for establishing and training the Afghan National Army. On 18–23 February, Major General Charles Campbell, Chief of Staff, U.S. Central Command, led an assessment team to Kabul to develop a plan for training the Afghan National Army. The team achieved basic consensus with the Afghan Interim Authority's Ministry of Defense to begin a 12-week training course for the first few multiethnic light infantry and border guard battalions as early as May 2002. The Secretary of Defense has approved initiating this training.

U.S. Central Command will train Afghan National Army leaders and trainers concurrently with Afghan National Army battalion training. Every fourth and fifth battalion trained will be a border force battalion. U.S. Central Command trainers will come from Special Forces units.

U.S. Central Command's assessment team projected that United States-led training would take approximately 18 months, after which Afghan National Army trainers or contractors will be able to take over most training.

Question. What role will our coalition allies play in the training mission?

Answer. At the April 3 conference in Geneva on Afghan security issues, we welcomed international contributions to this training effort, and are speaking with other countries to encourage their participation, under U.S. leadership, by contributing training, equipment, or cash. Furthermore, at present there are no international mechanisms for funding or paying salaries of the Afghan National Army. The United Nations intends to develop a trust fund to manage international contributions to Afghan military expenses and salaries. The State Department has requested \$20 million in its fiscal year 2002 supplemental that could be used to pay Afghan military salaries. Representatives from the State Department and Defense Department discussed these topics with other countries at Geneva. Based on the Geneva meeting and other discussions, we will compile countries' offers and pass them to the Afghan government, which will be responsible for accepting or rejecting them.

Question. Do you anticipate needing to provide surplus materials to equip this new Army?

Answer. Possibly. The State Department's supplemental request includes a request for funds to help train and equip the Afghan National Army. We expect that State's supplemental request will cover the bulk of the U.S. Government's training and equipment contribution. Meanwhile, we are examining options for providing the Afghan National Army with equipment and materials from DOD and other countries, so that Afghan National Army training can begin as soon as possible.

QUESTIONS SUBMITTED TO DR. DOV ZAKHEIM

QUESTIONS SUBMITTED BY SENATOR DANIEL K. INOUE

OTHER MISCELLANEOUS MILITARY PERSONNEL ISSUES

Question. Dr. Zakheim, last year, this Committee was concerned with excess Permanent Change of Station (PCS) moves and, in particular, its impact on retention. The fiscal year 2003 budget request increases PCS moves by \$400 million. Why are you requesting this increase and specifically how many more moves does this request support?

Answer. The PCS increase for fiscal year 2003 is \$349.6 million producing 28,864 additional moves.

The fiscal year 2002 President's Amended Budget request reflected a requirement for 715,170 moves. When the Congress reduced funding by \$180 million for the program in January 2002, the Services were compelled to reduce the number of planned moves by 17,716, creating a bow-wave of moves in fiscal year 2003. The fiscal year 2003 President's Budget reflects a program of 726,318 moves, of which 433,317 are mandatory accession and separation moves, corresponding to increases in anticipated accessions and separations. Of the program increase of 28,864 moves, 5,557 are due to increased accession and separation requirements.

There are 293,000 operational, training, rotational and unit moves budgeted in fiscal year 2003. These moves are required to ensure overseas stationing commitments, to facilitate force rotation policies, and to maintain requisite levels of training, force readiness, quality of life, and unit integrity. Of the program increase of 23,307 operational, training, rotational and unit moves, most can be attributed to bow-waved move requirements deferred from fiscal year 2002 due to the congressional reduction.

The Congress expressed concern that military members moved too frequently and stated that since the PCS program funded more than 715,000 moves, 52 percent of the force would move during the year. This analysis failed to exclude mandatory accession and separation moves. When these moves are excluded, a similar analysis shows that only 30 percent of the force are expected to move within the year—consistent with a 3+ year rotation cycle.

The fiscal year 2003 program of 726,318 moves is lower than the number of moves expected in fiscal year 2001 (728,408) and represents the minimum program requirement for fiscal year 2003.

Question. Last week USA Today ("E-mails detail Indiana Guard 'ghosts'," February 20, 2002) reported that National Guard units across the country are reporting false, inflated numbers of troops to protect their funding and, in one instance, to prevent a battalion from failing a readiness report. What steps is the Department taking to investigate these allegations?

Answer. The Department was working closely with the U.S. General Accounting Office (GAO) months before the series of USA Today articles appeared, to produce a systematic and accurate comparison of Army Guard strength and pay information for review and to initiate any needed corrective measures. These efforts are continuing. Articles in the USA Today on "ghosting" soldiers—delaying removal transactions to inflate State Guard or unit strength—appear to be based principally on anecdotal information from interviews with Guardsmen and former Guardsmen. The Department prefers to base its conclusions on actual data. The most recent data indicates a 97 percent participation rate throughout the Army National Guard with only a 3 percent non-participation rate. This is consistent with the latest GAO information and with a current Army National Guard Non-Participation Summary Report. The National Guard's current objective is a 98 percent participation rate.

We have also examined the potential readiness impact of non-participating soldiers. Even if up to 3 percent of Army National Guard soldiers were listed as non-participants, this would have limited impact on readiness reports for two reasons. First, because P-level (personnel) threshold bands in the SORTS rating system are

separated by margins of about 10 percent, 3 percent (or less) over-reporting of assigned strength has little impact. More significantly, unit commanders have regulatory authority to subjectively upgrade or downgrade, if in their opinion the change more accurately portrays the actual readiness of the unit. This has far more impact on the overall readiness report than a 3 percent shift in assigned strength.

There are both acceptable (e.g., medical convalescence) and unacceptable (e.g., unexcused absence) reasons for non-participation. In reviewing non-participation in the National Guard, we have found some delays in the process for establishing a pay record for new accessions and Guard members moving from active duty back to a drilling status, along with processing delays for members being discharged or transferred from the National Guard. To address these and any related strength accounting problems, a standing DOD working group has developed an action plan that is now being implemented. The plan involves further evaluation and analysis of non-pay record files and reconciliation of pay and personnel records by all Reserve components. The goal is to improve the timeliness in processing personnel transactions and the accuracy of personnel and strength accounting.

QUESTIONS SUBMITTED BY SENATOR THAD COCHRAN

SBIRS-LOW

Question. Dr. Zakheim, several times over the past decade, a unique requirement for forward staging platforms supporting Special Operations and Expeditionary Forces was demonstrated. Lacking a platform to perform this function, an Aircraft Carrier has been taken out of the normal deployment schedule, with its jets replaced by ground forces and helicopters. Removing an Aircraft Carrier from the normal deployment schedule causes increased stress on an already strained Fleet. This requirement for Special Operations and Expeditionary Forces carries growing significance in light of the war on terrorism. To alleviate disruption to the Carrier deployment schedule and to better meet this emergent need, have you considered the procurement of a LHD or a modified LHD amphibious ship to meet this requirement?

Answer. We are actively considering and assessing the merit of an "LHD-plus" alternative (a longer and wider LHD with increased survivability) as part of the ongoing Amphibious Assault Ship Replacement (LHA(R)) Analysis of Alternatives (AoA). The AoA is scheduled to be completed by July 2002. Additionally, we have recently funded a Military Sealift Command study to examine short-term alternatives for an afloat forward staging base. Both of these efforts are focused on finding better ways to conduct these types of operations.

Question. Dr. Zakheim, are the current SBIRS-Low contractors meeting their contractual requirements? That is, are they doing the work required, in the time allotted, and for the price agreed to?

Answer. The SBIRS Low contractors are meeting their current contractual requirements, but it is important to note that this program is in the early stages of development and this program is linked to the ground control system and SBIRS High segments which are not meeting their requirements.

Question. If that is the case, what is the basis for public statements by the Defense Department Comptroller that the SBIRS-Low program is "not meeting hurdles?"

Answer. It is important to understand that both SBIRS High and SBIRS Low are a family of systems that are coupled by a common ground control system. The program is designed to be fielded in a series of increments. Increment I is the ground station upgrade, Increment II is fielding SBIRS High and Increment III is fielding of SBIRS Low. The technical hurdles are in Increments I and II. The Department slipped fielding of those two increments so naturally the third increment had to slip as well.

QUESTION SUBMITTED BY SENATOR PETE V. DOMENICI

CONTRACTOR PERSONNEL

Question. Please provide the number of administrative and professional contractor personnel who are currently working along side government personnel inside the Pentagon or other DOD office buildings within the Office of the Secretary of Defense, the Office of the Service Secretaries, the Office of the Chiefs-of-Staff, and the Joint Staff. Please provide the data by major staff within each office.

Answer. The Department of Defense has no central repository of data on the number of contract workers employed by the Department working along side government personnel inside the Pentagon of other DOD office buildings within the Office of the Secretary of Defense, the Office of the Service Secretaries, the Office of the Chiefs-of-Staff, and the Joint Staff.

QUESTIONS SUBMITTED BY SENATOR KAY BAILEY HUTCHISON

GULF WAR ILLNESS

Question. Secretary Zakheim I am concerned that the proposed budget would slash Gulf War Illness research from \$17.5 million to \$5 million. This represents a 71 percent reduction.

Given the recent advances in identifying the cause of this elusive illness, wouldn't now be the time to increase GWI research funding?

Answer. Funding for GWI related research is budgeted in the Force Health Protection (FHP) program element (PE 0601105D8Z). The core fiscal year 2002 FHP budget was \$26.4 million (before \$10 million of congressional increases), while the fiscal year 2003 President's Budget request contains \$10 million.

As part of the budget formulation process, we must make difficult choices to achieve a balanced and affordable defense program. The fiscal year 2003 President's Budget Request represents a balanced program that supports research on many of the key technologies that will be necessary for the Department's objectives. However, we also need to ensure that the funding levels of the various components in the Department's total budget are balanced based on our assessment of the most urgent requirements.

MILITARY CONSTRUCTION

Question. Secretary Zakheim, Secretary Rumsfeld testified before the Senate Armed Services Committee earlier this month that the Department of Defense needed to fix the chronic under-funding of its infrastructure. He further stated that we must take care of the department's greatest asset: the men and women in uniform. Yet, the budget submitted actually cuts military construction by 14 percent in an effort to not spend money at bases that may be closed by the upcoming BRAC in 2005.

How do you rationalize these positions? Do we really believe that the solution to fixing our infrastructure and taking care of our service members is to delay much needed military construction for three more years?

Answer. In the context of competing priorities resulting from the events of September 11th, we have developed the fiscal year 2003 Military Construction budget to support the President's and Secretary's aims with a balanced program to improve quality of life, enhance sustainment and modernization of existing facilities, and fund critical new construction.

Although the fiscal year 2003 budget request is lower than last year's fiscal year 2002 request, in no way does it imply an easing of our commitment to revitalize DOD infrastructure. In fact, the \$9 billion request is the second largest request in the past six years. Additionally, the fiscal year 2003 column of the fiscal year 2002 President's budget was only \$7.4 billion. This year we raised the fiscal year 2003 level to \$9 billion.

This budget also places increased emphasis on sustaining and revitalizing the current inventory of facilities by increasing funds for Sustainment, Restoration and Modernization in the Operation and Maintenance appropriations by \$500 million from last year's request. The fiscal year 2003 budget funds 93 percent of the Military Services' facilities sustainment requirement. That is up from 89 percent last year and significantly higher than in previous years, such as fiscal year 2000 when the Department met only 78 percent of the Services' facilities maintenance requirements.

The President's fiscal year 2003 budget includes \$4.2 billion to improve housing for military families, putting the Department on track to eliminate substandard housing by 2007, three years sooner than previously planned. This budget includes \$227 million more than our fiscal year 2002 request to construct new housing and revitalize inadequate units. It also includes \$195 million for housing privatization, to take advantage of the 8:1 leverage we have obtained on our investments in contracts awarded so far. At this rate, with our \$195 million investment we should be able to obtain over \$1.5 billion worth of quality privatized housing.

This budget also includes \$2.9 billion to operate and maintain fiscal year 2003 family housing inventory of 250,000 government-owned units and over 29,000 lease

units. While the government-owned inventory declines by 25,000 units from fiscal year 2002 level due to privatization and demolition, we did not reduce the fiscal year 2003 budget. Instead, we reapplied the freed-up funds to reduce the backlog of maintenance on units on hand.

The fiscal year 2003 request also includes \$1.2 billion to improve housing for our single soldiers; the \$1.2 billion provides the same level of funding as in fiscal year 2002 and continues the Department's effort to provide private living space for all our unmarried military personnel (except those undergoing basic training).

The budget also includes \$4 billion to improve medical and dental facilities, dependent schools, childcare centers and physical fitness facilities.

SBIRS-LOW

Question. Secretary Zakheim, I am troubled by the Administration's decision to delay the SBIRS-Low program by two years. If the decision to delay was made because the program is not meeting its technical goals, then the budget submission would mark the first time that this fact had been reported to the Congress. This is a critical program, one that may benefit our national security in many areas other than missile defense.

What can the Department, and the Congress, do to speed the deployment of this system?

Answer. We may fully decouple SBIRS Low from SBIRS High and convert the program to a spiral development, capability-based approach. Under this concept, the initial satellites will support the Ballistic Missile Defense System (BMDS) Test Bed. The first satellites may have less capability and therefore lower schedule and technical risk to achieving launch. Subsequent satellites will have greater capability as technology matures. This will allow early contingency operations and increasing capability thereafter. Lessons learned from the initial satellite operations will feed back to later satellites, increasing their capability.

SUBCOMMITTEE RECESS

Senator INOUE. The subcommittee will stand in recess until March 6 when we will receive testimony on the Army's budget request. Thank you very much.

[Whereupon, at 12:28 p.m., Wednesday, February 27, the subcommittee was recessed, to reconvene subject to the call of the Chair.]

**DEPARTMENT OF DEFENSE APPROPRIATIONS
FOR FISCAL YEAR 2003**

WEDNESDAY, MARCH 6, 2002

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 10:07 a.m., in room SD-192, Dirksen Senate Office Building, Hon. Daniel K. Inouye (chairman) presiding.

Present: Senators Inouye, Leahy, Dorgan, Stevens, Specter, Domenici, and Shelby.

DEPARTMENT OF DEFENSE

DEPARTMENT OF THE ARMY

STATEMENTS OF:

HON. THOMAS E. WHITE, SECRETARY OF THE ARMY
GENERAL ERIC K. SHINSEKI, CHIEF OF STAFF, UNITED STATES ARMY

OPENING STATEMENT OF SENATOR DANIEL K. INOUYE

Senator INOUYE. Secretary White, General Shinseki, on behalf of this committee I would like to welcome you once again as we consider the fiscal year 2003 defense appropriation request of the Army. I need not tell you that much has changed since you last appeared before this committee. For one thing, we seem to be having extraordinary action in Afghanistan. In our Nation's global war on terrorism, Army soldiers have played many critical roles, securing airfields abroad, providing security along borders and at airports here at home, and responding to the many taskings of our Commander-in-Chief.

I would also like to note the invaluable service provided to the Nation by the quiet professionals of the Army Special Forces. They have undertaken some of the most difficult missions known to soldiers, identifying targets, coordinating supporting arms for the Northern Alliance, and conducting battlefield diplomacy.

Two weeks ago Vice Chairman Stevens and I had the chance to visit Central Asia. In Afghanistan and Uzbekistan, we are again reminded of the high quality and commitment of all the volunteer forces. Our men and women in uniform were focused on the missions at hand and their morale was unbelievably excellent. This is a tribute to their commitment and to their small unit commanders on the ground.

Secretary White and General Shinseki, there is much to praise, but there are also some questions to answer. Mobilization of the Army Reserve and Guard has reached 24,000 soldiers. Our soldiers are now deployed to the Philippines. They are also in the former Soviet republics and they will soon be in Yemen. These commitments are in addition to our rotations into and out of Bosnia, Kosovo, the Sinai, and Saudi Arabia.

How long will we continue these deployments and mobilizations? Do we have sufficient forces to meet these requirements? What will happen to the morale if we keep up this pace of overseas deployment?

To help meet these demands and your other requirements, the President has requested \$91 billion for the Army in fiscal year 2003. This amount is \$10 billion above your current budget. As you know, this subcommittee has taken the lead in supporting your transformation efforts. However, you must understand that such large appropriations will be scrutinized, and as such we will have many questions for you today.

So we look forward to hearing how this request supports the Army's current and future missions. But first I would like to yield to my vice chairman, Senator Stevens.

STATEMENT OF SENATOR TED STEVENS

Senator STEVENS. Gentlemen, I just had the privilege of going over some photographs that the staff took on our trip to Afghanistan. I want to tell you, joining with the chairman, the forces we saw, as I told a group just earlier this week, know who they are, where they are from, and what they have to do, and they are really up. I have never seen such gung-ho guys in my life. Very, very, very purposeful visit as far as I am concerned.

We have I think every reason to be absolutely proud of them, and I want to congratulate you both for the leadership of the Army that has got them where they are today. They are going to continue to make us proud over there, I am confident of that.

I share the chairman's statement. I really hope that we can find some way to make sure that the Army's transformation continues on schedule and that you have everything you need during this period. I had problems to begin with about the Interim Combat System and the Future Combat Systems. I am sure we are all concentrating on the present combat system and making sure that it is not overlooked as we are going through this transformation.

We want to keep up with what you are doing. The Crusader and Comanche, they are two systems that I feel very strongly about and I have supported. The increases this year are substantial and I would like to make certain in our hearing today that we could be assured of spending that money in the time frame that you have requested it for, because I do not want it to displace other items that would be equally advantageous to our people now and get ahead of ourselves and tying up budget authority that is not going to be spent in the next fiscal year, but would go on into the future years.

I can tell you, the two of you have great support here in the Congress. You have been very wise, Mr. Secretary, in selecting Les Brownlee to be your Under Secretary, whoever did it. We have a

team there with you that we all know and want to work with. Again, I just cannot tell you how proud I was and I think we all were to see our forces over there in Pakistan, Uzbekistan, Afghanistan, and also in Belgium as we went over.

That is a great team you have got over there and we look forward to working with you to support it.

Thank you very much.

Senator INOUE. Now may I call upon the Secretary.

Mr. WHITE. Thank you, Mr. Chairman and Senator Stevens, distinguished members of the committee. Good morning. General Shinseki and I appreciate the opportunity to appear before you representing the great young people that you just talked about, the soldiers of our Army.

Mr. Chairman, we would ask your consent to make a brief opening statement and insert a joint written statement for the record.

Senator INOUE. Mr. Secretary, may I interrupt. I just noticed my colleague here, if you do not mind. Senator Dorgan.

Mr. WHITE. Yes, sir.

STATEMENT OF SENATOR BYRON L. DORGAN

Senator DORGAN. Mr. Chairman, I will put a statement in the record. I believe that what you and Senator Stevens have said is what I observed as well on a trip to Central Asia, Afghanistan, Uzbekistan, and other countries. I have never seen such pride in a mission; soldiers, men and women, who are in harm's way, but who understand that what they are doing is critically important, not only to our country but to the world, in combatting terrorism. That says a lot about the leadership in the Army and in all of our services.

I am particularly interested at some point about the value of the information you have received from Air Force assets, Global Hawk and the Predator. My understanding is that both of those assets have been enormously helpful to the Army. But I will not delay the Secretary, but let me just say to the Secretary and the General how much we appreciate their service and how much we appreciate the service of the men and women in the U.S. Army.

Mr. WHITE. Thank you.

Senator INOUE. Please proceed.

STATEMENT OF SECRETARY WHITE

Mr. WHITE. I would like to begin this morning by highlighting three critical tasks that the Army must accomplish if we are to succeed in the joint service task of providing for the Nation's defense: First, we must help win the global war on terrorism; second, we must transform to meet the challenges of future conflicts; and third, we must secure the resources needed to pursue both the war on terror and Army transformation.

Our first task is to help win the war on terrorism. Today more than 14,000 soldiers are deployed in U.S. Central Command's area of responsibility supporting Operation Enduring Freedom, from Egypt to Pakistan, from Kenya to Kazakhstan. Wherever they serve, our soldiers are nothing short of inspirational, as you noted in your opening remarks. They are accomplishing a complex and dangerous mission with extraordinary courage, skill, and deter-

mination. Some have been injured, others have given their lives. More will surely follow. Our Nation is forever indebted to them and their families for their sacrifice.

As the war evolves, requirements for Army forces are growing, from assuring regional stability in Central Asia to stability and support operations in Afghanistan to securing detainees at Guantanamo Bay, Cuba, to training counterterrorism forces in the Philippines and the former Soviet republic of Georgia. At the same time, the Army continues to deter potential adversaries in Southwest Asia, in Korea, while upholding U.S. security commitments, as you noted, in Bosnia, Kosovo, Macedonia, the Sinai, and elsewhere.

In fact, the Army has over 138,000 soldiers and 38,000 civilians deployed or forward stationed in 120 different countries. The Army also continues, as you also noted, its long tradition of supporting homeland security, mobilizing over 25,000 Guard and Reserve soldiers for Title 10 or Federal service here and overseas and activating another 11,000 Guard soldiers for State-controlled homeland security missions.

In addition to mobilizing reserves, we have also expanded our stop-loss program to suspend the voluntary separation of over 12,000 Active and Ready Reserve soldiers. Despite the disruption, our soldiers, their families, and employers are responding magnificently.

But these are not long-term solutions and additional wartime manning requirements with no adjustment in our global posture to offset end strength will further strain the force. The strain may begin to manifest itself in future retention shortfalls, I am sure beginning in the Reserve components and extending into the active Army.

Our second task is to transform the Army to meet the challenges of the next conflict, as the Chief of Staff set down the marker, I believe right here in this room, several years ago. America's future depends on it since transformation is at the heart of our competitive advantage as a Nation. However, transformation is a process, not an end state. To the extent we do not transform, we are at risk.

To reduce risk, we are accelerating our transformation to the full spectrum Objective Force. We will shortly select the lead system integrator for the Army's family of Future Combat Systems, the foundation of the Objective Force. Let me emphasize that this is not a business as usual approach. The lead system integrator will be charged with achieving the milestones for fielding a threshold capability this decade by incorporating best of breed designs within the United States and maximum competition for best value procurements.

Selection of a lead system integrator represents a bold and dramatic step forward in our journey to transform the Army. As I said, we should be able to announce that very, very shortly.

We are presently fielding an Interim Force, six interim brigade combat teams, to close the capabilities gap between our heavy and light forces. The Interim Force also provides a bridge to the Objective Force through leader development and experimentation. At the same time, we are selectively modernizing and recapitalizing key systems in our Legacy Force, as you touched on, as a hedge against

near-term risk and to facilitate the fielding of the Objective Force. This approach will both provide an enhanced readiness and provide an affordable means to transform.

The third task is to secure the resources needed to pursue both the war on terror and Army transformation. The fiscal year 2003 budget addresses all of our priorities. However, we continue to assume risk in our Legacy Force and longstanding shortfalls remain in installation, sustainment, restoration, and modernization. As good stewards, we are doing our part to free up resources for investment in higher priority programs. We have made tough trade-offs. We have terminated 29 programs in the last 3 years, we have restructured 12 more, reduced recapitalization from 21 to 17 systems, and accelerated the retirement of 1,000 Vietnam-era helicopters.

We are also striving to manage the Army more efficiently, starting at the top by restructuring the Army's headquarters into a leaner, more integrated organization. This initiative allows us to meet the congressionally mandated 15 percent reduction in headquarters staffs and reinvest manpower saved back into the operational Army, thereby increasing our tooth-to-tail ratio.

We are also leveraging e-business concepts and technologies in our Army knowledge management initiative. This initiative involves managing our information infrastructure more like an integrated enterprise. For example, by October we will have pared down the network servers in our personnel system from 4,500 to one super-server database, reducing errors and saving millions in cost avoidance and staff hours. Even greater economies of scale will be realized as we continue to flatten our operational structure and eliminate unnecessary systems.

We are also achieving efficiencies through three other important Army initiatives: centralized installation management, utilities privatization, and our residential communities initiative. In the interest of time, I will defer comment on these initiatives until our question and answer period.

PREPARED STATEMENT

Let me conclude by thanking the members of the distinguished committee for your strong support. I look forward to working with you to ensure our Army remains, as you say and as we all say when we see soldiers in the field, doing a wonderful job for our country, the best Army in the world.

Thank you very much, Mr. Chairman.
[The statement follows:]

PREPARED JOINT STATEMENT OF HONORABLE THOMAS E. WHITE AND GENERAL ERIC K. SHINSEKI

Mr. Chairman and distinguished members of the Committee, thank you for this opportunity to report to you on the United States Army's readiness to provide for our Nation's security today and in the future. Throughout our Nation's history, The Army has demonstrated that it is America's decisive ground combat force with capabilities sufficiently diverse to cover the full spectrum of operations demanded by the Nation—anytime, anywhere. The essence of The Army remains unchanged—an ethos of service to the Nation, the readiness to fight and win wars decisively, and a willingness to accomplish any mission the American people ask of us.

Today, we are engaged in a global war on terrorism and defense of our homeland. Soldiers, On Point for the Nation, are protecting and promoting American interests

around the globe. They are accomplishing these vital missions much as we have for over 226 years with little fanfare or attention. The Army is able to accomplish what is asked by relying on the strength of its Soldiers—active, National Guard, Army Reserve—and civilians, who honorably and proudly answer the calls to duty.

The Army has no illusions about the challenges it faces. It must help win the global war on terrorism and prepare for future wars and conflicts by effectively using the resources you provide us to transform. With the continued support of Congress and the Administration, our Soldiers will continue to do their part to decisively win the global war on terrorism, rapidly transform themselves to fight and win new and different kinds of conflicts, meet our obligations to allies and friends, and maintain our readiness for the unexpected and unpredictable challenges that may arise.

STRATEGIC ENVIRONMENT

The attacks of September 11 provide compelling evidence that the strategic environment remains dangerous and unpredictable. Although we may sense dangerous trends and potential threats, there is little certainty about how these threats may be postured against America or her interests. Uncertainty marks the global war on terrorism, and our Soldiers continue to be involved in smaller-scale contingencies and conflicts. Yet, the potential for large-scale conventional combat operations will continue to lurk just beneath the surface. Victory in battle will require versatile combat formations and agile Soldiers, who can deploy rapidly, undertake a multiplicity of missions, operate continuously over extended distances without large logistics bases, and maneuver with speed and precision to gain positional advantage. Our Soldiers must be capable of prosecuting prompt and sustained land operations across a spectrum of conflict resulting in decisive victory.

STRATEGIC FRAMEWORK

The 2001 Quadrennial Defense Review (QDR) established a new strategic framework for the defense of the Nation that struck a balance between near-term readiness and our ability to transform ourselves in order to meet current and future conflicts. The report outlined a new operational concept that gives continued priority to homeland defense, promotes deterrence through forward presence, and asks that we have the ability to conduct both smaller-scale contingencies and large scale, high-intensity combat operations simultaneously.

Our Soldiers can defeat enemy armies, seize and control terrain, and control populations and resources with minimal collateral casualties and damage. They can operate across the spectrum of military operations, from full-scale conventional conflict to fighting terrorists, to setting the conditions for humanitarian assistance. This multifaceted ground capability enables us to assure our allies and friends, dissuade future military competition, deter threats and coercion, and, when necessary, decisively defeat any adversary.

As The Army continues to work with other departments, agencies, and organizations, emerging requirements that are not fully defined in the 2001 QDR may require additional resourcing, whether technological, logistical, or force structure. Despite ten years of downsizing, The Army has accomplished all assigned missions to a high standard. In short, we are doing more with less, and the strain on the force is real. Our Soldiers continue to give us more in operational readiness than we have resourced.

While we fight and win the global war on terrorism, The Army must prepare itself to handle demanding missions in the future strategic environment. Over two years ago, The Army undertook transforming itself into a force that is more strategically responsive and dominant at every point on the spectrum of military operations. We have gained insight from previous deployments, operations, and exercises, along with leading-edge work in Army Battle Labs, joint and Army warfighting experiments, and wargames. With this insight, The Army embarked on initiatives to assure its dominance in a new contemporary operational environment by deterring and defeating adversaries who rely on surprise, deception, and asymmetric warfare to achieve their objectives against conventional forces. The attacks of September 11, 2001 and our subsequent operations overseas validated The Army's Transformation. If anything, September 11 provided new urgency to our efforts. Thus, we are accelerating Transformation to give our commanders the most advanced capabilities they need to ensure that we have the best led, best equipped, and best trained Soldiers for the emerging global environment. And to mitigate risk as we transform to meet future requirements, we will prioritize among the imperatives of meeting existing threats, safeguarding our homeland, and winning the war against terrorism.

SOLDIERS—ON POINT FOR THE NATION

Globally, Soldiers offer tangible reassurance to our allies, build trust and confidence, promote regional stability, encourage democratic institutions, and deter conflict. Nothing speaks to the values of America more than Soldiers on the ground providing comfort, aid, and stability at home and abroad. The Army, as part of a joint military team, provides a wide range of options to our leaders and commanders. As we have seen, in today's world we cannot win without the human dimension on the battleground. Whether it be gathering intelligence, challenging an adversary's ability to conceal and seek cover, or protecting innocent civilians, the American Soldier remains the ultimate precision weapon during combat operations, particularly when legitimate targets are interspersed among non-combatants. In the final analysis, it is the Soldier on the ground who demonstrates the resilience of American commitment and provides the needed flexibility to decisively defeat our adversaries.

Since October 2001, Army conventional and special operations forces, as part of the joint force, have participated in Operation ENDURING FREEDOM in the Afghanistan theater of operations. The range of their capabilities has been extensive. These highly trained Soldiers have worked with local forces to forge a powerful alliance. They have designated targets for air strikes, secured airfields, and performed reconnaissance and security missions that facilitated the safe introduction of follow-on forces. Supporting the war effort, they have provided security to joint forces, critical facilities, and supply lines, and they have received and prepared both combat and humanitarian supplies for air delivery to Afghanistan. Currently, more than 12,000 Soldiers are deployed—from Egypt to Pakistan, from Kenya to Kazakhstan. And although hostilities in Afghanistan are shifting focus, requirements for ground forces are growing—they are assuring regional stability in Afghanistan, directing humanitarian assistance and relief operations, securing detainees at Guantanamo Bay, Cuba, and deploying to the Philippines.

At home, The Army continues its long tradition of support to homeland security. Even before September 11, 2001, The Army had 10 trained and certified Weapons of Mass Destruction Civil Support Teams ready to assist civil authorities and had trained 28,000 civilian first responders in 105 cities. Since the attacks, we have mobilized over 25,000 Army National Guard (ARNG) and United States Army Reserve (USAR) Soldiers for federal service here and overseas. Nearly 11,000 Soldiers are on state-controlled duty securing airports, seaports, reservoirs, power plants, the Nation's capital region, and serving at "ground zero" in New York City alongside the U.S. Army Corps of Engineers. To increase protection for our citizens and reduce vulnerability, we accelerated the safe destruction of the U.S. stockpile of lethal chemical agent and munitions while combating the proliferation of chemical weapons. And continuing a commitment to civil authorities, nearly 500 Soldiers worked Super Bowl XXXVI, and over 5,000 Soldiers are helping ensure the security of the 2002 Winter Olympics in Salt Lake City, Utah.

But, fighting the global war on terrorism in no way diminishes the requirements placed on The Army for support to missions and operations around the world—indeed, it expands it. While The Army remains engaged at home, it is prudently taking action for follow-on operations around the world, to include mobilizing some 2,000 ARNG Soldiers to augment our missions in the European theater. In fact, The Army—active, ARNG, and USAR—has over 124,000 Soldiers and 38,000 civilians stationed in 110 countries. Additionally, on any given day last year some 27,000 Soldiers were deployed to 60 countries for operations and training missions. And it is easy to forget that our Soldiers have been on the ground conducting peacekeeping missions in the Balkans for six years, in Saudi Arabia and Kuwait for eleven years, and in the Sinai for nineteen years. Our Soldiers have been in Korea and Europe for over 50 years, assuring their peace and stability while, at the same time, providing the Nation with a rapid deployment capability to areas near those theaters of operations, as needed. Depending on the next move in the war on terrorism, additional manning requirements will be placed on The Army that will inevitably create more stress on our current endstrength.

THE ARMY VISION: PEOPLE, READINESS, AND TRANSFORMATION

On October 12, 1999, The Army articulated its Vision that defined how The Army would meet the Nation's requirements now and into the 21st Century. The Vision is comprised of three interdependent components—People, Readiness, and Transformation. It provides direction and structure for prioritizing resources to ensure The Army remains the most dominant and intimidating ground force in the world to deter those who would contemplate threatening the interests of America. Ultimately, it is about risk management, striking a balance between readiness today and preparedness for tomorrow. It is about having overmatching capabilities while

simultaneously reducing our vulnerabilities in order to dominate those who would threaten our interests—now and in the future. It is about examining where we are now and where we need to be, and it is about achieving decisive victory—anywhere, anytime, against any opposition. The Army's budget request for fiscal year 2003 supports The Army Vision and the strategic guidance to transform to a full spectrum force while ensuring warfighting readiness. It reflects a balanced base program that will allow The Army to remain trained and ready throughout fiscal year 2003, while ensuring our force is protected as we fulfill our critical role in the global war on terrorism. It mans the force—endstrength of 480,000 Active Component, 350,000 Army National Guard, and 205,000 Army Reserve Soldiers—and provides our Soldiers with better pay and incentives.

People

People—Soldiers, civilians, retirees, veterans, and their families—are The Army. People are central to everything we do in The Army. Institutions do not transform; people do. Platforms and organizations do not defend our Nation; people do. Units do not train, they do not stay ready, they do not grow and develop leadership, they do not sacrifice, and they do not take risks on behalf of the Nation; people do. We must adequately man our force, provide for the Well-Being of our Soldiers and their families, and develop leaders for the future so that The Army continues to be a professionally and personally rewarding experience. Soldiers will always be the centerpiece of our formations. They are our sons and daughters. We are committed to recruiting and retaining the best people and giving them the finest tools to do their job so that they remain the world's best army.

Manning the Force

Current and future military operations depend on an Army with the flexibility to respond quickly in order to rapidly meet changing operational requirements. The Army has approached its manpower challenge in a variety of ways. In fiscal year 2000, we implemented a personnel strategy to man units at 100 percent. Starting with divisional combat units, the program expanded in fiscal year 2001 and fiscal year 2002 to include early deploying units. Funding in the fiscal year 2003 budget for change-of-station moves improves our ability to man units at desired grade and skill levels by placing Soldiers where they are needed. The Army is currently assessing its ability to fill remaining units by the end of fiscal year 2004.

The ARNG and USAR now make up more than 50 percent of The Army's force structure. Ongoing and expanded reserve integration initiatives—to include Full Time Support—have increased reserve readiness and increased their ability to rapidly transition from a peacetime to a wartime posture.

A new advertising campaign in 2001—An Army of One—raised the awareness and interest levels of potential Soldiers. The Army achieved 100 percent of its goal for all components in recruiting and retention for the second year in a row. And to ensure that we recruit and retain sufficient quality personnel, we continue to examine innovative recruiting and retention programs. The increases for enlistment and retention bonuses will enable The Army to sustain these recruiting and retention successes, although some shortfalls remain.

Well-Being

Our Soldiers appreciate, more than you realize, your support this past year for pay increases of at least 5 percent and the 3.6 percent for the civilians who support them. Targeted pay increases for highly skilled enlisted Soldiers and mid-grade officers, the online electronic Army University education program, and upgraded single-soldier barracks and residential communities further support and aid in maintaining the Well-Being of Soldiers willing to put their lives at risk for our national interests. In turn, the attention to a Soldier's Well-Being helps The Army recruit and retain the best people. Our Soldiers ask little in return, but they judge their Nation's commitment to them by how well it takes care of them and their families. It is a commitment we must honor.

Army readiness is inextricably linked to the Well-Being of our People. Our success depends on the whole team—Soldiers, civilians, retirees, and their families—all of whom serve the Nation. The term Well-Being is not a synonym with "quality of life," but rather an expansion of the concept that integrates and incorporates existing quality of life initiatives and programs. Well-Being takes a multifaceted approach. We are working with the Office of the Secretary of Defense to improve TRICARE in order to provide better medical care for Soldiers, families, and retirees and to continue to close the compensation gap between Soldiers and the civilian sector, and the budget's increases housing allowances reduces out-of-pocket expenses for military personnel from 11.3 percent in fiscal year 2002 to 7.5 percent in fiscal year

2003 and puts The Army on track for eliminating average out-of-pocket costs entirely by fiscal year 2005 for those Soldiers and families living on the economy.

Leader Development

Civilian and military leaders are the linchpin of Transformation. The leaders and Soldiers who will implement the new warfighting doctrine must be adaptive and self-aware, capable of independent operations separated from friendly elements for days at a time, exercising initiative within their commander's intent to rapidly exploit opportunities as they present themselves on the battlefield. Leaders must be intuitive and capable of rapid tactical decision-making, and all Soldiers must master the information and weapons systems technologies in order to leverage their full potential. But new technologies and new kinds of warfare will demand a new kind of leader. As part of our transformation process, The Army is taking a comprehensive look at the way we develop officers, warrant officers and non-commissioned officers through the Army Training and Leader Development Panels to review and assess issues and provide recommendations on how to produce The Army's future leaders. We have expanded these reviews to include Army civilians in anticipation of the need to replace the increasing number who will become retirement eligible after fiscal year 2003. The Army must have top-notch military and civilian people at all levels in order to meet the global, economic, and technological challenges of the future.

In June 2001, The Army published the most significant reshaping of Army warfighting doctrine since 1982. Field Manual 3-0, Operations, emphasizes The Army's ability to apply decisive force through network-centric capabilities and shows just how dramatically The Army must transform itself to fight both differently and more effectively. This doctrine will assist in the development of a new force—the Objective Force—that maximizes the technological advantages of equipment, leader development, and evolutionary warfighting concepts. The Objective Force will demand a generation of leaders who know how to think, not what to think.

Readiness

At its most fundamental level, war is a brutal contest of wills. Winning decisively means dominating the enemy. To be dominant, we must be not only organized, manned, and equipped, but also fully trained. Today, The Army is ready for its assigned missions, but sustained support from the Nation, Congress, and the Administration is required to ensure that we maintain our readiness. To do so requires that we pay attention to training, installations, force protection and readiness reporting. The fiscal year 2003 budget request supports readiness and provides funding to maintain our current facilities at an acceptable level. Fiscal year 2003 funding improves on fiscal year 2002 levels in terms of maintaining a stable training base to develop quality leaders and soldiers. Resources have been aligned to ensure our forces are trained, equipped and ready to fight. In addition, funding is provided to enhance unit training and deployability—a positive impact on overall readiness.

Unit Training

Tough, demanding training which is supported by an infrastructure that allows us to train, sustain, and deploy is essential to readiness. History has taught us and we have learned that, in the end, armies fight the way they train. The Army is committed to fully executing our training strategy—the higher the quality of training, the better the leaders and warfighters we produce. The result is an increased state of readiness to serve our Nation. To this end, we must fully modernize training ranges, combat training centers, and training aids, devices, simulators, and simulations to provide adequate and challenging training. The Army has funded the integration of virtual and constructive training capabilities to achieve realism and cost effectiveness.

As we move to greater network-centric warfare capability, our forces will operate with even greater dispersion, and maintaining sufficient maneuver areas for training these extended formations will become even more critical. Combat is a complex mixture of people, equipment, and the training that fuses them together. Live training requires adequate land, sea, air and spectrum to even begin to realistically recreate combat-like conditions. That space is increasingly being encroached upon, intensifying environmental constraints and operational restrictions that will result in unanticipated and unwarranted limitations on needed test and training activities. Thus, The Army is implementing a sustainable program to manage the lifecycle of training and testing ranges by integrating operational needs, land management, explosives safety, and environmental stewardship. This program will ensure the continuing viability of training ranges by addressing the multiple aspects of encroachment: endangered species and critical habitats, unexploded ordnance and munitions, spectrum encroachment, airspace restrictions, air quality, noise, and urban growth. As we transform to a future force with new systems, organizational structures, and

new doctrine to achieve full spectrum operational capability, our training enablers and infrastructure, along with realistic and relevant training venues, must be funded to match the timelines we have established to field a highly trained Soldier—one whose unit is poised to fight new and different kinds of conflicts while maintaining traditional warfighting skills.

The Army OPTEMPO budget is a top priority, and The Army is committed to improving its training and unit readiness. The budget supports a ground OPTEMPO program of 800 M1 Abrams Tank miles at home station. The Flying Hour Program is funded for an average of 14.5 required live flying hours per aircrew per month for the Active Component, and nine live aircrew flying hours for Reserve Components. We have scheduled ten brigade rotations (nine Active Component and one Army National Guard) through the National Training Center, ten brigade rotations (nine Active Component and one Army National Guard) through the Joint Readiness Training Center. The Battle Command Training Program will conduct two corps Warfighter exercises and train six division command and staff groups, an increase of one divisional staff training exercise in fiscal year 2003. Additionally, funding for training enabler support has been increased 20 percent from fiscal year 2002 levels.

Installations

Installations provide homes, family and training support, and power projection platforms for The Army. They are the bases where Soldiers live, train, and from which they launch on their missions. Worldwide, we have physical plants worth over \$220 billion. For too many years, The Army has under funded long-term facilities maintenance in order to fully fund combat readiness and contingency operations; thus, we now have first-class Soldiers living and working in third-class facilities. Commanders currently rate two-thirds of their infrastructure condition so poor that it significantly impacts mission accomplishment and morale. The fiscal year 2003 budget funds over 90 percent of Sustainment, Restoration, and Modernization (SRM) requirements and builds on the fiscal year 2002 funded levels, slowing the deterioration of our aging infrastructure. But, the major investment in SRM in fiscal year 2002 is helping to improve only the most critical conditions in our crumbling infrastructure. Over the next five years, SRM shortfalls will continue to approximate \$3 billion annually as a result of our aging facilities. Exacerbating this situation is the fact that The Army has more facility infrastructure than we need. The cost of operating and sustaining these facilities directly competes with funding our warfighting capability. The realignment or closure of excess facilities will free funds for installations and bring the recapitalization rate closer to the Department of Defense's goal of 67 years by 2010. The Army is divesting itself of mothballed facilities and examining privatization alternatives. For example, we are capitalizing on the success of the Residential Communities Initiatives by expanding the program to 24 projects to more efficiently and effectively manage installations. Encompassing over 63,000 family housing units, the program allows the private sector to remodel, build, and manage housing on Army bases in order to provide the quality housing our Soldiers and their families deserve. The fiscal year 2003 budget provides the military facilities and soldier housing needed to improve Army readiness, quality of life, and efficiency. In fiscal year 2003, we will institute a centralized installation management organization that will improve our facilities and infrastructure through consistent funding and standards that promote the equitable delivery of base operation services and achieve efficiencies through corporate practices and regionalization.

Force Protection

The missions and training we assign Soldiers are not without risks, and Soldiers must be able to live, train, and work in safe, secure environments. We minimize risks by proactively protecting our force. For example, we reevaluated force protection security programs and adjusted over \$800 million in fiscal year 2003 to further support controlled access to installations, in-transit security, counter-terrorism training improvements, information assurance, situational awareness, crisis response, and force protection command and control. An additional \$1.8 billion is required for further force protection and security program requirements generated in the wake of the attacks on America.

Readiness Reporting

Measuring readiness requires accuracy, objectivity, and uniformity. The Army is transforming its current readiness reporting system to achieve greater responsiveness and clarity on unit and installation status. The Strategic Readiness System (SRS) will provide senior leaders with an accurate and complete near real time picture representative of the entire Army (operating forces, institutional forces, and infrastructure). The SRS will be a predictive management tool capable of linking costs

to readiness so resources can be effectively applied to near- and far-term requirements. A prototype SRS is being evaluated at selected installations, and its development will continue to ensure compliance with congressionally directed readiness reporting.

Transformation

Transformation is first and foremost about changing the way we fight in order to win our Nation's wars—decisively. The 21st Century strategic environment and the implications of emerging technologies necessitate Army Transformation. The global war on terrorism reinforces the need for a transformed Army that is more strategically responsive, deployable, lethal, agile, versatile, survivable, and sustainable than current forces.

Technology will enable our Soldiers to see the battlefield in ways not possible before. See First enables leaders and Soldiers to gain a greater situational awareness of themselves, their opponents, and the battle space on which they move and fight. Superior awareness enables us to Understand First, to assess and decide on solutions to the tactical and operational problems at hand faster than our opponents—to gain tactical superiority over our opponents. Networked units are able to Act First, to seize and retain the initiative, moving out of contact with the enemy to attack his sources of strength or key vulnerabilities at a time and place of our choosing. The Army uses precision fires—whether delivered by joint platforms or Soldiers firing direct fire weapons—to defeat the enemy as rapidly and decisively as possible. Army units will be capable of transitioning seamlessly from stability operations to combat operations and back again, given the requirements of the contingency. And when we attack, we destroy the enemy and Finish Decisively.

The Army is taking a holistic approach to Transformation, implementing change across its doctrine, training, leader development, organization, materiel, and soldier systems, as well as across all of its components. Transformation will result in a different Army, not just a modernized version of the current Army. Combining the best characteristics of our current forces, The Army will possess the lethality and speed of the heavy force, the rapid deployment mentality and toughness of our light forces, and the unmatched precision and close combat capabilities of our special operations forces—adopting a common warrior culture across the entire force. Transformation will field the best-trained, most combat effective, most lethal Soldier in the world.

True Transformation takes advantage of new approaches to operational concepts and capabilities and blends old and new technologies and innovative organizations that efficiently anticipate new or emerging opportunities. Transformation will provide versatile forces that have a decisive margin of advantage over potential adversaries and fulfill the Nation's full spectrum requirements. Transformed ground forces will dominate maneuver on the battlefield to gain positional advantage over the enemy with overwhelming speed while enhancing the capabilities of the joint force. This approach will contribute to the early termination of the conflict on terms favorable to the United States and its allies. Transformation will exploit network-centric capabilities to enable rapidly deployable and sustainable Army forces to quickly and precisely strike fixed and mobile targets throughout the depth and breadth of the battlefield.

Transformation consists of three interrelated elements—the Objective Force, the Interim Force, and the Legacy Force. We will develop concepts and technologies for the Objective Force while fielding an Interim Force to meet the near-term requirement to bridge the operational gap between our heavy and light forces. The third element of Transformation is the modernization and recapitalization of existing platforms within our current force—the Legacy Force—to provide these platforms with the enhanced capabilities available through the application of information technologies. Several important initiatives that should produce even greater advances in 2002 are the production, testing, and delivery of the Interim Force vehicle early this year, and the development of mature technologies to achieve Objective Force capabilities.

Digitization concepts tested and proved with the Legacy Force are being refined in the Interim Force and will be applied to the Objective Force. These efforts, along with planned training and testing and joint exercises—such as the U.S. Joint Forces Command's "Millennium Challenge 2002"—will enable The Army to stay ahead of current and future adversaries by providing the Nation and its Soldiers with unmatched advanced capabilities. To achieve additional momentum, we will carefully concentrate research and development and acquisition funding on our most critical systems and programs.

The Objective Force

The end result of Transformation is a new, more effective, and more efficient Army with a new fighting structure—the Objective Force. It will provide our Nation with an increased range of options for crisis response, engagement, or sustained land force operations. Instead of the linear sequential operations of the past, the Objective Force will fight in a distributed and non-contiguous manner. Objective Force units will be highly responsive, deploy rapidly because of reduced platform weight and smaller logistical footprints, and arrive early to a crisis to dissuade or deter conflict. These forces will be capable of vertical maneuver and defeating enemy anti-access strategies by descending upon multiple points of entry. With superior situational awareness, Objective Force Soldiers will identify and attack critical enemy capabilities and key vulnerabilities throughout the depth of the battle space. For optimum success, we will harmonize our Transformation efforts with similar efforts by other Services, business and industry, and our science and technology partners.

By focusing much of its spending in science and technology, The Army will create a new family of ground systems called the Future Combat Systems (FCS). This networked system-of-systems—a key to fielding the Objective Force—will allow leaders and Soldiers to harness the power of digitized information systems. And the FCS will allow commanders to bring a substantial, perhaps even exponential, increase in combat capabilities to the joint force without a large logistics footprint. Newer technologies will be inserted into the FCS as they become ready. In November 2001, the solicitation for the FCS Lead System Integrator (LSI) was released to industry. In coordination with The Army and DARPA, the LSI will select the “best of breed” technologies, components, and sub-components through maximum competition among the sub-contractors. The Lead System Integrator is a new solicitation and acquisition strategy that will accelerate The Army’s Transformation and see the FCS first unit equipped and operational by 2010. We anticipate selection of the Lead System Integrator in March 2002. In the fiscal year 2003 budget, we invested 97 percent of our Science and Technology resources toward the design and development of the Objective Force and enabling technologies. With this funding level, The Army will begin fielding an Objective Force—this decade.

We owe our Soldiers the best tools and equipment so they are not put at risk by obsolete or aging combat support systems. The Comanche helicopter, the Objective Force Warrior system, and Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C⁴ISR) initiatives are integral components of the network-centric operations of the Objective Force. They are the infrastructure that allows Soldiers to do what they do best—fight and win our Nation’s wars. Comanche will provide an armed aerial reconnaissance capability critical for gathering intelligence for coordinated attacks against targets of opportunity, and the fiscal year 2003 budget supports continued System Development and Demonstration and Mission Equipment Package Development, component development testing, and flight-testing. The Objective Force Warrior system will provide quantum improvements over our current soldier systems in weight, signature, information exchange capabilities, ballistics tolerance, and chemical, biological, and environmental protection for our individual Soldiers on the battlefield.

Terrestrial systems alone will not enable full spectrum dominance. Space is a vertical extension of the battlefield and a key enabler and force multiplier for land force operations. Objective Force commanders will access and integrate the full spectrum of C⁴ISR and Information Operations capabilities, to include national agencies, strategic and operational units, tactical organizations, and joint or multinational forces. In short, commanders will draw upon a wide array of capabilities that enable not just overwhelming force projection, but the ability to out-think our adversaries.

Transporting and sustaining the Objective Force will require capabilities that are cost effective, that adhere to rapid deployment timelines, and that have a smaller logistical footprint over longer distances without jeopardizing readiness. Materiel readiness will be maintained at reduced costs by increasing inventory visibility, eliminating artificial ownership barriers, and integrating automated systems.

The Interim Force

The Interim Force is a transition force that bridges the near-term capability gap between our heavy and light forces. It will combine the best characteristics of the current Army forces—heavy, light, and special operations forces. Organized into Interim Brigade Combat Teams (IBCTs), it will leverage today’s technology with selected capabilities of the Legacy Force to serve as a link to the Objective Force. Most importantly, the Interim Force—a combat ready force—will allow exploration of new operational concepts relevant to the Objective Force. The Army will field at least six of these new, more responsive brigade combat teams. These units comprise an Interim Force that will strengthen deterrence and expand options for the field com-

manders. Over the past two years, we have organized two brigades at Fort Lewis, Washington, and additional IBCTs are programmed for Alaska, Louisiana, Hawaii, and Pennsylvania. Leaders and Soldiers of the IBCTs at Fort Lewis, along with an Army coordination cell, have been working closely with all supporting agencies to develop wide-ranging iterative solutions to doctrine, training, logistics, organizations, material, and soldier systems required to field the Interim Force. The first IBCT has completed brigade and battalion level headquarters training with the Army's Battle Command Training Program and company level maneuver live fire training across the spectrum of conflict. The IBCT is training extensively for restrictive and urban terrain, and the force has used special operations training techniques and procedures for the development of night and urban fighting techniques. This brigade will attain its first incremental warfighting capability—and infantry company—in August of this year, and its full initial operational capability in May 2003.

Training of the Interim Force is proving that the practice of combining heavy, light, and special operations cultures results in a more adaptable and capable leader or Soldier. The Army has learned from experimentation that technology such as digitization allows the integration of intelligence data with tactical and operational information and gives our leaders and Soldiers the ability to seize and retain the initiative, build momentum quickly, and win decisively. The Army is accelerating the development and fielding of the Interim Force and studying the viability of fielding an additional interim capability in the European area. The fiscal year 2003 budget continues funding of 303 Interim Armored Vehicles (IAV) in fiscal year 2002 and 332 in fiscal year 2003 for the third IBCT.

Legacy Force—Revitalizing The Army

Transformation applies to what we do, as well as how we do it. We are working with the business community to accelerate change across the entire Army, promote cooperation, share information, gain greater control over resource management, and adopt better business practices by eliminating functions or activities that no longer provide value. This initiative seeks to focus constrained resources on achieving excellence in areas that contribute directly to warfighting. Transformation of our business practices cannot wait, and we have started at the highest levels.

The Army is restructuring the Army Secretariat and Army Staff to create a more unified headquarters for the conduct of enhanced policy, planning, and resource management activities. The goal is to transform the headquarters into a streamlined, integrated staff more responsive to rapidly changing operational and institutional missions and to push more resources out to the field units. This will streamline the flow of information and speed decision-making. The unified headquarters will seek greater integration of the reserve components into key staff positions to better accommodate issues and concerns. To minimize turbulence in the workforce, we will reinvest manpower savings in other Army priorities. Realignment initiatives already underway will help us meet the congressionally mandated 15 percent reduction in headquarters staffs. With congressional support, The Army will apply these methodologies to the entire force.

As The Army transforms, the Legacy Force—our current force—will remain ready to provide the Nation with the warfighting capability needed to keep America strong and free. Through selective modernization and recapitalization, the Legacy Force allows The Army to meet today's challenges and provides the time and flexibility to get Transformation right. Effectively managing risk without sacrificing readiness, The Army is focusing resources on systems and units that are essential to both sustaining near-term readiness and fielding the Objective Force while taking prudent risk with the remainder of the force. Recapitalization rebuilds or selectively upgrades existing weapons systems and tactical vehicles, while modernization develops and procures new systems with improved warfighting capabilities. The Army has identified 17 systems—its Prioritized Recapitalization Program—and fully funded them in selected units. Among these systems are the AH-64 Apache, UH-60 Black Hawk, and CH-47 Chinook helicopters; the M1 Abrams tank; the M2 Bradley fighting vehicle; and the Patriot Advanced Capability-3 missile defense upgrade. Modernization provides the linkage to facilitate the fielding of the Interim and Objective Forces. The Crusader self-propelled howitzer will provide combat overmatch to our commanders until at least 2032 and serve as a technology carrier to the Objective Force. Recent restructuring initiatives have reduced Crusader's strategic lift requirements by 50 percent. Technology improvements have increased its range by 33 percent, increased the sustained rate of fire by a factor of 10, and utilizing robotics, reduced crew requirements by 33 percent. The fiscal year 2003 budget supports completion of the detailed design effort, completion of critical technologies integration and risk reduction efforts, powerpack/drive train integration of the chassis, and ini-

tiation of manufacturing of System Development and Demonstration prototypes. Modernized M1A2SEP tanks and M2A3 Bradley fighting vehicles are capable of the same situational awareness as the Interim Force, thus enabling Soldiers and leaders to learn network-centric warfare on existing chassis. The advantage these information technologies provide our current force further enhance its warfighting capability. Army Aviation modernization efforts will reduce our helicopter inventory by 25 percent and retain only three types of helicopters in service, and the savings in training and logistics will be used to support the recapitalization of our remaining fleet. As part of its Legacy Force strategy, The Army terminated an additional 18 systems and restructured 12 in this budget cycle.

A COMMITMENT TO THE FUTURE

The Army, like the American people, remains committed to preserving freedom. As we have for over 226 years, we will continue to win our Nation's wars. Contrary to the expectations of some, the post-Cold War period has not seen a reduction in the demands placed on Soldiers on the ground. In fact, in the years since the fall of the Soviet Union, the international security environment has underscored the importance of ongoing commitments and highlighted new requirements for The Army. These increased demands have intensified the competition for resources and reduced needed investments in people, systems, platforms, and research and development. Unless redressed, risks incurred from this resources shortfall could undermine The Army's ability to satisfy national security requirements. At the same time, the war on terrorism, the requirement to secure the homeland, and the need to maintain readiness for possible near-term contingencies have validated the need for a new kind of Army—a capabilities-based ground force that can fight and win battles across the full spectrum of military operations. We are accelerating Army Transformation to achieve these capabilities. The Army cannot predict what other changes the future will bring, but what will not change is the need for our Nation to have the best trained, best led and best equipped Soldiers on the ground, deployed rapidly at precisely the right time, the right place, and with the right support structure as part of a joint military team.

Mr. Chairman and distinguished members of the Committee, we thank you once again for this opportunity to report to you today on the state of your Army. We look forward to discussing these issues with you.

[CLERK'S NOTE.—The Posture Statement 2002 can be found on the web at www.army.mil.]

Senator INOUE. Thank you, Mr. Chairman.
General Shinseki.

STATEMENT OF GENERAL ERIC K. SHINSEKI

General SHINSEKI. Thank you, Mr. Chairman, Senator Stevens, Senator Dorgan. We are honored once again, the Secretary and I, to be here with you and for this opportunity to update you on the posture of the Army and its state of readiness.

First, it is with great regret that the Secretary and I express our deepest condolences to families who have suffered loss during this most recent fighting in the war against terrorism.

We do have the greatest fighting force in the world. They are the best soldiers and the best leaders. Thank you for going to visit them and reaffirming with all of us just how great they are. Willingly and without hesitation, they continue to demonstrate their profound and abiding devotion to this Nation.

As the Secretary has indicated, on our behalf they take risks. They take risks for us. They go into harm's way. They shed their blood, prepared to give their lives if necessary, and some have in the most recent fighting, to defend peace and freedom and our way of life.

They will see this through to its decisive outcomes. We could not be prouder of all of them.

Let me further report, Mr. Chairman, that our soldiers and our civilians in the Army appreciate much more than I can put into words—and this has something to do with the great morale you encounter as you and other members of this committee make your trips—what you have done for them in this past year: enhancements in pay, enhancements in housing and health care and retirement benefits.

They continue to make incredible contributions and even more incredible sacrifices. But they look to us to demonstrate the Nation's appreciation and its commitment to them and their families. It is a commitment that you have honored well, members of this committee, and they are very grateful.

Nearly 3 years ago now, the Army took a hard, discriminating look at itself. After examining our capabilities against the emerging strategic environment, we decided to take some risk, to break with our past. We committed ourselves to transforming the way we will fight and will win the wars, the new wars of this new century. This committee elected to underwrite that transformation, an Army transformation, at a time when the very term was a bit unfamiliar and uncommon.

Today when one considers the magnitude of what we have accomplished with your support, it is staggering. With this submission, this Army submission for the fiscal year 2003 budget, the Army buys its last heavy tank—confirmation of our sustainable momentum in our move towards the irreversibility that we seek to achieve in our transformation.

Your investments are paying dividends. The selective recapitalization and modernization of our legacy systems maintains the acceptable readiness to fight and win today through this decade and the years beyond as we begin transformation to things that Senator Stevens asked us to be sensitive to. In August of this year, our first Interim Brigade Combat Team at Fort Lewis will achieve its initial warfighting capability. By this December, we intend to operationally test two of that brigade's battalions and by next spring we will evaluate the entire interim brigade for its initial operating capability.

Again, this month we anticipate selecting a lead systems integrator for the Future Combat System, that future Objective Force that we intend to field at the end of this decade, a new solicitation and acquisition strategy that will accelerate transformation to the Objective Force by the year 2010. We are prepared to fight these near-term conflicts against terrorism or any of a host of other dangers even as we set about changing ourselves to fight the wars of the 21st century.

Army has done a lot to help itself. We have made our own tough decisions. To fully fund transformation between fiscal year 2003 and fiscal year 2007, we have restructured or eliminated 18 Legacy Force modernization systems. We have reduced heavy maneuver and artillery battalions by 25 percent. We have cut aviation structure by 21 percent. We have manned our 10 Active Component divisions and two active cavalry regiments at 101 percent, something that was not in place 2½ years ago. Since October of the year 2000, the strength of other early deploying units has grown from 92 to

99 percent, and by the end of this year, we expect that those formations will be fully manned at 100 percent.

The "Army of One" advertising campaign that drew a lot of discussion when it first was revealed has been a resounding success as far as the Army is concerned. In 2001 we achieved our recruiting targets for the second year in a row and we will exceed our recruiting targets again this year, and I can make that statement today looking forward to September of this year. We have also exceeded our retention goals.

We have been changing our stance as an Army and this President's budget builds on the momentum we have attained over the last 2½ years. But we need to do more and we need to move faster. The attacks of September 11 validated the vision the Army declared 2½ years ago and the ensuing war against terrorism has underscored the need to accelerate transformation to better prepare our soldiers for the uncertain challenges of the 21st century.

All of our troops are performing superbly—Active, Guard, Reserve, and from all of the services. In Afghanistan Army special operators enabled the anti-Taliban forces to compel the enemy to mass so that significant capabilities of our air-delivered munitions could be brought to bear. These successes are not accidental and they are never won easily. Victories in battles like Mazar-e Sharif, Herat, and Kanduz and Bagram and now in the Shahikot region, as well as the successful operations on Objectives Rhino and Gekko and in the region of Tora Bora, represent 10 years of painstaking work on the part of the Army, hard work, superior training, real world experiences in places like Bosnia, Kosovo, Nigeria, Colombia, Philippines, and, yes, Pakistan and Uzbekistan, just to name a few.

Mr. Chairman, our investments have borne fruit in a conflict that was difficult to predict 6 months ago. Our new century is marked by uncertainty. Recognizing and preparing for uncertainty is what the Army vision is all about. In this new century, strategic success demands strategic responsiveness, seeing the world with an unblinking eye, a lethal, agile, survivable, versatile, and sustainable force, and the infrastructure and lift capabilities to deliver that force anywhere in the world quickly so that it can win decisively.

That force is the Army's Objective Force, and the continued strong support of this Congress and the administration, with that support, you will see that Objective Force fielded this decade.

Mr. Chairman, thank you again for allowing us to be here and I look forward to your questions.

RECOGNITION OF U.S. TROOPS

Senator INOUE. This morning all of us have used the word "morale" and General Shinseki has indicated that it is important that we demonstrate an appreciation for the services rendered by these men and women and to recognize their contributions.

In that line, may I ask a few questions. Let me not tie directly to readiness or to weapons systems. I have yet to see a ribbon—in all wars, if you went to Korea there was a Korea ribbon, or a Vietnam ribbon. I have not seen one for this conflict, nor have I heard of any unit receiving a unit citation. I see enough on the

Cable News Network (CNN) and other news media suggesting the heroics of our men. Somehow they are not recognized.

I just received a report that in all the time we have been there two Silver Stars and nine Bronze Stars with V's have been issued and about 10 Purple Hearts. I think it is very important that due recognition be made, not just by word but by awards and decorations. Similarly, I think these awards and decorations would have a salutary impact, not on the Government Issue's (GI's), but among the people, their parents, their brothers and sisters. They want to know that their loved ones are involved and doing their gung-ho work.

So are we doing anything like this, General?

General SHINSEKI. I have offered to the Secretary a recommendation, for example, that beyond the individual awards, which is within the service's responsibility to recognize individual performance, the awards you spoke about, Silver Stars, Bronze Stars—you are correct there is not a campaign medal and I think, appropriately so, that discussion will be undertaken.

Within the Army, I have offered to the Secretary a recommendation that, because of the combat that is going on in Afghanistan, that the units who serve there—as you know, in the Army we have the tradition, you wear your unit patch on your left shoulder, but if you go to war with that unit you move that unit's designation and you wear it on the right shoulder sleeve as demonstration that you fought in combat with that organization.

That recommendation is before the Secretary for him to consider and I expect that that will be approved. But, appropriately, a campaign ribbon for this operation is something we will consider.

STATUS OF INTERIM BRIGADE COMBAT TEAMS (IBCT)

Senator INOUE. General Shinseki, your plans call for six Interim Brigade Combat Teams with the armored vehicles, interim armored vehicles (IAV's). Can you give us a status report of that?

General SHINSEKI. Yes, sir. We have set aside funding for six brigades, as you indicated, the two initial at Fort Lewis, one in Alaska, one in Hawaii, one at Fort Polk, and then one with the very important effort with the National Guard, the 56th Brigade out of Pennsylvania. The way these were organized was a look at a strategic environment that described a movement from Eurocentric issues and a movement towards challenges in the Pacific Basin.

So if you look at how we organized the allocation of those six brigades, four of them are focused on the Pacific, and yet they are located adjacent to strategic deployment airfields where they can be picked up and moved in a variety of directions. As I am reminded from time to time, sitting in Alaska, that brigade is actually closer to Saudi Arabia than it is sitting at Fort Bragg. So the locations were key.

As sometimes happens when we set about changing a direction and creating new requirements, as we have in these brigades, we do very well at the training and the operation and maintenance (O&M) pieces and it takes us a little while to knit together the rest of the programs that would allow us to ensure that when these brigades begin to stand up at these designated locations that we have prepared the way in the vast array of other requirements, to in-

clude ranges, maneuver areas, environmental studies. All of that effort now is underway.

The funding for that has not been fully marked and we are working on that now to bring those aspects in, which will include some discussion of military construction (MILCON). When the budget was submitted, these locations were not clearly identified. So there is some work left to be done, some issues to be addressed.

We have been asked to look at perhaps a brigade of this type in Europe and I would offer to you that this brigade, an IBCT in Europe, we have equal contributions. It would be very responsive and have the kind of lethality that light infantry does not have today. That issue is one of affordability and we continue to study that, and there are some requirements for us to provide an Army position on that.

Senator INOUE. General Shinseki, I have many other questions, but this is the last for this round. We have had World War I with a certain type of fighting and World War II. Then it changed in Vietnam. Now we have a very different type of war. Will your transformation to the Objective and Interim Forces enhance your ability to fight this new type of war?

IBCT CAPABILITIES

General SHINSEKI. Mr. Chairman, if we had the Interim Brigade Combat Team today it would be the first unit of choice going into a place like Afghanistan. It would provide the mobile, tactical mobility, the protection of light infantry, the modern weapons platform, assault guns, all of which would have been very helpful here.

But when it arrives, it will meet, in the interim, this requirement. This requirement is driven by the fact that, as we are structured today, the Army has tremendous capabilities in two fists: the great light infantry we have, the best special operators, the best in our Ranger forces, and light infantry; and then tremendous heavy forces, the great heavy formations that are organized around the M-1 battle tank.

The challenge for our Army is that you can get in very quickly with your light forces and then you have to wait for the heavies to arrive. This gap in operational capability is a long wait. The Future Combat System is intended to correct that situation. In other words, we will be able to get in there very quickly with future combat platforms that will fight like the light infantry forces do today—rapid, deployable, on positions faster than the adversary can react—but it will also have the attributes of our heavy forces, which is lethality and survivability. These characteristics now are sort of separated into the different communities we have in the force: great deployment, rapid deployment in our light forces, but they lack the staying power that the heavy forces have. Heavy forces, on the other hand, tremendous lethality, survivability; it lacks the deployability.

We intend with the Future Combat System to solve these problems.

Senator INOUE. Thank you.

Senator Stevens.

Senator STEVENS. Thank you very much.

Let me apologize for this pile of paper up here. We just received an onslaught of mail from September, October, November, December, and I am trying to sort the wheat from the chaff here, but it is not too easy to do.

I would start off by echoing our chairman's comments, gentlemen. I do believe that the concept of unit citations as well as sub-unit citations in view of the type of operations going on over in the Afghanistan area are very much warranted. I do believe, unfortunately, we are too prone lately to consider awarding medals to those who unfortunately have lost their lives, and I understand that. But there are just a lot of people over there doing a lot of extremely, extremely brave things and I think that they need to be recognized and the people at home need to know that we have recognized what they are doing.

Too often, they would not even know about it if we did not call their attention to it, because we all know most of the people who have been in combat really do not talk much about it. My friend here, we have never really had a conversation about the day that he ended up in the hospital and yet we have been together for over 32 years. So it is just one of those things.

You learn about it when you read the citation. It is up to you guys to see that those citations get out there and get out there in a meaningful fashion. We had some conversations like this with your commanders in Afghanistan.

Mr. WHITE. We will do that. We will support that.

Senator STEVENS. That is a good point. Thank you.

General, how long will you proceed now with this recapitalization of the Legacy Force and achieve the transformation to the Objective Force? How long will it take you to do that?

FIELDING THE OBJECTIVE FORCE

General SHINSEKI. Well, Senator, the intent is to field this Objective Force before the end of the decade, so the year is 2010. But that begins the process of transformation, and as we are able to field the Objective Force we will take today's Legacy Force and begin to reorganize and re-equip them with objective capabilities and that will go on for some time.

Senator STEVENS. The Legacy Force is what we are going to be fighting this current war against global terrorism, am I correct?

General SHINSEKI. That is correct. That is correct, and we will keep that force ready and maintained for the next 10 years plus. Even as we continue to transform, we will have to keep that force ready to fight.

Senator STEVENS. But the force that is over there now is the Interim Force, right?

General SHINSEKI. The force that is over there now is the Legacy Force. It is today's force.

Senator STEVENS. It is the Legacy Force.

General SHINSEKI. It is. The Interim Force, the Interim Brigade Combat Teams, will begin to be fielded the end of this year. As they arrive, you will find them on these operations. If we had them now, they would be in Afghanistan. We just could not get there fast enough, Senator.

But the capabilities are real and we need them in the interim even as we are building this future combat capability by the year 2010.

ARMY HELICOPTERS

Senator STEVENS. Shifting gears now to helicopters, we are all unfortunately familiar with the stories that are coming in about the loss of helicopters. Our budget before us now asks for \$912 million for the Comanche. That is a significant increase. There does not seem to be much to replace the Blackhawks or the other helicopters that have been and are being lost now.

Is there a problem about immediate replacement or assets that will be needed before we can get the Comanches delivered?

General SHINSEKI. Senator, any time we encounter combat damages we do have to replace those aircraft. Yes, those requirements get stated and we fix them through your help.

Senator STEVENS. Will we see those numbers for the supplemental?

General SHINSEKI. You will.

Senator STEVENS. Are you seeking money in the supplemental for that?

General SHINSEKI. Absolutely.

Senator STEVENS. Okay.

General SHINSEKI. Absolutely, for the combat damages. For the Comanche, it is a major Army program and I would say, looking at the fighting that is going on in places like Afghanistan today and the fact that you have got attack helicopters that are flying at very low altitudes right into the teeth of strafing fire and dealing with providing fires to the troops on the ground, we very much need Comanche.

Senator STEVENS. Well, we are very supportive of Comanche as far as I am concerned.

RESERVE COMPONENT PERSONNEL CALL-UP

I do not want you to misunderstand this question, but this week alone there have been three other Senators who have come to me and asked me if I have heard any comments from my people at home about the number of the National Guard people who have been called up and the impact on local businesses. I told them, yes, when I was home I did. I did not hear anyone say, Stevens, you have got to get these guys back, but they have asked, how long is it going to take and is this really necessary to have these guys called up for so long.

They took it with ease when we were reacting to the events of 9/11 and I know we are trying to prevent, God forbid, another such event from taking place by having these people on duty. But what is the status and review of how long we can keep these people? You have a 90-day requirement, do you not? Can they be kept more than 90 days on active duty on a crisis recall?

General SHINSEKI. Well, actually we have a 179 day.

Senator STEVENS. 179?

General SHINSEKI. That is correct, Senator, for overseas deployments. Statewide, we have even looked at a year-long deployment, which is tremendous pressure. But this is driven by what the Sec-

retary and I have testified to before and I have for the last 2 years, and that is an Army that is smaller than the mission profile it is asked to perform.

Senator STEVENS. I understand that. But when you see someone who really is a junior executive in a local business out there watching people walk through the gates to get on an airplane, that sort of strains it a little bit, I think. I think they have joined the National Guard and are participating in those activities in order to be available if they are needed to go overseas.

Mr. WHITE. I agree with that. The airport security was an emergency measure following 9/11. We have agreed on a plan with the Department of Transportation (DOT), which is standing up the Federal Aviation Security Administration, to pull the Guard out of the airports over the next 90-day period. That will take some of the pressure off the Guard deployment for non-traditional types of things that the Guard is doing.

Senator STEVENS. Do you have a time frame for that?

Mr. WHITE. We should be done with that by the end of May. That will be a changeout between the new Federal agency, security people and the guardsmen in the airports.

Senator STEVENS. We can tell our people that the need for the call-up of the National Guard for duty such as that in the home Guard concept will be reviewed by May?

Mr. WHITE. That piece of it should be shut down by May and the troops will be redeployed.

SPECIAL FORCES TEAMS EQUIPMENT

Senator STEVENS. General Shinseki, as Senator Inouye mentioned, I believe, we met with an 18-man Special Forces team that had been operating in Afghanistan for 4 months. As a matter of fact, I was told I believe that they were out there in one stint 2½ months on one patrol. A superb job, a superb job.

But we wondered about the equipment and their capabilities and whether those teams were designed to stay out that long. It seems like an awful long time for them to be out there. As a matter of fact, none of them spoke the local language, but they had been extremely successful in organizing and putting together Afghan units to conduct the battles.

I wonder, has anyone analyzed really the extent of their equipment and what they need and what they had?

General SHINSEKI. Senator, I tell you, we look at this all the time. We never quite anticipate the environment sometimes we end up with. The biggest challenge for light forces is weight. There are lots of things we can give them, but they essentially are foot-mobile and cannot carry it all in. So we give them what they need and then the challenge for us is how to creatively keep them sustained in terms of resupply, because just merely getting in there to give them resupply tips their hand if they are in a strategic reconnaissance role.

So that is a little bit challenging. But we manage to do that with Special Operations platforms that can get in there in the dark of night and with no lights, run at high speed, and do a delivery.

But the quality here, the important quality here, is not just the equipment. It is the quality of the youngster. When you think

about, in small groups these young Americans—and they are mostly Army special operators, but there are other services with them as well—going into a part of the world where the leadership that was trying to oppose the Taliban could not get their act together. They just could not even work together.

As you indicate, these youngsters went in there without first-hand knowledge of the language. Some of them spoke Russian so that they could—in that part of the world it is not uncommon to find a Russian speaker. So, communicating through a third language, were able to get them to put their forces together just enough to create a threat, that the Taliban had to then mass and they had to come out of the cities and the villages, move their equipment from being parked next to mosques and come out and confront this anti-Taliban force.

When they did, our youngsters also had the skills to be able to bring in munitions coming off the B-52's and B-2's. We never envisioned them going into battle on horseback or having on their hips the international maritime satellite (MRSAT) communications device as being the method by which they were able to link this fight together. The creativity of that youngster is what brought all this together.

Yes, we do continue to look at the kinds of tools we give them. But when they are riding 14 hours on horseback to get to the fight, most of us who have ever been on a horse, 14 hours is a long time, and you have got to do a lot of back management just to be able to stay upright. Well, these are tough kids and they dealt with that situation. I do not know what an Afghani saddle is like, but I know it is not like one of our westerns.

Senator STEVENS. We met with those guys and they gave us some pictures of that, and they are very proud and very capable. They reminded me of a conversation we had long ago with Colin Powell when he told us that he had been dropped with a team into Cambodia. I do not know if he has ever told you about it.

General SHINSEKI. No.

Senator STEVENS. Well, his point to us was that they had 18 days food and they were supposed to get a resupply, and on that 18th day when you start eating the last of the food, that is when you know what it means to trust your Government. I hope we understand that, too.

I have other questions, but again I want to tell you, that bunch is something else over there. I just wish more people could see it.

I saw that movie the other night, "We Were Soldiers." A hell of a movie. We took some of the people who were "Band of Brothers" survivors and brought them here and had a chance for Members of Congress to meet them. If you have got some of those survivors from that unit, we would like some time to arrange a little reception up here for them.

General SHINSEKI. Sir, that would be wonderful.

Mr. WHITE. Great idea.

Senator STEVENS. Thank you very much.

Senator INOUE. Thank you.

Senator Shelby.

Senator SHELBY. Thank you. Thank you, Mr. Chairman. I have a number of questions. It will probably take me a few rounds, Mr. Chairman.

SCIENCE AND TECHNOLOGY (S&T) AND SYSTEM DEMONSTRATION AND DEVELOPMENT (SDD)

While the Research, Development and Engineering Centers (RDEC) and labs have performed S&T 6.1, 6.2, 6.3 functions, the Program Executive Officer/Program Manager (PEO/PM) has taken mature technology from industry, RDEC's, and other resources to execute the SDD phase. However, the program executive office (PEO) project manager reorganizations, as briefed to you, Mr. Secretary, October 4, 2001, includes the following guidance: "A director for S&T"—that is a GS-16—"will be established in each PEO. This individual will be responsible for S&T objectives, transitioning programs from the RDEC's and advanced technology demonstrations, advance concept technology demonstrations. Management oversight of funding allocated for S&T activities will be the responsibility of each director for science and technology and elsewhere. Selected S&T funding, 6.3, will flow through the director for S&T in each PEO."

I am concerned that this part of your organization plan represents a dangerous precedent and blurs the lines between S&T and SDD. Putting S&T funds under PEO/PM program manager oversight would invite, I believe, the use of these funds to supplement the chronic shortfalls invariably experienced by development programs.

I do not believe the Department of Defense (DOD) is spending enough on the research and development (R&D) programs, remaining below the 3 percent funding target. With such a reorganization, I cannot see how fundamental Army S&T capabilities will not suffer even more.

The General Accounting Office (GAO) best practices report points out the importance of demonstrating high technology readiness levels prior to initiation of SDD. We all support your efforts to transform the Army, but huge technology hurdles remain and I want to see the Army focus on supporting an environment to close the technology maturity gap that exists.

The GAO report stated key to this environment was making a science and technology organization, rather than the program or product development manager, responsible for maturing the technology to a high technology readiness level (TRL). I agree with the GAO. I believe that the Army's organic labs and RDEC's are the right places to conduct fundamental S&T research and development. The movement of 6.3 R&D funding away from the Army RDEC's would not only marginalize them, but I believe hurt their ability to function.

Several questions now. What is the status of this reorganization plan, Mr. Secretary? If it is proceeding, why are the history and the GAO wrong, and explain to me why you believe, if you do, that S&T funds would be better managed and spent by PEO's rather than RDEC's? Do you plan to request additional 6.1 and 6.2 funding to ensure that RDEC's have the funds necessary to mature technology to the higher TRL's? What regulations are in place to

ensure that 6.3 funds will be used for S&T purposes and not to supplement SDD shortfalls?

I know I have covered a mouthful.

Senator DORGAN. Let me ask Senator Shelby to yield just for a moment, because I have to be at a 10:45 event.

Senator SHELBY. Yield for what?

Senator DORGAN. Just yield to make a point.

Senator SHELBY. Oh, I yield my time.

Senator DORGAN. I had wanted to ask questions about the Predator and Global Hawk with respect to intel and the use of that by the Army. I especially wanted to ask a series of questions about the high mobility trailers, which I have some difficulty about what is going to be happening there with the Army. I think what I will do is defer, perhaps submit questions to you, and call you, General and Secretary, on the issue of the high mobility trailers.

Also, in this morning's newspaper there is a reference, I believe it is the Los Angeles Times, talking about the snow-covered mountains and elevations of 11,000 feet where combat is occurring: "Most U.S. troops are using cold weather gear first designed in the 1950's rather than new high-tech materials," and so on. If you might respond to that as well to see if there is any way for us to be helpful there. I do not know the veracity of this particular account.

Because I have to leave, I thank you for allowing me to make those points, and I will be in touch with you about the high mobility trailers. Just simply, you are in the process, I believe, of a \$250 million add on high mobility trailers, perhaps to be produced by those that produced previous trailers at 50 percent over cost and trailers that did not work and trailers that had to be warehoused. I will have some great difficulty with that. I hope that we can produce these new trailers through bids that are submitted by companies that I think can do a better job.

But I thank you, Senator Shelby.

[The information follows:]

COLD WEATHER GEAR

United States Army forces serving in Afghanistan and adjacent areas are not using cold weather clothing first designed in the 1950s. In fiscal year 1989, the Army began fielding the extended cold weather clothing system (ECWCS) to all high-priority units. ECWCS is a state-of-the-art, cold weather clothing ensemble that capitalizes on the technological advances of industry in the area of synthetic fibers and films, particularly polypropylene and polytetrafluoroethylene (PTFE). ECWCS is a layered system that may be adjusted to individual metabolism and prevailing weather conditions. The ECWCS system consists of polypropylene underwear, polyester fiberpile shirt and overalls, balaclava hood, parka and trousers made with a three-layer nylon and PTFE laminate, intermediate cold weather gloves and boots. Initial fielding of ECWCS was completed to all designated units in fiscal year 1993.

In fiscal year 1996, ECWCS underwent an improved design change called generation II ECWCS. The Army procured \$7 million of the generation II version and fielded them to Korea as part of the low rate initial production effort. Ultimately, the Army decided not to procure the generation II ECWCS since initial fielding and sustainment costs of the system were prohibitive and the improvements provided no real operational benefit to the Army.

In second quarter of fiscal year 2000, as the result of an \$8 million Congressional plus up, the Army began limited fielding of a new ECWCS black fleece shirt and overalls developed in fiscal year 1999. These new items reduce the polyester bulk by 40 percent and serve as an insulating layer for the system. The ECWCS overalls were only fielded to units in Alaska because they are intended for use in tempera-

tures ranging from -25 to -60 degrees Fahrenheit. The black fleece shirt and overalls became available through the supply system in the fourth quarter of fiscal year 2001 and will be phased in as stocks of the older, bulkier fiberpile version are depleted.

HIGH MOBILITY TRAILER PROCUREMENT

The Army is not spending \$250 million in this fiscal year on the high mobility trailer. This year's efforts have been to field the trailers produced in previous years. None of these resources have gone to the prime vendor. In fiscal year 2004, the Army plans to execute a competitive re-buy procurement of the high mobility trailer that will alleviate the previous concerns. The Army has an acquisition objective of 25,112 trailers.

Senator SHELBY. Thank you. I did not know it was your time. You can have it all.

Mr. Secretary.

Mr. WHITE. To go back to your question, sir.

Senator SHELBY. Yes, sir.

Mr. WHITE. We have done a number of things on the acquisition side over the past 9 months, one of which is to bring all the PEO's under the control of the Assistant Secretary for Acquisition, Logistics, and Technology, the acquisition executive of the Army.

The second thing we did was attempt to better line up the tech base with the PEO structure so that we get a better cross-walking of technologies out of the tech base into the PEO structure. This is tremendously important with the Future Combat Systems. About 95 percent, I think, of all the S&T money that we have today is focused on bringing to fruition the Future Combat Systems. That is why we made that alignment.

I absolutely agree with you that a strong and vital technology base is critical to the Army as we go forward. We are not quite at—

Senator SHELBY. We should fund that base, should we not?

Mr. WHITE. Yes, we need to.

We are not quite at 3 percent, either. In some services—the overall DOD objective is 3 percent and some services are closer than others. We, being a labor intensive service, it is more difficult for us to make it than others. I think we are at 1.7 percent, 1.8 percent, something like that. But I am absolutely committed to a strong S&T base and committed to focus that base in a way that it produces things that we can transition into systems development going forward.

The reorganization that you discussed is an attempt to better focus that effort, but not penalize the RDEC's that you referred to.

CHEMICAL DEMILITARIZATION PROGRAM

Senator SHELBY. Mr. Secretary, I want to shift into another area. That is the chemical demilitarization program that has been going on, among other places, in Anniston, Alabama, area. I would like to hear your thoughts on the current status of these programs and what your plans are to make sure that the program does not receive the same distinction next year. That is, it was labeled by, the chemical stockpile emergency preparedness program (CSEPP) was labeled "ineffective" in President Bush's budget submission.

You know we have been working together on this, too, and with Secretary Aldridge.

Mr. WHITE. Right.

Senator SHELBY. What are the Army's—well, go ahead and answer that part. What are you going to do to make sure that you do not get that same label again, in effect?

Mr. WHITE. Well, we have changed the leadership of the program. Assistant Secretary Fiori, who I believe has discussed this with you and Senator Sessions in particular for the Anniston situation, has put together a new program that accelerates this whole process. I am confident as we work all the details of that we will not only significantly reduce the risk that the existing stockpile represents, but the economics of it will be much better as we go forward. We are in the initial phases of that and we are having success.

The specific situation at Anniston, of course, really has to do with sorting out the Federal Emergency Management Agency (FEMA) relationship with the State of Alabama. We on the Army side have given the money to FEMA to support the impact that this will have on the State and FEMA has to work out with the State the details of transferring our money to the State. I am hopeful that can be done shortly because we need to get on with destroying this material.

Senator SHELBY. But destroying it safely.

Mr. WHITE. Yes, sir.

Senator SHELBY. See, my concern and Senator Sessions and anybody else, I hope, is making sure that those chemicals are destroyed in a safe manner, because anybody, anybody living in that area, has to have concern and they do. We will continue to get into that.

But what are the Army's plans, Mr. Secretary, for disposing of the secondary waste stream at each destruction facility?

Mr. WHITE. The secondary waste stream will be a hazardous material, as opposed to a chemical weapon material, chemical grade weapon material, and a hazardous material can be disposed of through normal commercial sources. We will make those arrangements and see that that happens.

Senator SHELBY. You are familiar, I am sure, Mr. Secretary, with the software problem there. I hope you are. One of the pressing safety items in the Calhoun County-Anniston area has been an upgrade of the emergency management information system (EMIS) software system. This upgrade would allow the local emergency management agency (EMA) to quickly and accurately warn the thousands of people who live within a short distance of the stockpile in the event of an accident, which we hope never happens.

Despite the existence of EMIS, the Army accepted an unsolicited bid in 1993 from Pacific Northwest National Labs (PNNL) to develop a second emergency software system for the CSEPP known as the Federal emergency management information system (FEMIS), F-E-M-I-S. Forty million dollars and 9 years later, General Doesburg, the stockpile commander, said the Army will not use FEMIS because of test failures. The Calhoun County Emergency Management Agency agrees with the Army and is using EMIS, E-M-I-S.

Funding to upgrade EMIS has been requested so that the Army and Calhoun County will have the best possible software system

operating their emergency operation center's (EOC's). Last October, Under Secretary of Defense Pete Aldridge got involved, as you know, in the program and he has agreed to the software upgrade.

This software funding problem has existed for years and is part of our concern about safety. It seems to be a huge conflict of interest there, that one of the people who is responsible for the issue in the Army had close ties to Pacific Northwest National Labs, the developer of the FEMIS software. In fact, as an Army colonel he was involved in the original unsolicited bid process. He then went to work for PNNL as the FEMA sales person after retiring from the Army and now works for Dr. Fiori. I think it is very discouraging to see these things happen.

But the bottom line on Anniston, as you well know, is safety. We know we have got to dispose of these chemicals because they are sitting there and time is ticking. But we have to do it, and we have got to touch every little point to make sure that it is safety, because the people are deeply concerned, should be deeply concerned. If I lived there, heck, I would, and you would be, too.

Mr. WHITE. I absolutely agree.

Senator SHELBY. You know where we are coming from.

Mr. WHITE. Yes, sir.

Senator SHELBY. Okay. I believe my time is up. Thank you.

Senator INOUE. Thank you.

Senator Leahy.

Senator LEAHY. Thank you, Mr. Chairman and Senator Stevens.

I want to welcome the Secretary and of course General Shinseki back to the subcommittee. You have done a great deal in preparing our men and women in Afghanistan and actually further afield. I compliment you on that. I suspect that neither one of you have nights where you get a full night's sleep as the reports come in.

I have some questions related to land mines, which I will raise at another point, along the lines, General, of some of the questions you and I have discussed in our private meetings.

RESERVE COMPONENT AUGMENTATION

Mr. Secretary, I want to talk to you about a situation on our northern border. The Vermont National Guard, among other Guards, are being sent to the border to help the Immigration and Naturalization Service (INS) agents and Customs inspectors. We have also put a lot of money in the budget to increase the number of INS agents and Customs inspectors. We have asked the Attorney General when that might happen. We had a vague answer the other day in the hearing, but I suspect a more specific one will come.

In the meantime, the Guard is helping out. They are needed. Our Federal agents along the northern border are greatly overtaxed. We have a question of suspected terrorists, bombs, and damaging materials coming in.

Now, these highly trained men and women are going to be prevented from carrying side arms for protection. That is like sending another Vermonter, John LeClair, onto the ice without his hockey stick. It does not seem to make a great deal of sense. If we are going to ask them to do this, if we are going to ask them to be on the border in this position, why are they not carrying side arms?

Mr. WHITE. Why are they not carrying side arms?

Senator LEAHY. Yes.

Mr. WHITE. Sir, the border augmentation that is a 179-day commitment that is just beginning, just for background it will be a Title 10 activation of the Guard. We will detail the guardsmen to the control of the Border Patrol, INS, and Customs, the three agencies that they will be committed to.

It was the view of the Border Patrol, Customs, and INS that the nature of the duties of the guardsmen as they patrol the border would not require them to be armed.

Senator LEAHY. Well then, why do we need them there?

Mr. WHITE. Because these are people—

Senator LEAHY. Are they not going to be doing some of the same things that the INS and Customs agents would be doing who would be armed?

Mr. WHITE. In some cases, yes.

Senator LEAHY. Well then, if the INS and Customs agents, if we feel that there is enough of a threat they have to be armed, why are not our guardsmen armed?

Mr. WHITE. Well, the feeling of those agencies was because they would always be in the presence of an armed agent that they themselves would not necessarily have to be armed.

Senator LEAHY. That would be a lot of fun if I was out there saying that I am there because normally we might send four Customs agents, for example, because of whatever the threat might be, but now because the Customs agents are spread so thin we are going to send three unarmed guardsmen and one armed Customs agent, but now we will still have that same force of four, but only one will be armed.

We have a very good border with Canada.

Mr. WHITE. Yes.

Senator LEAHY. They are our largest trading partner. I live an hour's drive from the Canadian border. We go back and forth all the time. The vast majority of people going back and forth across there are very law-abiding. But as you know, without going into classified items in this open hearing, as you know this has also been an attractive border to would-be terrorists.

For the life of me, I cannot—my point is this. If you have got somebody who is fulfilling a role in an office, for example, where people are not armed, that is one thing. If you are telling them they have got to go out there and do the same thing that it is necessary to have an armed person, why are they not armed?

Mr. WHITE. Well, for that portion of the people that fall in the category that you describe, we have reopened the discussion on the arming versus unarming.

Senator LEAHY. I wish you would, because we have them armed standing by the screening devices.

Mr. WHITE. Yes.

Senator LEAHY. Probably a good idea because it seems half the time the screening devices do not work, although I have done my best to help the economy of this country, at least whatever company it is that makes fingernail clippers, by having to buy one every time I go through. But at least we have got the Nation safe from 61-year-old U.S. Senators carrying fingernail clippers.

Mr. WHITE. That piece of it is being reconsidered.

Senator LEAHY. Well, thank you. Would you keep us posted or have your staff keep me posted on this.

Mr. WHITE. Certainly.

Senator LEAHY. I have other questions, but I will submit them for the record, Mr. Chairman.

Senator INOUE. Thank you very much.

[The information follows:]

UNITED STATES SENATE,
Washington, DC, March 1, 2002.

The Honorable DONALD H. RUMSFELD,
Secretary of Defense, 1000 Defense Pentagon, Washington, D.C.

DEAR SECRETARY RUMSFELD: We understand that members of the National Guard called to active duty to support the INS and the Customs Service at the Northern Border in law enforcement field positions will not be permitted to carry sidearms. We think it is a mistake not to provide adequate protection to highly trained people conducting a national mission. It defies logic that active duty personnel working in direct support of armed federal agents will be prohibited from carrying weapons themselves, especially as they will be in battle dress uniforms which will presumably make them obvious targets.

That National Guard forces providing security at airports, the Olympics, and even here at the nation's Capitol are armed makes one wonder exactly how the circumstances on the border are so different to warrant such an extraordinary decision. Our only explanation is that it is the result of the Defense Department's puzzling unwillingness to call up forces under Title 32 and provide the Guard with maximum flexibility to support other federal agencies. Several Senators raised several concerns about the shaping of the Guard border mission in a February letter. We are enclosing another copy for your review. We hope you will address this situation quickly.

Sincerely,

PATRICK LEAHY,
Co-Chair, National Guard Caucus.
KIT BOND,
Co-Chair, National Guard Caucus.

UNITED STATES SENATE,
Washington, DC, December 12, 2001.

The Honorable TOM RIDGE,
Director, Office of Homeland Security, The White House, Washington, DC.

DEAR TOM: Recently, the Justice Department announced its request that troops from the National Guard supplement agents from the Immigration and Naturalization Service along the porous 4,000-mile northern border. We understand that the Department of Defense is considering calling up these troops on a federal, Title 10 status. As representatives of two border states, we would like the administration to reconsider the idea and call up the forces under Title 32 instead.

Title 32 would allow more flexibility to accomplish this critical mission. Unlike forces called up under Title 10, Title 32 forces are not subject to posse comitatus restrictions. They can assist local and federal law enforcement organizations with its full range of activities, including arrests. Also in contrast to Title 10, Title 32 forces can continue to train for other missions. As the National Guard remains the nation's primary military reserve, this status allows our nation's adjutants general the ability to cycle forces through training and remain ready for other contingencies.

Title 32 also ensures that members of the Guard called up stay generally within their home state. Our nation's governors will remain in control, while Guard forces serving in their home state can bring unparalleled familiarity with the problems and challenges facing their communities. That understanding raises the comfort level of the country's citizens who might otherwise be concerned to hear that active duty troops from far away are serving in their community.

There are certainly occasions where members of the National Guard should be called up under a Title 10 status. But in this case, it seems apparent that Title 32 is the more sensible approach. We would appreciate your considering this question and responding as soon as possible with your views. We are impressed with your

contributions in the months immediately after the awful, events of September 11, and we look forward to continuing our work together.

Sincerely,

PATRICK LEAHY,
United States Senator.
PATTY MURRAY,
United States Senator.
JAMES JEFFORDS,
United States Senator.
MARIA CANTWELL,
United States Senator.

CRUSADER AND COMANCHE

Senator INOUE. If I may ask this final question of both of you. The problems of the Crusader and Comanche programs have become standard fare for critics of the United States Army. Almost every day there is some article in the paper. For example, the Crusader artillery gun has been criticized as being a cold war weapon by some, unfit for rapid battlefield combat and too heavy to transport. Some have said that the Comanche helicopter has been in development for nearly two decades and the program has been criticized for poor contractor performance, cost overruns, repeated restructurings, the latest coming at the end of last year.

Now we have before us a budget request of about \$0.4 billion for research and development on these two systems, which is about 20 percent of your total R&D budget. Obviously, you consider these two programs to be very, very important. I would like to give you an opportunity to respond to these critics, if I may.

Mr. WHITE. Let me begin and then the Chief of Staff, I am sure, will also add his views.

I view Crusader to be absolutely vital to the Army going forward. The Army that General Shinseki and I grew up in was always outgunned by its adversaries. The biggest mismatch that we ever had with the Soviets was the field artillery side. We have not fielded a new artillery cannon on a brand new chassis in this country since the early 1960's. That was the 109 system, which is now in its sixth major modification.

The weight of the Crusader was a concern at 60 tons. We have put it on a slim-fast diet. It will come in at 40 tons or less. It has tremendous range, rate of fire, and tactical mobility equivalent to the Abrams. In fact, it will have a common engine with the Abrams. And it is C-17 transportable. You can get two of them or one of them and an ammo resupply vehicle in a C-17.

If we had it in Afghanistan today combined with the Q-37 counterbattery radar, we would not have to worry about the mortars that have been causing casualties in the 10th Mountain and the 101st on that battlefield. It will be a tremendous counterfire capability. So I am four-square behind Crusader.

Comanche in its 20 years, as you point out, has suffered from every known disease to a development program, from migrating requirements to less than stellar contractor support to uneven funding. Our commitment, the Chief's and I, is to get the program focused on producing a block one, an armed replacement for Kiowa, which is what we must have. Kiowa has been in the fleet since Vietnam. Second, rearrange the contractors into a more efficient

operation. We have done that. Third, fund the program and get it fielded, and we intend to do just exactly that.

We are going through a Defense Acquisition Board review of Comanche. That will be done in May. But this is a transformational system and we must get this thing fielded.

Senator INOUE. Chief?

General SHINSEKI. I would just add, Mr. Chairman, the descriptions of Crusader being a cold war relic has primarily to do with weight. What is also true about cold war artillery was it could not move very fast, it did not keep up with our maneuver forces, with our M-1's and our Bradleys. So the speed with which we attacked was always driven by the speed at which our artillery pieces could keep up, which was not very good, as we discovered in Desert Storm.

What is also true about cold war artillery was it did not have a very good rate of fire, it was not very accurate, and it did not out-range our adversaries.

So we set about fixing that for all of the years in the cold war we lived, outgunned by our adversary. There is some truth to the fact that Crusader came in heavier than we wanted or had envisioned. But as the Secretary says, we have taken some aggressive action here to drive it back down to about 40 tons.

Would we like it to be lighter than that? Obviously. But there is a point in engineering by which, if you are firing long-range heavy artillery, the weight of the platform for purposes of stability and digging in trails and giving this a stable platform, you just cannot overcome the mechanics.

What is not true about Crusader being a cold war relic is that we have downsized the number of people it takes to fight that system, down to a handful of soldiers, 7 to 10 down to 6. So there has been a tremendous reduction. We automatically load this. This outshoots now all known adversaries. It is a fleet platform that keeps up with the tanks and the Bradleys that we have in the offensive formations. It will shoot at a rate of fire that outshoots our adversaries, so that it can put 10 rounds in the area, move before the return fire from enemy artillery comes in.

All of the good things that we have designed in the Crusader are not cold war. These are breakthroughs in fires that we, the Secretary and I, have lived with. In all the briefings that we ever gave as young commanders that talked about how we were going to fight our formations, we could never solve the fires piece. We now have.

One thing about Crusader that we are all wrestling with is the weight of that platform. But the Crusader is selected to go into our III Corps, the heavy counter-attack corps, which goes by boat anyway. So the majority of these platforms will be transported by boat.

Having slimmed it down from 55 to 60 tons to 40 has accomplished this. We can put a Crusader on a C-5 or a C-17 and we can ship that gun where we need it. Because of its capabilities, two to three Crusaders will outfire a battery of guns. Four Crusaders in Kosovo would have put steel on every inch of that province, and that is the capability we have needed for years and, frankly, that technology is what we need to continue to develop so that in years ahead as we go to Objective Force capability we can transition this into to robotic systems that we are looking at.

Crusader is as close to robotics right now as we in the Army have been in a long time. You have three soldiers sitting separate from the gun that can dial up and fire the gun and automatically load it. Whether it is 3 feet or 300 feet, same principles. We need to field the Crusader to leverage that capability.

I support the Secretary's comments on Comanche. We need to field Comanche. We need to solve the problems that we have discovered here. With his decisions and bringing the two partners, the producing companies, into a relationship, I am confident that Comanche will solve the problems we have encountered to this point. We need to get on with it.

If Afghanistan is any demonstration of what armed reconnaissance and close air support with heliborne platforms will require, we need to go to Comanche.

Senator INOUE. Your Crusader, as you say, can keep up with the Bradley?

General SHINSEKI. It can, yes, sir.

Mr. WHITE. Crusader will have a common engine with M-1. The new Abrams engine will be the same one as in the Crusader.

Senator INOUE. Well, I am hoping and praying with you, because I think that this is the new weapons system we need for the new wars. As you pointed out, if we had the Crusader there at this moment many of the problems we seem to face may have been avoided.

AFGHANISTAN UPDATE

My very last question: Can you give us an update as to what is happening in Afghanistan right now?

General SHINSEKI. Sir, I will do the best I can. I have just returned this morning from Europe and I know there has been a lot of coverage in the press, so I am not sure exactly what you have been provided.

But I think you know that for some time there has been evidence that there has been a group of folks moving in and around the area. We have frankly been trying to pin them down. We finally have, and in doing so we have put large conventional forces in. This is why you see the 101st and the 10th Mountain involved in sealing off this area, along with other U.S. Special Operations formations, as well as allies.

Having sealed that area off where this force is not able to bleed its way out of a piece of terrain, they are now fixed in this Shahikot Valley and we have begun the process of eliminating them. Pretty good sized numbers. Exactly, numbers vary from report to report, frankly because they do not all show themselves at once. They have perfected the technique of firing on us with mortars and small arms fires, rocket propelled grenade's (RPG's), and then ducking back into holes that have been prepared for decades that go underground. Then we will bring fires on their position, and as soon as the fire is lifted they come back up. They are pretty savvy about how to do that.

So as we occupy positions—I think there are seven or eight positions that we were to occupy. We got into the first six and then ran into their locations, and we have been now for 4 days in the thick

of it. They are taking casualties in large numbers, but there are sufficient left that there is a good tough fight going on.

There are stories of heroism that will come out eventually, but tremendous youngsters that have done the tough fighting. Ultimately, after you have delivered all the fires you can, if they are determined to resist then you are just going to have to get in the holes with them and root them out. This has been true for every combat operation this Army has been in for as far back as any of us can read the history.

This will be resolved. We will get it done. The tremendous youngsters that you saw on your visits are the youngsters that are performing these tough missions and we are mighty proud of them.

Senator INOUE. Thank you very much.

Senator Stevens.

Senator STEVENS. You are right. We saw them. We saw them loading up and had a good idea where they were going. As a matter of fact, they are great.

MILCON FOR IBCTS

I have one question and then a short statement. I asked you a little bit about the brigades. We are looking now at MILCON and for the Interim Brigade Combat Teams I am disturbed to see that under the Army's current proposed MILCON time line the initial operating capability (IOC) for the brigade team is not reflected in the request for MILCON. There is an unfunded requirement not only for Alaska, but for Hawaii.

At each location I was told there is a \$200 million to \$700 million training and maintenance facility requirement for readiness, training, and deployment, and that is not in the line. If it is not in the line, you are not going to meet your IOC of 2005. Would you take a look at that, please?

General SHINSEKI. I will, Senator. I alluded to this a little earlier. When we stood up these brigades and identified where they were going, we could put training dollars and operations and maintenance dollars against the unit, but we have been playing a bit of catch-up because the budget submit went in and we could not tie all the pieces together. Most of that had to do with installation support, MILCON activities. So that is why you see them arrayed as they are.

Senator STEVENS. Well, the Alaska one is supposed to begin to convert in 2003, but there is not money in the budget for them to start that in terms of MILCON.

General SHINSEKI. I believe 2004 is when we actually will stand that up. But there is a requirement, you are absolutely right, to begin that work even today, this year and next year.

PROTECTING SOLDIERS

Senator STEVENS. This last comment—I know Senator Domenici is here and others. I hope you do not misunderstand this, but I remember hearing here when we were talking about systems and a suggestion came from this side of the table to upgrade the Patriot from an anti-air to an anti-missile system. I am disturbed to hear today that we do not have right now an answer to those mortars. I would urge you to look at some systems.

It is harsh to say, but six Predators cost less than one Comanche and they are available now. They can be bought by the end of the year. I would hope you look at the systems you need. I know that is Air Force, but those guys ought to be out there protecting their people in Afghanistan right now, unmanned aerial vehicles, and now they are capable of lethal response. I would hope that you would look at that, because it bothers me to think, after seeing the things we have seen lately in "Blackhawk Down" and "We Were Soldiers," that we might be sending people out there without the ultimate in protection that they need.

So if you need it you should ask us. We would like to work with you. We like to see you be adaptable to the systems that are available now that can get over there quickly.

General SHINSEKI. We will. There was not the attempt to say that we are not having Predators available to the forces there. Having used it myself, I know the great capability there and I am sure that the commanders on the ground have access to it.

Senator STEVENS. Thank you.

Senator INOUE. Thank you.

Senator Shelby.

TECHNOLOGY MATURITY

Senator SHELBY. Thank you again, Mr. Chairman.

General Shinseki, I just want to make a few statements, then ask you a question. Regarding the technology maturity gap that I mentioned earlier with the Secretary, I want to illustrate my concerns and ask some questions using the Netfires system as an example. The Future Combat Systems (FCS) concept is not viable without a precision standoff lethal capability against stationary and moving armor, as well as other targets, because no protection system has been developed to my knowledge that will allow an 18-ton FCS vehicle to survive a direct fire engagement with any main battle tank.

Netfires is the FCS precision standoff lethal capability under development at the Defense Advanced Research Projects Agency (DARPA). Netfires is an extremely complex and ambitious system of systems. It consists of two missiles: a precision attack missile and a loitering attack missile. They operate in a complex multimode, multi-link radio frequency (RF) network. Each missile is a node able to communicate with other missiles, relay aircraft, ground stations, forward observers, and vehicles.

The loitering attack missiles (LAMs) have LADAR seekers, the precision attack missiles (PAMs) have imaging infrared seekers. LAMS can find targets for PAMs and loiter for up to an hour and attack targets themselves. In addition, Netfires operates autonomously—no man in the loop. This means the system must rely on automatic target acquisition and recognition.

In concept, Netfires meets FCS requirements and would be a great capability on the battlefield, except the RF network which would be embedded in and part of the FCS command and control network faces significant technical hurdles in the areas of operating bands and required frequency bandwidths. RF data links of the type required are inherently vulnerable to RF jamming. Making them more jam-resistant increases the complexity of antennas

and processors and problems with integrating them with the missile structure and aerodynamic configuration.

This takes time and money and there is no guarantee of success. Netfires operates autonomously, as I said, and must rely on automatic target acquisition and recognition. But in spite of years of work, no acceptably reliable automatic target acquisition/automatic target recognition (ATA-ATR) technology is available. While significant progress has been made, particularly in the L-A-D-A-R, LADAR, technology, there is significant risk that an acceptable level of performance is still many years away.

Netfires I understand intends to rely on the global positioning system to achieve the high navigational accuracy to bring the missiles in very close to the target location for better ATR reliability and to compensate for the low resolution.

Netfires has been rated as high risk for demonstrating even a minimal capability without the network capability to meet the May 3rd deadline for entry into SDD. I believe this example that I have been trying to relate here is instructive and deserves our serious consideration and yours. Given the status of the technologies, how can the Netfires system hope to meet its May 3rd milestone for entry into the SDD?

General SHINSEKI. May 2003 entry.

Senator SHELBY. Yes, that is right.

General SHINSEKI. I think, Senator, you have given us a good summary and also described the challenges.

Senator SHELBY. It is not much of a summary.

General SHINSEKI. It is what we wrestle with. Some have described technology like good wine: It takes time.

Senator SHELBY. It takes time.

General SHINSEKI. Some of this will not be ready in May 2003, and what we, the Secretary and I, have to lay out is a decision process that says that this will never deliver what we want, stop funding it, and do not put another dollar at it, or this is not ready—

Senator SHELBY. Or show where it will.

General SHINSEKI. Absolutely. Or there is potential here and it is worthy of continued investment at some level, either at a very low level or at a modestly aggressive level. We are in fact putting in place these decision processes that have scientists and engineers, all the experts available to us. We have also looked beyond—you were talking about our RDEC's and our own labs, which have been tremendous performers in the past.

Senator SHELBY. It has brought you to where we are today, has it not?

General SHINSEKI. That is correct.

Senator SHELBY. R&D. The Secretary alluded to that earlier.

General SHINSEKI. That is correct.

But over time we have also migrated some of our capabilities that used to be resident in the labs and they are out there in industry.

Senator SHELBY. That is where it goes.

General SHINSEKI. What we have to be smart enough to do is to be able to vacuum all that information, see what is going on out in industry. We have pretty good indications from industry that

they are willing to partner with us. Of course, it involves dollars. But there is international industry as well that have some S&T ventures that we are not aware of and we continue to try to find out what is out there.

But for us it is about getting the technologies we need, having a mechanism that says this will be ready, and invest in it.

Senator SHELBY. Making smart decisions based on what you see.

General SHINSEKI. That is correct.

Mr. WHITE. That is one of the reasons we are going to a lead systems integrator (LSI). It recognizes the complexity of piecing together components of technology with the relative maturation schedule, which is precisely why we are going to bring an LSI on probably tomorrow.

SPACE AND MISSILE DEFENSE COMMAND

Senator SHELBY. General, in another area in a sense, but similar, is the Army considering dissolving the U.S. Army Space and Missile Defense Command (SMDC)? If so, what is the impact to the civil servant, military, since you are the Chief of Staff, contractor work forces, in my area Redstone Arsenal, in other locations where SMDC activities exist, such as Colorado Springs, White Sands Missile Range, Kwajalein, and so forth?

General SHINSEKI. You asked are we thinking about evolving?

Senator SHELBY. Yes, sir, dissolving, and if you are——

General SHINSEKI. Dissolving? No. I misunderstood you.

Senator SHELBY. Dissolving.

General SHINSEKI. I thought you asked evolving.

Senator SHELBY. No, dissolve.

General SHINSEKI. As far as I am concerned, the Army has a role in space.

Senator SHELBY. Absolutely. We have defended that a long time.

General SHINSEKI. Yes, that is correct. And SMDC is our organization that——

Senator SHELBY. Is your key component there, is it not?

General SHINSEKI. Absolutely. We do have an Army space program. It is hard to define what clearly today, what that role in the future is going to be, but 2 years ago we had a hard time defining what Army transformation was going to be as well. Just as important as transformation is to this Army in its ground responsibilities that is tied to this terrestrial globe, we do have a role for the Army in space, and SMDC will keep us in that discussion.

Senator SHELBY. You and the Secretary plan to defend that role, do you not?

General SHINSEKI. We do.

Mr. WHITE. Yes, we do.

Senator SHELBY. Thank you.

Thank you, Mr. Chairman.

Senator INOUE. Senator Domenici.

PATRIOT ADVANCED CAPABILITY-3 TESTING

Senator DOMENICI. I do not have very many questions, Mr. Chairman, so I will move with dispatch. I just did not want to fail to come by and greet the Secretary and see you, General. Perhaps

after we finish here I could talk with you about Walter Reed and what they have done to be helpful to this Senator.

Could I ask, Mr. Secretary: The Army recently tested the Patriot Advanced Capability (PAC-3) air defense missile at White Sands, and it missed its cruise missile target. What is the Army's plans for future testing of PAC-3 at White Sands Missile Range?

Mr. WHITE. We are going to continue to test it. We have had many successful engagements with PAC-3. PAC-3, of course, has been sent back to us for management from the Ballistic Missile Defense Agency at the Office of the Secretary of Defense (OSD) level. It has had many successful engagements. That particular one was not. The preliminary conclusion is because of some faulty settings and not any fundamental difficulty with the missile itself. So we are very bullish on the PAC-3 capability.

Senator DOMENICI. Do you know when it would be deployed?

Mr. WHITE. I would have to get you that for the record.

Senator DOMENICI. Would you, please.

[The information follows:]

PATRIOT ADVANCED CAPABILITY 3 (PAC-3) DEPLOYMENT

The initial Patriot PAC-3 deployment occurred in September 2001. This fielding was to the Air Defense School at Fort Bliss, Texas, and provided equipment for troop training. This year we are fielding PAC-3 to the Patriot battalion in Korea. Starting in fiscal year 2003 we will field PAC-3 at the rate of one battalion per year. This fielding schedule synchronizes with the ongoing Patriot recapitalization program which will provide the Patriot battalion with system equipment which will have been refurbished to zero miles and zero hours condition. The end result is a like-new Patriot battalion that is fully PAC-3 capable.

General SHINSEKI. There are four tests, of which this first test was test one. The next test goes on March 21 and the deployment decisions will be driven by how these tests turn out.

Senator DOMENICI. Thank you very much.

DIRECTED ENERGY WEAPONS

I have long been a proponent, along with a number of Senators of directed energy and the weapons systems that are evolving around that. Just last month I visited a joint technology office that will serve the tri-services in their efforts to exploit directed energy applications. That is going to be in my home city of Albuquerque as I understand it. This technology can play a vital role in making both our interim forces and our long-range objective forces more lethal while simultaneously reducing the risk of collateral damage, which I imagine you worry about every day as you look at Afghanistan.

Could you please update us on the status of the negotiations with Israel with reference to the Tactical High Energy Laser (THEL) System.

General SHINSEKI. May I provide that for the record, Senator?

Senator DOMENICI. Indeed.

[The information follows:]

TACTICAL HIGH ENERGY LASER NEGOTIATIONS WITH ISRAEL

I fully agree with your assessment that directed energy weapons have a vital role in the Transformation to the Objective Force. The unprecedented success of the cooperative U.S. Army/Israeli Ministry of Defense Tactical High Energy Laser (THEL)

advanced concept technology demonstration program was crucial in our assessment of this leap-ahead technology.

The Mobile Tactical High Energy Laser (MTHEL) program will serve as a pathfinder to this advanced weapon capability. The MTHEL program will place the first U.S. high-energy laser weapon prototype in the hands of U.S. Army warfighters. The warfighters will use the prototype to develop the tactics, doctrine, and other warfighting elements necessary to integrate this new capability into the Objective Force.

The MTHEL program will provide Israel an increased capability to protect its population, infrastructure, and forces from attack by terrorists or conventional forces. This capability is important at this time of heightened tension in the Middle East and may play an important role in U.S. peace initiatives for the region.

The U.S. Army is engaged in informal discussions with the Israeli Ministry of Defense concerning collaborative development of the MTHEL weapon system prototype. The purpose of informal discussions is to lay the foundation for future formal negotiations and to identify areas to be given emphasis during those negotiations.

The informal discussions have identified many areas of mutual interest and general agreement in principle. There are a few remaining areas that both parties continue to discuss. The current informal discussions will form the basis for successful negotiations that will enable the U.S. Army to collaborate with the Israeli Ministry of Defense in the development of the MTHEL weapon system prototype.

The U.S. Army framework for the discussion is to insure U.S. national security interests are protected and to insure compliance with U.S. laws and policies. The U.S. Army is committed to resolve any issue that may arise in the current informal discussions or future formal negotiations and to resolve such issues in the context of this basic framework.

General SHINSEKI. I am not as current on the negotiations with Israel. But as you know, we do have a very active THEL program, high energy laser program, and it is part of the dimension in technology that we are looking at for future combat capability.

Senator DOMENICI. My last question has to do with how you intend to pursue directed energy, so let me ask, how will the Army synchronize the development of directed energy weapons with your Future Combat System concept? I assume it would surely, at least at this stage, be a part of that.

Mr. WHITE. It is.

Senator DOMENICI. Who wants to do that?

General SHINSEKI. I would tell you that we are looking at a broad range of technologies and all I can tell you at this point is that high energy lasers and other systems are part of that look.

Senator DOMENICI. What I am concerned about, and that is why I asked how are you going to go about synchronizing the development of the directed energy weapons as you put together your Future Combat Systems, is because some things may be ahead of others. Nevertheless, directed energy weaponry is surely gaining and getting close to a point where it ought to be considered as part of, clearly as part of the Future Combat System. I just wondered how you were doing that. Is my assumption correct?

Mr. WHITE. Yes, it is correct in that we view it as a part of the long-term solution here. The question obviously will be what is its state of maturity when we get ready to field the first block or will we pick it up in a subsequent block as we expand the Objective Force capability.

Senator DOMENICI. I thank you.

Thank you, Mr. Chairman.

Senator INOUE. Thank you.

Senator Specter.

ADEQUACY OF FUNDING

Senator SPECTER. Thank you, Mr. Chairman.

The Armed Forces have distinguished themselves in the military operations in Afghanistan, and this is really great to see. There has been very substantial funding for the Department of Defense in the period that I have been here and, under the principle that you get what you pay for, we have been very pleased with your success.

Are you adequately funded up to the present time to continue to carry on an aggressive war in Afghanistan, General?

General SHINSEKI. Well, sir, I will tell you that this is a good budget and it allows us to address some long-term issues that were in need of attention.

Senator SPECTER. Before you get to this budget, I am concerned about the existing budget. Do you have sufficient funds in your existing budget to carry on the aggressive war in Afghanistan?

General SHINSEKI. Well, we spend about \$360 million each month to address the war, the global war that we are currently conducting. That burn rate, if you will, probably carries into about April. But beyond that, early April, the Army will have to pull fourth quarter training money forward and begin to spend it on financing this war on terrorism, in anticipation that there will be a supplemental that will help pay that so that we can then return moneys to fourth quarter training.

To answer your specific questions, we are good for this month and then I run into a cash deficit problem and I have got to start flowing money from the fourth quarter.

Senator SPECTER. You may prefer to answer this in closed session or in a private conversation, but what is your strength and what are your resources, if the war against al-Qaeda moves into other quarters—the Philippines, Yemen, Somalia, or perhaps other places? Do you have adequate resources in your Special Operations to carry on that kind of a worldwide campaign that the President has talked about?

General SHINSEKI. Not in the budget as we see it. We would have to be supplemented to address these unanticipated requirements.

Senator SPECTER. With an increase in the budget of some \$46.1 billion for next year, bringing the total budget to \$396.8 billion, is there sufficient funding there to carry on the aggressive war against al-Qaeda, wherever it may lead?

Mr. WHITE. I think the intent in structuring that budget—and Secretary Rumsfeld has testified to this and so has the Deputy Secretary—was that at \$379 billion, I think is the total defense budget, that there are funds of about \$10 billion in there that would assume that we would continue this war at least at its current level through 2003, and that is what the \$10 billion was there to address, so as to make it more unlikely that a supplemental will be required in 2003 as it obviously will be required in fairly short order here in 2002.

Senator SPECTER. Are you suggesting that you cannot anticipate the adequacy of this budget depending upon how many fronts you are fighting and that you may need a supplemental beyond this budget for fiscal year 2003?

Mr. WHITE. No. I think that the intent was to structure the budget to deal with the foreseeable level of effort that is our best estimate and the budget was sized accordingly. Consequently, there is a need for a supplemental this year. The intent was to organize the budget so that it would be far less likely next year.

Senator SPECTER. The President has talked about the “axis of evil” and Secretary of State Powell made a statement that we are not about to go to war against Iran and that we are not about to go to war against North Korea. The noteworthy absence was Iraq. Do we have sufficient resources, General—and you may prefer to answer this not in a public session—in the Army Special Operations to carry on a military operation against Iraq at the same time we are fighting al-Qaeda in the various places now under attack?

General SHINSEKI. Senator, I think any more detailed discussion would be best privately. But I would go back to what I indicated here just a few minutes ago. In terms of paying for the increased operations that we have right now, I am paying about, the Army is, paying about \$365 million a month for these increased operations. At the rate at which we understand there is an inventory of funds available, that runs out in April and the Army would then have to be able to pay internally to keep whatever operations going, whether it is the current operations against al-Qaeda or any expansion.

So there would be a requirement for additional funding.

Senator SPECTER. You had started to say earlier, General, before I came back to my original question, that this budget would enable you to do some things you had wanted to do and planned to do. What are they?

Senator LEAHY. Well, I think, as I have indicated, this budget, there is a \$10 billion increase in the 2003 budget. About \$3.3 billion of that \$10 billion goes toward health care programs. These are programs we have not been able to pay much attention to. Really, while it comes to the Army, it flows through the Army and goes the Defense Health Services.

About \$2 billion, \$1.9 billion of that \$10 billion, goes to compensation, which covers pay and allowances that together the services and this Congress has found a way to take care of our youngsters. About \$1 billion of that goes to pricing, fact of life adjustments and pricing. But about \$3 billion of that \$10 billion goes into programmatics, such as recapitalization of our Legacy Force that we have today, trucks, and about \$900 million into a variety of other small programs that, when brought together, come out to about \$1 billion.

So there are things that we have addressed in this budget that we have not been able to do in the past. After years of lack of attention, we will not fix it in a single budget, but this is a good move in the right direction.

Senator SPECTER. Thank you very much, General.

MILITARY HERITAGE INSTITUTE

Mr. Secretary, the U.S. Military Heritage Institute at the Carlisle Barracks has been waiting for the Army to award a contract to begin construction of the first building. The funding has been set

forth in the initial proposals and we have appropriated \$500,000 in the fiscal year 2002 MILCON appropriation bill for the next phase. They had scheduled the groundbreaking for November. They are still standing around in Carlisle waiting to do the spade work.

When do you anticipate awarding a contract for the project?

Mr. WHITE. Well, I will check for the record, but my commitment when you and I talked about this before was that we were going to keep this on schedule and that is my intent. I was just up there last month. I will check into it, but it will happen.

Senator SPECTER. Okay. Please let me know.

Mr. WHITE. I will do that.

Senator SPECTER. I would appreciate it. My phone rings off the hook on that red line from Carlisle.

Mr. WHITE. If I can get you to agree to show up, I will be there as well.

[The information follows:]

MILITARY HERITAGE INSTITUTE

Because the project's requests for proposal were over the program amount, the Corps of Engineers and Department of the Army had to obtain approval for additional funds and authority to award the contract. Department of the Army is working this proposal to resolve the funding issue, and we anticipate contract approval soon.

Senator SPECTER. Okay. One final question about a State interest. The Paladin howitzer, which is manufactured in my State obviously, has been endorsed for acquisition by the Army National Guard. This may not be on the top of your agenda, but if you could take a look at that and give me a response in writing I would appreciate it.

Mr. WHITE. I will do that.

[The information follows:]

ARMY NATIONAL GUARD PALADIN ACQUISITION

There are three Army National Guard (ARNG) unit groupings that are Paladin claimants—the Enhanced Brigades, Corps Artillery, and National Guard Divisions. Paladins have been provided, either by procurement or cascading from restructured active Army force units, for all Army National Guard Enhanced Brigades and Corps Artillery units. The Army National Guard Divisions are not equipped with Paladins.

In November 2001, the ARNG requested that the Army provide Paladins to three selected National Guard divisions—the 40th Mechanized Division (California ARNG), 28th Infantry Division (Mechanized) (Pennsylvania ARNG), and the 49th Armored Division (Texas ARNG).

The ARNG requested that the Department of the Army support the Congressional initiative for the procurement of 54 Paladins in fiscal year 2003. The Paladins were assigned as requested, and 54 Paladins for the ARNG were placed on the Army's fiscal year 2003 unfunded requirements list.

When successfully completed, the program will provide Paladins for the three ARNG divisions. Any future assignment of Paladin howitzers to additional ARNG divisions will occur as a result of the cascade generated by the future fielding of the Crusader self-propelled howitzer.

ADDITIONAL COMMITTEE QUESTIONS

Senator SPECTER. Mr. Chairman, I have some questions to submit in writing if I may. Thank you very much.

Senator INOUE. Mr. Secretary, General Shinseki, I thank you very much for your appearance and your testimony this morning. We look forward to working with you in the days ahead.

[The following questions were not asked at the hearing, but were submitted to the Department for response subsequent to the hearing:]

QUESTIONS SUBMITTED TO HON. THOMAS E. WHITE

QUESTIONS SUBMITTED BY SENATOR DANIEL K. INOUE

HOMELAND DEFENSE

Question. Secretary White, after September 11th you were named the Department's Executive Agent for homeland defense. What can you tell us about this role and will this be a permanent mission for the Secretary of the Army?

Answer. The Secretary of Defense appointed me the interim DOD Executive Agent for Homeland Security on October 1, 2001. Along with this appointment came the responsibility to accomplish three major objectives: unification of homeland security efforts within the Department and development of the plan to stand up an organization within the Office of the Secretary of Defense which will serve as the Department's focal point for homeland security policy, planning, and resource allocation; develop operational solutions for the future; and enhance Departmental cooperation with Governor Ridge's Office of Homeland Security and other Federal agencies in regards to homeland security issues.

The Secretary of Defense will direct the Deputy Secretary of Defense to lead a transition effort to establish a staff, at the appropriate level within the Office of the Secretary of Defense that, when established, will assume homeland defense and civil support responsibilities. The leader of that organization will then assume the responsibilities as Executive Agent for Homeland Security. Initial operating capability for that organization is projected for some time this summer.

MILITARY PERSONNEL END STRENGTH

Question. The demanding personnel tempo (PERSTEMPO) driven by the war on terrorism and the increased pace of deployments since the end of the Cold War has put a significant strain on the force and its families. According to your testimony, there are currently more than 124,000 soldiers and 38,000 civilians from the Army Active, Guard, and Reserve stationed in 110 countries around the world. In order to maintain the force, to date has the Army been meeting its accession requirements in fiscal year 2002?

Answer. The Army has met its accession requirements in all three components. For the Active Component, the year-to-date accession requirement through the end of February was 29,350 with 29,904 achieved. The Army Reserve requirement was 17,008 with 17,194 achieved. The Army National Guard requirement was 25,132 with 27,150 achieved.

Question. In addition to bonuses given to personnel with specialized skills in areas where the Army is experiencing shortfalls, is the Army considering targeting pay raises for personnel with critical skills, such as nurses, maintenance personnel, and pilots?

Answer. The 9th Quadrennial Review of Military Compensation did take into consideration the issue of pay banding for specific skills, but suggested more study was necessary.

ARMY NATIONAL GUARD AIRCRAFT

Question. Secretary White, the Committee has been informed that the Army National Guard's entire fleet of OH-58 and Huey helicopters is slated for deactivation over the next several months. What is your plan for fielding the additional Black Hawk helicopters that will be required by the Army National Guard to replace these assets? How great a shortfall does this create, with only 12 Black Hawks included in your fiscal year 2003 request?

Answer. The National Guard will have more than 270 UH-1s at the end of fiscal year 2002, 103 UH-1s by the end of fiscal year 2003, and none by the end of fiscal year 2004.

At the end of fiscal year 2001, the National Guard had 520 UH-60s, with a scheduled end strength in UH-60s of 686. The Guard will receive between 103 and 141 by the end of fiscal year 2003. The difference in the fiscal year 2003 numbers is attributed to the UH-60s retained by the 101st Air Assault Division, which prior to Operation Enduring Freedom were scheduled to cascade in fiscal year 2002. The Guard will receive the balance of 25 through fiscal year 2009.

The replacement aircraft for OH-58 A and C model aircraft in divisional cavalry squadrons will be AH-64s. By the end of fiscal year 2004, eight AH-64s will replace the 16 OH-58s in each squadron.

The OH-58s in the Reconnaissance and Aerial Interdiction Detachments (RAIDs) are operated by the National Guard, funded with counter-drug dollars, and sustained from the Army parts stocks. Once the Army's OH-58 parts stocks have been exhausted, operating costs of the RAID OH-58s will increase, perhaps triple, as procurement of spare parts transitions from the Army's OH-58 supply system to commercial parts vendors. The transition to commercial parts vendors will require either a significant increase in counter-drug funding to continue operating the RAIDs at current operations tempo, or a reduction in the hours flown. We have notified the Department of Defense of this concern.

Question. Has any consideration been given to leasing helicopters to help mitigate the Guard's aircraft shortfalls?

Answer. Yes, leasing has been considered as an option, but the plan to provide the National Guard with up to 141 aircraft by the end of fiscal year 2003 made leasing unnecessary. A study conducted in June 2001 showed that leasing 30 UH-60s over five years would cost the Army \$445 million, while purchasing the same number would cost \$388 million.

QUESTIONS SUBMITTED BY SENATOR THAD COCHRAN

COMPOSITE MATERIALS

Question. Secretary White, as you seek to develop systems that are lighter, yet equal or greater in strength and requiring less maintenance than current conventional systems, what role do you view composite materials playing in the Army's Transformation?

Answer. Composite materials will play an important role in Army Transformation. Army laboratories are conducting basic research in the areas of advanced polymer composites and structures to create materials for Army-unique applications that are lighter and more affordable, yet provide improved strength, reliability, durability, and are environmentally friendly. These composite materials will be used to reduce the weight of the Future Combat Systems while maintaining structural strength, integrity, and system survivability. The resulting systems will be significantly lighter, more deployable, more sustainable, and more cost effective than current systems. The promise of polymer composites is based on their ability to withstand high-impact forces, leading to increased system survivability.

Composites will play a major role in the transformation of our aviation systems. We have invested heavily in structures science and technology over the last 25 years. Our initial investments paved the way for Comanche aircraft to be the Army's first all composite aircraft. The airframe on the #1 and #2 prototypes is more than 20 percent lighter than an equivalent metal airframe. A recently completed Army Science and Technology Objective (STO) has demonstrated the ability to further reduce weight by an additional 15 percent as well as reducing manufacturing labor costs by 25 percent. This technology has transitioned to the Comanche program and will save weight on aircraft #3 and each subsequent aircraft. A new Army STO is starting this year and is expected to make further strides in weight and affordability while also focusing on the issues of survivability and repair.

In the ground combat vehicle community, a major advance in ballistic hull and turret structures was successfully demonstrated in the late 1990s. Called the Composite Armored Vehicle Advanced Technology Demonstrator, the technology demonstrated a 35 percent reduction in weight over the traditional metal armor solution. For this reason, the technology has been adopted for incorporation in the Crusader howitzer and resupply vehicle turret and upper hull structures and will replace major structures traditionally made from aluminum.

Composites in the ground vehicle community likewise apply to the wheeled vehicle fleet—a commodity which today remains largely metals-based. Initiatives are underway to extend the Army's technology and experience from the combat world to the wheeled vehicle support fleet of trucks and trailers to achieve the benefits of weight reduction and enhanced durability. For future new trucks and trailers, the Future Tactical Truck Systems and 21st Century Truck are two examples of programs which will exploit the use of composites and pave the way for even broader applications of composites.

Beyond vehicles, the opportunity for composites in Transformation is great. Support systems ranging from combat bridging to shipping and storage containers, even

simple items like vehicle tow bars all derive significant weight savings from composites and support deployability goals for the future force.

In the long term, I expect to see composite material technologies transition to most of our Objective Force systems through block improvements or major model upgrades.

FOREIGN LANGUAGE EXPERTISE

Question. Secretary White, in September 2000, I chaired a hearing in the Government Affairs subcommittee where witnesses described serious deficiencies in foreign language expertise among federal employees who work in the U.S. national security area. A recent GAO study, publicly released yesterday, identifies a 44 percent shortfall in Army translators and interpreters in six languages considered critical. The report also highlights significant shortages of cryptologic linguists and human intelligence collectors in a number of critical languages. Obviously, the war on terrorism presents a growing challenge in this arena, not only for the Army but also for other agencies that contribute to our national security.

Do you see an urgent need to increase organic, advanced language skills? If so, how does the Army plan to meet this shortfall?

Answer. Yes. The global war on terrorism has again demonstrated that even though the Army is prepared to meet anticipated challenges, we must have a strategy to quickly augment its linguist force to fill unanticipated requirements. As detailed in the Army Language Master Plan, the Army's strategy, currently being applied to the war on terrorism, is to rely on its existing linguist force in both the Active and Reserve Components, soldiers in non-linguist specialties who have the requisite language skills, and contract linguists. In addition, the Army has soldiers training in languages specifically to fill requirements for the war. Generally, the advanced language skills the Army requires comes from soldiers pulled from other specialties and contract linguists hired for their native or near-native level proficiency.

Question. Secretary White, has the Army taken advantage of the language expertise in the DOD's National Security Education Program by hiring scholars or fellows from this program?

Answer. The Army hired three individuals who have completed the National Security Education Program (NSEP), and the National Defense University hired five more. The vast majority of the Army's linguist requirements are for enlisted soldiers who begin their career as privates first class if they have a college degree upon enlistment. Individuals who have completed the NSEP are more suited for civilian positions that require a foreign language skill. The most recent information indicates that worldwide, only 330 Army civilians use foreign language skills in their jobs.

Question. Secretary White, is the Army reaching out and utilizing language training resources in the academic sector and in the nation's ethnic communities?

Answer. Yes. The Army routinely has soldiers attending college language classes, primarily for foreign language maintenance and enhancement. Few, if any, soldiers are sent to college language courses for language acquisition, as it is generally believed to require four years of college language training to achieve the proficiency provided by the Defense Language Institute Foreign Language Center (DLIFLC) in 24 to 63 weeks. Language instructors are hired from both the academic sector and ethnic communities for initial acquisition training at DLIFLC and maintenance and enhancement training. Also, as noted in the recent General Accounting Office report, the Army has an aggressive program in place to recruit within ethnic enclaves. The U.S. Army Recruiting Command (USAREC) has soldier-linguists assigned whose primary responsibility is increasing the number of skilled linguists enlisting in the Army. They accomplish this through education of recruiting and Military Entrance Processing Station personnel, development of relationships at colleges and universities that have foreign language programs, and establishment of rapport within ethnic enclaves. These efforts will be greatly expanded beginning in October 2002 as USAREC has documented a requirement for nearly 800 additional foreign language-capable soldiers to serve as recruiters.

HYDRA-70 ROCKET SYSTEM

Question. Secretary White, I am concerned with the decision to slash funding for the Hydra-70 rocket system in fiscal year 2003 by nearly 84 percent, at a time when our nation's front-line forces are deployed with these systems in Afghanistan and other countries. This seems to be inconsistent with the direction provided by this committee last year and could put combat readiness at risk. How does the Department plan to maintain the combat proficiency of aviators with such dramatic reductions in the procurement of training rockets?

Answer. The Army has been asked to make tough choices to move the military toward Transformation. This is a clear example of where the Department has decided to move forward and accept risk by reducing the amount of Hydra-70 rockets procured and move toward rocket technology that will give the warfighter a low-cost, precision engagement capability that he does not possess today. The Army anticipates no change to current training strategies for the next two years. However, we are reassessing rocket strategies as part of a continuing and ongoing review process. This strategy is tied closely to the fielding of the Advanced Precision Kill Weapon System (APKWS).

Question. Secretary White, I understand that the rocket system which will replace the Hydra-70 will not be ready for fielding until after fiscal year 2006. How will the Army address the recapitalization of the 2.75-inch war reserve that is aging and less capable than the current production configuration?

Answer. The Army will not fund the recapitalization of the 2.75-inch war reserve.

Question. Secretary White, I understand that the Army is the single manager for procurement of this vital munition for all the Services. Based on your decision to cut procurement of the Hydra-70 rocket for the Army, how will you mitigate future cost increases to the Air Force, Navy and Marine Corps who have increased procurement of this vital weapon system?

Answer. The fiscal year 2003 President's Budget sets the stage for the Army's transition from the Hydra-70 program to the APKWS. When developing the transition plan, the Army attempted to address the needs of our sister Services. We understand that there will be a short-term decrease in Army requirements for Hydra-70 rockets to provide funds for research and development of the APKWS. In making this decision, however, we recognized that there are Foreign Military Sale purchases of Hydra-70, as well as Air Force and Navy requirements that will be filled. During the transition, the Army will remain engaged with the current industrial base in the production of both the Hydra-70 rocket and the APKWS because many of the components are the same for both systems.

QUESTIONS SUBMITTED BY SENATOR CHRISTOPHER S. BOND

SENIOR DOD PROPONENT

Question. I understand the senior proponent at DOD for Chemical and Biological matters is an Army colonel. The Army is the Executive Agent for all DOD in this area. I am gravely concerned that this is an insufficient rank to break through the bureaucracy in the Pentagon to ensure our CBRNE resource requirements are sufficiently represented. I don't think the Department realizes that if our forces are unprepared for the next terrorist attack, be it at home or abroad there is going to be an uproar if it is established that we knew about the CBRNE threat but did not respond sufficiently to counter it. Is assigning the rank of colonel to the senior DOD Chemical/Biological proponent an indication of the priority that DOD is giving to chemical/biological/nuclear and radiological activities?

Answer. Dr. Anna Johnson-Winegar, a deputy assistant to the Secretary of Defense, is the senior proponent in the Office of the Secretary of Defense (OSD) for chemical/biological matters. The senior military at OSD is an Army colonel who serves as Dr. Johnson-Winegar's deputy.

Because of the priority the Chemical, Biological, Radiological, and Nuclear (CBRN) program has come under since September 11, the Joint Requirements Oversight Council recently approved standing up an interim CBRN Joint Requirements Office on the Joint Staff to develop the proposed organization charter and strategic campaign plan.

CIVIL SUPPORT TEAM COORDINATION

Question. Our current state of readiness in the chemical/biological/radiological and nuclear area is of great concern to the nation. In your opening testimony for the record you stated that the Army had "trained and certified Weapons of Mass Destruction Civil Support Teams ready to assist civil authorities and had trained 28,000 civilian first responders in 105 cities." However, the GAO report on Combating Terrorism, dated 20 September 2001, indicates that the National Guard Teams continue to experience problems. According to the DOD Inspector General, the Army's process for certifying the teams lacked rigor and would not provide meaningful assurance of their readiness. As a result the program schedule has slipped.

I know we've got turf battles going on within the federal agencies and that our coordinating efforts need to be improved. It is essential the Department of Defense,

and more specifically our military related homeland security efforts be coordinated with federal agencies and local and state civil authorities. Additionally, officials with the two agencies responsible for managing the federal response to a terrorist incident—the FBI and FEMA—continue to be skeptical about the role of the National Guard teams. Who do they report to? When are they deployed? And are they capable of effectively performing the mission in coordination with the other federal, state, and local agencies. Are you certain that the level of support and coordination between the Guard and the Army is sufficient to address the concerns revealed by this GAO report?

Answer. Weapons of Mass Destruction—Civil Support Teams (CST) are organized under Title 32 and, until ordered to Title 10 federalized status, fall under the day-to-day command and control of the respective governor (through the Adjutant General). If called to duty in a federal, Title 10 status, CSTs report through the chain of command established for deploying military response forces under the respective unified command. In both instances, the CST's primary source of tactical directives is taken from the on-scene incident commander—typically a first responder from the affected area who has primary responsibility for the overall response and preliminary recovery operations at a suspected or actual incident scene.

There are three circumstances under which CSTs will deploy. The first circumstance is immediate response. Circumstances which in the view of the commander are so obviously urgent that immediate action is required to protect life/limb/property and in which there is insufficient time to seek authorization from higher authorities. All commanders have the obligation to take decisive action in response to an obvious circumstance, while simultaneously informing their chain of command of the situation and requesting guidance or authority.

The second circumstance is governor directed. The governor orders a CST to respond to incidents within their respective state or in response to a request for support from another state.

The third circumstance is Presidentially directed. The President, in response to a governor request, or unilaterally, orders the CST to a federal status to respond to a specified incident.

Since September 11, operationally certified CSTs have reported deployments 204 times. These responses range from full team deployments—such as extended operations in support of efforts in New York City to various suspected bio-terrorism events when required in less than full unit strength. None of these reported responses have been immediate response or Presidentially directed; rather, all have been the results of requests initiated by incident commanders through state emergency response systems. Of note, 22 of these deployments were undertaken in response to requests from states that do not have CSTs, whose CSTs were not yet certified, or in direct support of an operationally engaged CSTs.

In every case, once approved/directed by the governor, CSTs responses have been timely and have been identified as valuable to the first responder community. The capabilities currently embedded within the CSTs support the mission to “assess, assist, and advise” the incident commander. CSTs are designed to operate in an ambiguous tactical environment—a scene that will by virtue of the very nature be chaotic, ultimately involving response elements from many agencies and levels. However, following response doctrine, federal assets will not be called upon until local and state resources are exhausted. Following this logic, CSTs will legitimately be engaged before the first federal response element arrives, but as a state asset. This has been the case in every operational deployment to date the CSTs have responded to. However, if a broad federal response was directed (either at the request of the governor or direction the President), procedures are in place to employ CSTs in direct support of the lead federal agency. As with any new capability, we will continue to refine both operating parameters, equipment, and training sets to ensure these teams remain both cutting edge and vital to the first responder community.

The level of support and coordination between the Army and the National Guard on matters pertaining to the CST program is excellent. As an integrating force, the CST program has been effective, providing both a means and motive for further integration of the Active and Reserve Components. As a consequential benefit of the growth in the CST program, this factor reinforces the broader goals of the Army. Much has occurred since the GAO report you refer to was produced. First, and perhaps most significant, the Army leadership focused on this program, and as a result, an accelerated effort to train, equip, and evaluate an additional 17 CSTs resulted in certification in accordance with public law. This achievement represents an enormous accomplishment and was only gained through full partnership and cooperation across the range of the Army, as well as full support of the industry partners who support the Army's acquisition program. No shortcuts were taken. The compression of a nine-month process into essentially three months resulted from superior effort

by all the contributing commands, agencies, and companies, not to mention the superb efforts of the states and their soldiers and airmen.

In addition, the Army is currently conducting a Force Management Analysis Review (FORMAL) focused on the CST program. The FORMAL process directs and requires responsible staff and Major Command activities to participate and support issue identification and resolution. I anticipate that the FORMAL process will further integrate and institutionalize the CST program within the Army.

QUESTIONS SUBMITTED BY SENATOR MITCH MCCONNELL

FUTURE COMBAT SYSTEMS

Question. I have followed, and my staff has recently been briefed, on the ongoing Army plans for the Future Combat Systems (FCS) and the transformation to the Objective Force. I have great faith in the Army's ability to maintain the integrity and readiness of the Legacy Force while simultaneously transitioning to the Objective Force. I noted your comments today regarding the importance of FCS in integrating the highly complex technologies and systems that will make up the 21st Century Army, and I applaud your commitment to this critical process. What is the level of funding for the FCS during the 2003 budget year and for the program years following this fiscal year? How will these funds allow the Army to meet the complexities of the challenge at hand? What is the time frame for the FCS program?

Answer. Funding for the FCS in the fiscal year 2003 budget year is \$303.8 million and totals \$5,292.8 million for the fiscal years 2004–2007. Funding for the FCS comes from both the Army and the Defense Advanced Research Projects Agency (DARPA).

To meet the complexities of the challenge, the Army has partnered with DARPA for development of the concepts for the FCS. Our combined funding provides for the work on force concepts, requirements derivation, technology maturation, system integration, design engineering, and risk reduction leading to a first unit equipped in 2008 and an initial operational capability of a brigade-sized unit of action in 2010.

Question. Given that the FCS program is a joint Army-DARPA effort, could you elaborate on the role and funding level of each agency? In other words, could you elaborate on how much funding each agency will contribute and to which agencies, installations, or contractors will these funds be distributed?

Answer. DARPA is responsible for execution of the Lead Systems Integrator Agreement through the Defense Acquisition Board for Milestone B, including technical, procurement, and security. The Army provides the overall technical support for the DARPA FCS technology program until transition to an Army acquisition program. The funding associated with the collaborative demonstration portion of the program is cost shared 55 percent/45 percent by the Army and DARPA over the course of the Memorandum of Agreement, which extends through fiscal year 2005. In the fiscal year 2003 budget, the Army provides \$72 million and DARPA provides \$74 million towards enabling technologies. In addition, the Army provides \$50 million and DARPA provides \$48 million toward the FCS integrated system of systems design. Each agency will provide \$122 million towards a combined total of \$244 million in fiscal year 2003.

The Lead Systems Integrator team of Boeing and Science Applications International Corporation have several sub-contractors to include Strategic Perspectives, Inc.; Navigator Development Group, Inc.; Command Systems, Inc.; Parametric Technology Corporation; RedZone Robotics, Inc.; Krauss-Maffei Wegmann; and Cougar Software, Inc. In addition, study contracts will be awarded to a number of industry partners in the areas of command and control, communications, computers, intelligence, sensors, reconnaissance, combat, and supportability systems by the end of May 2002.

The DARPA program office is using the services of Booz Allen Hamilton, IIT Research Institute, Camber Corporation, Systems Planning Corporation, Schafer Corporation, Institute for Defense Analysis, Mitre Corporation, Systems Engineering Institute, CeBASE, and Commerce Basix.

Other governmental agencies and universities involved in the FCS effort include the U.S. Army Training and Doctrine Command (TRADOC) Requirements Analysis Centers, the TRADOC Objective Force Mounted Maneuver Battlelab, the Communications-Electronics Command, the Army Materiel Systems Analysis Activity, the Tank-Automotive and Armaments Command, the Sandia Labs, the Applied Physics Lab, the USMC Marine Expeditionary Force Fighting Vehicle Analysis, the United States Military Academy, and the University of Texas.

Question. General Shinseki, my staff was briefed that Fort Knox has been designated as the Unit of Action Center for FCS within TRADOC. Can you elaborate on the role that Fort Knox will play in FCS and the Army's transformation to the Objective Force? What roles will the Army Staff and TRADOC have in the FCS developmental effort?

Answer. The TRADOC commander has chartered the U.S. Army Armor Center and School at Fort Knox as the Objective Force Maneuver Unit of Action Proponent. They will lead the development and documentation of requirement products that TRADOC must deliver to support the Milestone B decision for the FCS in April 2003. The proponent will ensure all aspects of force development to include doctrine, training, leader development, organization, materiel, and soldier are addressed in the Army Transformation. The Unit of Action Maneuver Battle Lab at Fort Knox will work in concert with the Lead Systems Integrator, Future Combat Systems program manager, and the Army Staff to field the first unit of action by the end of this decade.

INCREASED OPERATIONS TEMPO

Question. Given the increased operational tempo and deployment of Army aircraft, specifically Black Hawk and Apache helicopters, how does the Army propose to maintain sufficient readiness and safety levels as it transitions larger numbers of airframes from the Active to the Reserve Components? Specifically, units such as the 101st Airborne have faced increased deployment, combat damage to airframes, fewer aircraft, and increased flying time per airframe. How does the Army plan for such units to balance maintenance and safety needs for these aircraft while keeping up with frequent deployment and operations tempo (OPTEMPO) training schedules?

Answer. The Army will move aircraft from the Active Component to the Reserve Components during the Aviation Transformation Plan, Interim Force. Although the numbers of aircraft in active units will be reduced, the number of mechanics will not, which should enable these units to maintain required readiness and safety levels. The Army will also increase the number of line pilots from a ratio of one crew per aircraft to 1.5 crews per aircraft in divisional AH-64 attack battalions and the 101st UH-60 air assault battalions to provide for increased operational capabilities.

We have delayed the Transformation of the 101st Air Assault Division due to their deployment status in support of Operation Enduring Freedom. We were able to mitigate the loss of a CH-47D with an operational readiness float (ORF) aircraft; however, this will not be an option in the near future because aviation transformation will distribute existing ORFs to fill unit authorizations. The Army will accept some risk in our operational aircraft fleet until we implement the Objective Force with the addition of the RAH-66 Comanche aircraft into the Army inventory. In order to sustain readiness of our aircraft, the Army is aggressively working to fund our spares requirement. We have identified an unfinanced aviation spare part requirement that we are working internally within the Army and the Department of Defense. Support to our essential Army aircraft continues to be one of our primary goals.

CHEMICAL DEMILITARIZATION

Question. The President's budget request ranks the chemical disposal program as "ineffective." Given the numerous delays, inconsistencies, and other problems that have plagued the Army's efforts to dismantle and dispose of chemical agents at stockpiles across the country, as well as the clear threat that these agents pose to the citizens who live near them, what steps has the Army taken to increase the oversight and accountability of the chemical demilitarization program?

Answer. The Army has consolidated the management of the Chemical Demilitarization Program under the Assistant Secretary of the Army (Installations and Environment). The Assistant Secretary has extensive experience in managing environmentally sensitive and complex government facilities and programs. The revised milestones and associated costs approved by the Defense Acquisition Executive in September 2001 are incorporated into a new set of program requirements by which the Office of the Secretary of Defense and the Army will monitor schedule, cost, and performance of the program.

The Army has accelerated the neutralization process for disposal of mustard bulk agent at Aberdeen, Maryland, by as much as 1½ years. The Army is evaluating a similar effort to accelerate disposal of the bulk VX nerve agent stockpile at Newport, Indiana, and will continue to evaluate options at other sites. This approach will save time and money. The Army will continuously review options for potential cost savings and utilization of resources, while ensuring the safety of the public, workers, and environment.

Since the inception of the program, the Chemical Demilitarization program has had oversight from the Centers for Disease Control and Prevention, the National Research Council (NRC) of the National Academy of Science, and the U.S. Army Center for Health Promotion and Preventive Medicine. In evaluation of the Alternative Technologies and Approaches Program, the Army Materiel Systems Analysis Activity has provided oversight in the area of testing, test planning, and operations planning.

All major systems contracts awarded have implemented Earned Value Management System (EVMS) reporting requirements. EVMS provides the Army with insight into contractor performance versus the cost and schedule negotiated at contract award. With this insight, the Program Manager for Chemical Demilitarization (PMCD) can hold the systems contractor accountable for any indicators of negative performance before the situation becomes serious and can initiate corrective action.

The Assistant Secretary of the Army (Installations and Environment) recently retained consultants who will provide advice on all elements of the program. They will participate in an advisory capacity in program reviews that evaluate and ensure that operations will be performed in a safe and environmentally compliant manner.

Question. According to reports done by the Army, the Pentagon, and National Academy of Sciences, this risk could be eliminated much quicker and more safely if the weapons were disassembled and the agents neutralized. Why isn't the Army initiating this approach instead of continuing to proceed down the incineration path that has led us into this \$24 billion boondoggle that is now predicted to be 20 plus years behind its original completion schedule?

Answer. The Chemical Stockpile Disposal Program has beaten every destruction treaty milestone to date. The program has incinerated over 1.4 million chemical weapons and over 16,000,000 pounds of chemical agent safely and without harming the public, workers, or the environment. The NRC has in numerous reports indicated that continued storage is the greatest risk to the public. Use of facilities that are already built and preparing for operations such as at Anniston, Alabama, and Umatilla, Oregon, provide the shortest path to eliminating that risk. However, where thorough investigation and testing have shown that an alternative technology can be as safe and effective, use of that technology is being pursued. As examples, the program manager is using alternative technologies for some activities of the non-stockpile product, and is employing the use of alternative technologies at the Aberdeen, Maryland, and Newport, Indiana, sites that contain bulk agent only. The Army is also evaluating a similar process at other sites containing both munitions and bulk agent.

Studies and evaluations prepared by the Army and National Academy of Sciences, as well as other agencies, are all conducted with the goal of finding safer and more effective approaches for the disposal of chemical weapons. The PMCD uses the technology best suited for the disposal of munitions and agents at the respective locations. The PMCD is also working with the Assembled Chemical Weapons Assessment program, where neutralization followed by biotreatment is being considered for disposal of the stockpile at Pueblo, Colorado. Public safety and the reduction of risk by elimination of the stockpile are the primary concerns of the chemical disposal program.

HOMELAND SECURITY

Question. Nearly six months since the Office of Homeland Security was created, there still seems to be considerable uncertainty about how to accurately define "Homeland Security." Could you please discuss the Army's role in Homeland Security? What role, if any, will Army training facilities play in efforts to train "first responders" to terrorist attacks? Will facilities such as Fort Knox's Mounted Urban Combat Training (MUCT) facility play such a role in the Army's Homeland Security efforts?

Answer. A secure homeland is a national priority and the nation depends on Army contributions for homeland security—a mission we have been conducting for over 226 years. The Army's homeland security roles and missions have changed over the years and will continue to change to support U.S. strategy. Since September 11, the Army has been providing more than 17,000 soldiers, in state active duty, Title 10, and Title 32 status in support of increased homeland security requirements. In addition to providing increased security at our own facilities, homeland security missions have included providing quick reaction forces, increased security to key infrastructure sites, increased security at over 400 airports across the country, and soldiers to augment Department of Justice and Department of Treasury border security missions. The Army also recently augmented security at national security special events such as the Super Bowl, World Economic Conference, and the Winter Olympics.

Currently, Army homeland security responsibilities include two components: homeland defense and support to civil authorities. Although not a result of the attacks of September 11, the Army continues to support Joint Task Force-6, a multi-Service organization that provides operational, training, and intelligence support to domestic law enforcement agencies' counter-drug efforts in the United States. The Army supports computer network defense operations. In terms of future developments, the Army plays a significant role in the development of the Ballistic Missile Defense System, specifically in the development and testing of the Ground-Based Interceptor and radar as well as Terminal Phase systems.

The Army's non-negotiable contract with the American people is to fight and win our nation's wars. The Army prepares for these traditional defense functions by maintaining a combat focus with trained and ready units to meet warfighting requirements.

In addition to warfighting, one of the Army's core competencies is supporting civil authorities. The bulk of homeland security responsibilities reside with various civil authorities—local, state, and federal. The Army, including both the Active and Reserve Components, is uniquely capable of supporting civil authorities in a full range of domestic contingencies—a mission the Army supports throughout any given year in response to hurricanes, forest fires, and other crises. Much of what the Army has done in securing the homeland over the past six months has involved supporting civil authorities whose own capabilities have been exhausted or overwhelmed. For example, the Army provided specialized capabilities to support other federal agencies at disaster sites, and the Army is providing soldiers to augment several federal agencies in accomplishing border security missions. As the capabilities of civil authorities increase, or security requirements are met through other means, the Army can reduce its commitments. In the future, the Army may play a role in training civil authorities to improve their capabilities, such as those of first responders. In doing this, in addition to improving the homeland security, there may be a reduced demand for military capabilities in the future.

Army training facilities, specifically Army live-fire ranges, are the cornerstone of Army training. Army ranges are built and modernized according to Army operational and doctrinal needs. Once constructed, however, a wide variety of federal, state, and local entities find our ranges to be extremely beneficial and schedule to use them. Range managers are committed to accommodating all reasonable range use requests.

The Army has recently constructed a number of world-class training facilities that can provide extraordinary training opportunities for current non-DOD users as well as future homeland security focused training. The Fort Knox Mounted Urban Combat Training (MUCT) facility as well as other facilities designed for Military Operations on Urbanized Terrain (MOUT) is an outstanding facility for emerging homeland security training requirements. These facilities offer flexible, interactive, instrumented, and video-captured training in full-scale mock cities.

MOUT/MUCT facilities currently operate at Fort Knox, Fort Polk, Fort Drum, Fort Campbell, and Fort Bragg. Two more MOUT facilities are being built at Fort Lewis and Fort Wainwright in the next three years. The current Army range modernization plan includes additional MOUT/MUCT construction and upgrades in the next ten years. The Army's continuous development of realistic, flexible, adaptable training facilities will certainly benefit emerging homeland security training needs.

QUESTIONS SUBMITTED BY SENATOR KAY BAILEY HUTCHISON

GULF WAR ILLNESS (GWI) RESEARCH

Question. Secretary White, I am concerned that the proposed budget would slash Gulf War Illness research from \$17.5 million to \$5 million. This represents a 71 percent reduction.

Given the recent advances in identifying the cause of this elusive illness, wouldn't now be the time to increase GWI research funding?

Answer. The proposed budget for fiscal year 2003 requests an increase from \$5 million to \$10 million. This increase in funding is necessary to address newly identified post-deployment health issues and continue to expand on findings from the currently funded Gulf War Illnesses research program.

ARMY FISCAL YEAR 2003 MEDICAL RESEARCH BUDGET

Question. Secretary White, while I am encouraged by the overall level of Army spending in the budget request, I am deeply troubled by the proposed cut in Army

medical research programs. In the two largest accounts—Medical Technology and Medical Advanced Technology—the request represents a 16 percent cut.

Upon what are you justifying this cut?

Answer. The reduction in funding is best explained in two parts. The first part relates to the cessation of funding for research into militarily relevant, emerging infectious diseases in developing countries that was initiated through two program budget decisions (PBDs) issued to fund this research in fiscal year 2001 and fiscal year 2002. The Army did not request these funds through its budget process; nevertheless, they were applied to address infectious diseases of military importance. The cessation of funding in this case is not perceived to be a cut since these funds were not part of our core military infectious disease research program.

The second part of the reduction results from transfer of the oversight and management of HIV research and development to the National Institutes of Health (NIH). This action was directed by PBD 203C that also rescinded funding for this defense program.

The Army is in discussion with the NIH and is in the process of drafting a memorandum of understanding (MOU) to continue this important military research under their fiscal oversight. The military research, development, test, and evaluation program focuses on the non-clade B strains of HIV, which are not high priority strains for NIH but present a threat to our deployed forces. We expect minimal impact to the current program if the NIH agrees to continue it as planned.

Additionally, we have a variety of vaccine research programs based in other countries with longstanding MOUs that permit specific research programs. HIV vaccine research, currently underway in Thailand, must be continued. Our MOU with Thailand allows for the conduct of clinical trials required by the Food and Drug Administration. After almost a decade of research in that country, a Phase 3 clinical trial for a promising HIV vaccine is scheduled to start this fiscal year. In order to begin a clinical trial, funding must be committed to vaccinate participants, monitor their health, and provide follow-up care as needed. Initial discussions with NIH have confirmed support for these ongoing clinical trials.

FORT BLISS—WATER

Question. The fiscal year 2002 Military Construction and Defense Appropriations Bills contained \$2.8 million for studies and planning and design activities related to a new desalinization plant for Fort Bliss. It is my understanding that the Army has not yet executed any of those funds. As the dwindling supply of potable water at one of the Army's premier installations is well known, I am puzzled as to why the Army would drag its feet on this issue.

Why have those funds not yet been obligated?

Answer. The Fiscal Year 2002 Military Construction Act provided \$1.8 million in planning and design funds to support design of the facility. However, the design cannot be started until required pre-design studies are conducted. Title 10 of the United States Code requires that all pre-design activities, to include studies, be funded with Operations and Maintenance, Army (OMA) dollars.

The Fiscal Year 2002 Defense Appropriations Act provided \$1 million in OMA funds for a Fort Bliss desalinization plant study and \$1 million for a Fort Bliss water system pre-design study. This bill was not signed into law until January 11, 2002, and funding guidance is just now being provided to the field. In preparation of receiving the funds, the Fort Bliss Department of Public Works has made ready a Request For Proposal to have a contractor perform studies needed in conjunction with the disposal of the brine by-product of the desalination process through the use of brine injection wells. The Army will spend \$1.8 million to perform the injection well tests to determine the optimal location for these wells and to support permitting of brine down-hole injection process. The City of El Paso Water Utility group will perform studies to locate the production wells that would be required to support this desalination plant.

We expect the OMA funding to be available to the installation in the late March timeframe. The brine injection well studies are currently estimated to take between 12 and 18 months to complete.

FORT BLISS—CAPACITY

Question. Secretary White, as you are well aware, large land areas for maneuver training are at a premium in the United States and, because of this scarcity, their use needs to be maximized. I'm sure you are also aware that the Fort Bliss/White Sands training area is the largest in the United States, yet there are no major maneuver forces permanently stationed at Fort Bliss. Do you see the movement of a

division, or perhaps one of the Army's new Interim Brigade Combat Teams (IBCTs), to Fort Bliss to take advantage of this unmatched maneuver space?

Answer. Fort Bliss is home to a robust array of U.S. Army Air Defense Artillery units, schools, and related activities. The Air Defense Artillery Center and School trains Army air defenders and Army leaders with a host of courses and facilities. Major units include the 32nd Army Air and Missile Defense Command, four air defense brigade headquarters and headquarters batteries, seven Patriot battalions, and seven maintenance companies. Several of these units were relocated to Fort Bliss after 1995 to maximize Army usage of the range spaces there. Air defense missile firing requires a great amount of range space to safely train under realistic engagement conditions and distances, and Fort Bliss is well suited for this mission.

Both Active and Reserve Component units and personnel conduct extensive training exercises, mobilization activities, and support missions at Fort Bliss. Additionally, the Army staffs, equips, and jointly operates other U.S. government elements at Fort Bliss such as Joint Task Force-6, Operation Alliance, and the El Paso Intelligence Center.

Fort Bliss, like all other installations, is being considered for future stationing options for different units. Each installation has its advantages and disadvantages in terms of maneuver and range availability, power projection capacity, and installation support capacity. Fort Bliss is currently undergoing some important upgrade projects regarding the fielding of the Theater High Altitude Area Defense System, and the installation will continue to meet the important needs of soldiers, civilian employees, and families.

U.S. ARMY SOUTH RELOCATION

Question. Secretary White, I understand that the Army is in the process of sending evaluation teams to five or six bases to determine their suitability to serve as the new home to U.S. Army South (USARSO). Will the criteria these installations be evaluated on include: Proximity to an international airport with direct flights to Central and South America? Abundant spousal employment opportunities? Existing infrastructure capable of absorbing USARSO, without the need for new construction?

Answer. The Army is not currently evaluating any locations for a future home for USARSO. The Army is, however, studying the necessity of moving USARSO and a decision is expected soon. If a decision is made to move USARSO, criteria will be developed and utilized in the process of reviewing possible relocation sites and in making a final selection.

FAMILY OF MEDIUM TACTICAL VEHICLES

Question. Mr. Secretary, General Tommy Franks has recently testified on the need to maintain the Army's Combat Systems and Combat Systems Support base. He described several systems that he deemed were "of particular interest to the Command." One program he mentioned is the Family of Medium Tactical Vehicles (FMTV).

I am told that there is an urgent requirement for \$22.4 million for Low-Velocity Air-Drop (LVAD) version of the FMTV truck for a new Special Operations Support Battalion. As it takes eight or nine months to field these vehicles, should the Congress expect to see a request for these vehicles in the fiscal year 2002 supplemental?

Answer. The Army has identified a new unfunded requirement (UFR) for conversion of the 528th Special Operations Support Battalion from its current standard cargo truck configuration to the LVAD configuration in response to evolving mission requirements. The Army had previously identified, funded, and filled 100 percent of its known LVAD requirement as part of the first five-year multiyear FMTV production contract with Stewart & Stevenson Services, Inc. Since the known requirement had been filled, there was no provision in subsequent contracts for production of additional LVAD models. The \$22.4 million UFR includes the cost of special ordering 81 new LVAD vehicles plus engineering, fielding, and training support. This requirement was addressed in the initial draft of the fiscal year 2002 supplemental request, but was not included in the final prioritized list. It will be submitted for further consideration at the next available opportunity.

ARMY CONTRACTING OFFICERS

Question. Mr. Secretary, it has come to my attention that the Army is once again moving forward with the consolidation of its contracting offices. Before embarking on this path, had the Army studied the effect the consolidation will have on small and minority-owned businesses?

Answer. The Deputy Assistant Secretary of the Army (Policy & Procurement) and the Director of the Army Small and Disadvantaged Business Utilization Office have worked together diligently to study the potential ramifications that may arise as a result of our consolidation efforts. One of our key goals is to identify new opportunities for small businesses to provide their goods and services to the Army. Our new organizational structure will allow the management team to better analyze data in areas such as credit card transactions to better focus our buying patterns to benefit the small business community. Likewise, it will be easier for the new management team to identify and set aside small business opportunities, all or in part, in many of our larger contracts as a result of our more effective acquisition planning processes. Additionally, we have reinforced these ideas in our concept and implementation plans and have clearly identified the need for establishing, monitoring, and achieving small and minority-owned business goals. The plans also identify specific duty positions within the new organizations for full-time small business program personnel who will be key players in ensuring the success of the program and achievement of our jointly established goals.

Question. Mr. Secretary, has the Army determined if this decision will lead to more “bundling” of contracts?

Answer. It is not our intent to increase the number of requirements that will be bundled. Instead, we anticipate that requirements for supplies or services, which are traditionally performed by one or more small business concerns under separate smaller contracts, will be maintained at the local installation level. If an increase in bundling does occur, our new organizational structure and management team are chartered to increase the opportunities for small businesses by better planning for the acquisition of these newly bundled requirements. In addition, by consolidating our larger contracts at the regional level, we anticipate that significant cost efficiencies can be achieved and that the utilization of small businesses will increase via set asides, multiple awards, subcontracting, etc. as these larger contracts are actually executed across the entire Army.

QUESTIONS SUBMITTED TO GENERAL ERIC K. SHINSEKI

QUESTIONS SUBMITTED BY SENATOR DANIEL K. INOUE

HOMELAND DEFENSE

Question. General Shinseki, the Army has been integral to protecting our homeland since September 11th, how do you envision the Army adapting to this growing mission?

Answer. In addition to providing security for the homeland, the Army is also meeting strategic requirements around the world, fighting a global war on terrorism, and continuing to pursue its Transformation objectives. The Army is preparing for the future through Transformation. Transforming the institution in bold and fundamental ways will posture the Army for its 21st Century duties. The events of September 11 only add urgency to our efforts to pursue Transformation objectives.

A secure homeland is a national priority and the Nation depends on Army contributions for homeland security—a mission we have been conducting for over 226 years. The Army’s homeland security roles and missions have changed over the years and will continue to change to support U.S. strategy. Since September 11, the Army has been providing more than 17,000 soldiers, in state active duty, Title 10, and Title 32 status in support of increased homeland security requirements. The missions have included providing quick reaction forces, increased security to key infrastructure sites, increased security at over 400 airports across the country, and soldiers to augment Department of Justice and Department of Treasury border security missions. The Army has also recently augmented security at national security special events such as the Super Bowl, World Economic Conference, and the Winter Olympics. This commitment, in addition to ongoing strategic requirements, puts a strain on Army force structure and resources. Currently, Army homeland security responsibilities include two components—homeland defense and support to civil authorities.

The Army’s non-negotiable contract with the American people is to fight and win our Nation’s wars. The Army prepares for these traditional defense functions by maintaining a combat focus with trained and ready units to meet warfighting requirements.

In addition to warfighting, one of the Army’s core competencies is supporting civil authorities. The bulk of homeland security responsibilities reside with various civil

authorities—local, state, and federal. The Army, including both the Active and Reserve Components, is uniquely capable of supporting civil authorities in a full range of domestic contingencies—a mission the Army supports throughout any given year in response to hurricanes, forest fires, and other crises. Much of what the Army has done in securing the homeland over the past six months has involved supporting civil authorities whose own capabilities have been exhausted or overwhelmed, such as providing specialized capabilities to support other federal agencies at disaster sites and providing soldiers to augment federal agencies in accomplishing border security missions. As the capabilities of civil authorities increase, or security requirements are met through other means, the Army can reduce its commitments. The capabilities required to support civil authorities are resident in existing Army structure.

Although not a result of the attacks of September 11, the Army continues to support Joint Task Force-6, a multi-Service organization that provides operational, training, and intelligence support to domestic law enforcement agencies' counter-drug efforts in the United States. The Army also supports computer network defense operations. In terms of future developments, the Army plays a significant role in the development of the ballistic missile defense system. The Army participates in the development and testing of the ground-based interceptor and radar as well as terminal phase systems.

Future requirements for homeland security are being addressed by emerging National and Department of Defense homeland security policy and guidance. As homeland security roles and missions are formalized, the Army will continue to assess its capabilities to ensure it can meet all its responsibilities within the overall defense strategy at an acceptable level of risk.

QUESTIONS SUBMITTED BY SENATOR THAD COCHRAN

REMOTE ACOUSTIC HEMOSTASIS TECHNOLOGY

Question. General Shinseki, hemorrhage has been identified as the major controllable cause of battlefield death. I am sure you agree that given the means, this is an area that we would like to see improvement. I understand that the Army Medical Research and Materiel Command is very interested in recent developments in Remote Acoustic Hemostasis (ultrasound) technology, given their promise to not only locate internal bleeding but also immediately cauterize visible or internal bleeding while the soldier is on the battlefield. This helps preserve life for follow-on medical attention.

Do you have plans to incorporate these types of advancements into medical treatment variants of the Army's Future Combat Systems?

Answer. New methods for hemostasis are among the many identified needs in our combat casualty care mission area. Remote acoustic hemostatic technology, packaged with imaging and telemedicine links, is one potential technology insertion for the medical treatment variant of the Army's Future Combat Systems (FCS). The program manager for the medical treatment variant for the FCS, once identified, would certainly include consideration of remote acoustic hemostasis as part of the medical mission package. Active consideration will be dependent on the technology reaching a level of maturation that assures Food and Drug Administration (FDA) approval for military applications and with critical design decisions for block upgrades to the FCS.

Question. General Shinseki, if it were available, would you be interested in fielding this technology in support of current operations?

Answer. Until the technology can be matured to the point it has received an FDA approval certifying that the device is safe, effective, and suitable for use in a field or mobile environment, the Army would be unable to employ it in support of current operations.

ADVANCED ARMY RAPID EMPLACED BRIDGE

Question. General Shinseki, Mississippi State University and Seemans Corporation of Gulfport, are working with the Army to develop the "Advanced Army Rapidly Emplaced Bridge," which is being made using composite material and technology. I understand that this composite combat bridge is 15 meters long and supports over 190 tons. I find it remarkable that even after failure it is still able to support a M-1 tank that weighs approximately 70 tons. This bridge is also transportable by C-130 aircraft and requires minimal manpower and equipment support. Considering limitations of bridges in your current inventory, it seems that this composite bridging system holds great promise to support your Transformation efforts.

Can you provide an assessment of the need for lightweight, assault and support bridging in the near and long-term?

Answer. As long as we have forces on the ground that must have the freedom of movement in the battle space to ensure dominate maneuver, there will be a requirement for both wet and dry gap bridging to support our combat and support forces.

Currently, we have no wet or dry gap crossing capability for the Objective Force. We do envision the Objective Force having great mobility—this mobility will be dependent on intelligence and an embedded mobility capability. The Interim Force gap crossing capability is limited to a 13-meter bridge—the Rapidly Emplaced Bridge System. This aluminum bridge is military load class 30 and is transported on a palletized load system truck.

As we transition to the Objective Force, the bridging of the future will need to be compatible with these forces. They will have to be light enough to be carried and launched by the new vehicle as well as be deployable, transportable, and mobile to move with these forces in stride. A goal for the gap crossing capability of the future is to leave the system in place rather than the leapfrogging the assault bridging forward and replace it with cheaper support bridging. Doing this will potentially have a noticeable positive impact on movement by reducing time, task, and manpower requirements to support mobility operations. The technical challenge is to get the system cost down to make this goal economically feasible while providing bridging systems that can support not only the light combat forces, but also the follow-on support forces. Our objective is to utilize advances such as the promising new materials that you referred to as well as investigate new launch techniques and transporting techniques.

Question. General Shinseki, could you provide an assessment of the Advanced Army Rapidly Emplaced Bridge?

Answer. By the Advanced Army Rapidly Emplaced Bridge, I presume you are referring to our 13 meter Composite Army Bridge (CAB). The CAB was a cooperative effort between the Defense Advanced Research Projects Agency (DARPA), the Army, the academic community, and Seemans Composite to provide a technical demonstrator of a graphite composite bridge to examine benefits provided by advanced materials such as these. The single-piece, 13-meter bridge has been subjected to structural strength testing as well as live vehicle crossing using both the Abrams and the Heavy Equipment Transport loaded with an Abrams. It passed these tests wonderfully. It will soon enter durability testing to determine how the system will survive a full life of crossings. A follow-on effort that is also with Seemans Composites is focused on developing the joints needed to allow connections required to fabricate longer bridges that can be packaged and launched by future forces. In other words, to go from the single piece construction of the CAB to connecting multiple sections together to get a longer gap crossing capability which can be sized to meet the gap need. These connections, in conjunction with the launching techniques, are the key technical barriers to realizing the bridging of the future. This work is also progressing well.

QUESTIONS SUBMITTED BY SENATOR CHRISTOPHER S. BOND

CHEMICAL/BIOLOGICAL TRAINING

Question. Under Public Law 103–160 all Chemical and Biological training of the Department of Defense is required to be conducted at the U.S. Army Chemical School, which is located at Fort Leonard Wood, Missouri. As stated in the most recent (2002) Army Posture Statement “Tough, demanding training which is supported by an infrastructure that allows us to train, sustain, and deploy is essential to readiness. History has taught us and we have learned that in the end, armies fight the way they train.” I understand that the number one unfunded priority for Training and Doctrine Command (TRADOC) is an fiscal year 2003 Military Construction (MILCON) request for a responder training facility for Weapons of Mass Destruction (WMD) at Fort Leonard Wood. I also understand that there is pressure to reduce the current projected funding level from \$15 million to \$10 million which will ensure that this facility is insufficient to meet our emerging training needs before it starts! Already, Fort Leonard Wood trains responders for all four branches of the Armed Services to include the Coast Guard and its apparent that our future training requirements will only increase. Frankly, I think it is critical that we begin to ramp up our training resources in the critical area of chemical, biological, radiological, nuclear and high energy immediately. Our adversaries are not waiting to develop ever more lethal weapons. What assurances can you give us that this WMD responder facility is indeed going to be funded and at a level that will meet the

growing demand for Chemical, Biological, Radiological, Nuclear, Explosives (CBRNE) training?

Answer. Through Public Law 103-160, Section 1703, Congress established a Joint Service Chemical and Biological Defense Program (CBDP). The mission of the Joint CBDP is to provide world-class chemical and biological defense capabilities to allow our military forces to survive and sustain their missions in environments contaminated with chemical or biological warfare agents.

With respect to this WMD training at Fort Leonard Wood, the current cost estimates depict a MILCON funding requirement for \$13.5 million plus an additional equipment procurement requirement of \$963,000 for a project total of \$14.463 million. The project is currently ranked as TRADOC's number one unfunded requirement (UFR) for fiscal year 2005. As a new project, this requirement will compete for resources during the Army's fiscal year 2004-2009 Program Objective Memorandum build. We recognize the importance of homeland security as seen by the priority ranking from TRADOC for this fiscal year 2005 MILCON. We believe the need to establish a joint center of excellence for joint doctrine and training for WMD response is key to the Army's support of the nation's homeland defense and places this project in best position for resourcing.

AH-64A AND AH-64D (LONGBOW) APACHE HELICOPTERS

Question. I understand the Army has decided not to upgrade 203 Apache AH-64A helicopters and I'm further told that the cost of maintaining a dual fleet of 64A's and 64D's is projected to be \$1.4 billion over the life cycle of the AH-64A fleet. The AH-64A is a much better aircraft than the Cobra that it replaces, but I'm concerned about the long-range ability of units that field the 64A to be an effective force multiplier. Pilots trained in the 64A cannot fly the upgraded D model without going through a lengthy transition course. The Guard will be the recipient of these 64A's, and I'm wondering what the long-term plan is for these aircraft that will not be compatible with their 64D counterparts? Furthermore, parts priorities for Guard units fielding the AH-64A will most certainly be at the bottom of the totem pole.

Answer. The Army began implementation of the Aviation Transformation Plan in January 2002. This plan provides the strategy and guidance necessary to transform Army aviation from a Legacy to an Interim Force. The initial transformation plan changes from the current structure to the Interim Force and includes all components of Army aviation. The plan divested the Army of the Legacy attack platform AH-1 Cobra reducing the number of attack helicopter types from three to two in the interim structure. Constrained by funding, priorities were established based upon modernization, Transformation, and recapitalization plans.

The Army Aviation Transformation Plan cascades the most capable AH-64A models to the six National Guard attack battalions and division cavalry squadrons. To reduce operation and sustainment costs, the oldest AH-64As are converted to the Longbows. This will establish a 10-year half-life on the Apache fleet by 2010. Modernizing the National Guard divisions with the AH-64A enhances the Army's war fighting capability. Many of the National Guard units have aviators rated to fly the Apache A model. As with any advanced airframe, a transition course will be required for aviators not rated in the Apache. These training requirements were studied in depth. The National Guard will be the only Army component with the AH-64A at completion of the Aviation Transformation Plan. For this reason, the National Guard will conduct all AH-64A aviator training at the Western Army Aviation Training Site in Arizona by the end of fiscal year 2004.

In accordance with approved plans, the Comanche will start displacing Apaches by 2015. While the fielding schedule for Comanche is not finalized, there may be National Guard units that will convert from AH-64A units directly to Comanche units.

The AH-64A is a very lethal airframe to which no other attack helicopter, short of the AH-64D and the future Comanche can compare. Fielding the National Guard with the AH-64A provides the Army with the best attack helicopter capability affordable. As evident in Operations Enduring Freedom and Desert Storm, the AH-64A is a highly effective force multiplier. The National Guard will have three AH-64D Longbow battalions and the Army Reserve will have two Longbow battalions. The combined capability of the Reserve Component attack battalions with AH-64A and D model Apaches provides a wide variety of combat capabilities to any war fighting commander in chief.

Comparing the AH-64A to the AH-64D, the AH-64A will have approximately 20 percent unique airframe components of which the National Guard units will be the sole customer and the top priority. The remaining parts requirements will be resourced based on current operational priorities. The National Guard will continue

to contribute to these operational deployments and when deployed, receive higher priority regardless of A or D model configuration.

Question. Can we seriously expect to deploy AH-64A models in a combat theater once the Army has a full contingent of upgraded AH-64D models?

Answer. Yes. The AH-64D is more capable than the AH-64A and offers digital connectivity, which the AH-64A cannot. The Apache Longbow may be the preferred airframe; however, as evident by current operations, the AH-64A will continue to offer the ground commander a combat multiplier. Once the Longbow fielding is complete, there will continue to be deployments where the AH-64A would meet operational requirements, as in Kosovo today. The AH-64A Apaches in the National Guard divisions provide the Army with a force multiplier capable of meeting many of the operational requirements in the future.

QUESTIONS SUBMITTED BY SENATOR KAY BAILEY HUTCHISON

FUTURE COMBAT SYSTEMS (FCS) LEAD SYSTEMS INTEGRATOR (LSI)

Question. General Shinseki, Defense News reports this week that eight of the ten vehicles projected to compose the Interim Combat Brigade Teams are too heavy to be carried by a C-130. Yet the ability to be carried by a C-130 is an essential characteristic. I thought one of the reasons the Army selected an off-the-shelf vehicle, a known quantity, was to avoid such problems.

This does not bode well for the aggressive development schedule you have laid out for the Future Combat Systems (FCS), which will form the backbone of the post-2010 Army. What steps are you taking to ensure that the FCS development program will yield a truly transformational system, while avoiding similar problems?

Answer. The U.S. Army Training and Doctrine Command (TRADOC) representing the user community defined the required transformational characteristics for the FCS design. These characteristics are stated in the form of requirements in the statement of required capabilities (SORC). The capabilities will further be refined in the FCS operational requirements document (ORD) that will be used for the actual design and testing of the system. FCS will be tested to the ORD requirements before production.

The Lead Systems Integrator (LSI) was required to comply with the SORC in their concept proposal for FCS. The Army, partnered with the Defense Advanced Research Projects Agency (DARPA), selected the Boeing-SAIC team as the LSI to assist the Army in building FCS by the end of this decade. The LSI provides the integrating function of this complex system-of-systems approach to field an FCS-equipped Objective Force. TRADOC and the LSI will collaborate to ensure FCS fulfills the user requirements and the Army's Transformation goals.

Question. How will the employment of a Lead Systems Integrator (LSI), similar in concept to the one employed for National Missile Defense, aid in the management of a program that is critical to both the Army and our national security?

Answer. FCS is a complex group of systems, roughly equivalent to the "Big Five" systems the Army developed and fielded in the post-Vietnam era. However, as a system of systems, the key sub-systems of FCS must be integrated and fielded simultaneously within a complex architecture. While challenging, this is a transformational approach to new systems fielding. The FCS LSI serves as the integrator for FCS within all the systems' components and within the Objective Force systems' architecture. Our approach differs from that of the National Missile Defense in that the partners of the LSI were competed rather than mandated. By making a broad industry announcement and requiring that the system capabilities within the FCS use an open systems architecture between the sub-systems, our LSI approach maximizes competition and maintains the flexibility to integrate additional capabilities within the FCS as they mature. The Army's LSI approach enables evolutionary, spiral development acquisition to achieve threshold capabilities for FCS this decade while offering significant improvements as technology matures to ensure full spectrum dominance throughout the life of the system.

INTERIM BRIGADE COMBAT TEAM (IBCT)

Question. General Shinseki, Defense News reports this week that eight of the ten vehicles projected to compose the IBCTs are too heavy to be carried by a C-130. It is my understanding that the ability to be carried by a C-130 is a must-have characteristic.

Has this requirement changed, and if not, what steps is the Army taking to ensure that these vehicles are ready to fight as soon as they roll off a C-130?

Answer. The Army is confident that the Interim Armored Vehicle (IAV) will meet its transportability requirements. C-130 transportability is one of the IAV's four key performance parameters. The IBCT project manager and the Military Traffic Management Command Transportation Engineering Agency (MTMCTEA) have worked together throughout the IAV program to establish requirements and address IAV design considerations that affect its transportability. The MTMCTEA also analyzed IAV proposals during source selection.

Vehicle weight is only one transportability consideration. Operational mission, range and payload, axle loading, and exterior dimensions also bear on vehicle design. Weather, altitude, and airfield surface conditions may also impact operations. In total, 38,000 pounds is the allowable weight to fly 1,000 miles under normal operating conditions.

All ten IAV configurations will fit inside a C-130 aircraft, with waivers for loadmaster safety aisles. The Infantry Carrier Vehicle (ICV) underwent a successful transportability demonstration at Selfridge Air National Guard Base on January 31, 2002. The ICV met day and night objectives for loadmaster movement within the aircraft, loading, tie-down requirements, evacuation, and offload access of the loadmaster and vehicle crew. ICV air transportability certification will continue with ramp axle load distribution verification and developmental testing beginning in April 2002. Each configuration will undergo a similar exercise.

The Fire Support Vehicle and the Medical Evacuation Vehicle meet the total vehicle weight and the axle weight requirements in their fully loaded configurations. Seven of the remaining eight configurations meet weight requirements through cross loading of stowage items. For example, the empty weight of the ICV is 34,313 pounds. The combat loaded vehicle weight, including the two-man crew, but not including the nine-man infantry squad, is 37,508 pounds. We are working to ensure combat capability upon arrival by reviewing vehicle hardware for weight reduction opportunities. We continue to review and prioritize removable vehicle equipment and stowage items.

The C-130 can transport all of the IAV configurations. The Mobile Gun System (MGS), currently under development, requires re-engineering to minimize off-loading of equipment. An aggressive weight reduction program is underway and should be complete before the fiscal year 2005 full-rate production decision. Worth noting is that the IAV's high degree of commonality will promote the application of MGS changes to other ongoing IAV production, increasing the effective combat load of all configurations.

LEAD SYSTEMS INTEGRATOR

Question. General Shinseki, I understand the LSI contract is being solicited by DARPA. Does the accountability for this contract also reside with DARPA?

Answer. The Defense Advanced Projects Research Agency (DARPA) retains the authority for this agreement through the remainder of the concepts and technology development phase of acquisition, currently scheduled to end in the third quarter of fiscal year 2003. Early in the program we saw several advantages in partnering with DARPA. Among these are the ability to leverage DARPA's culture of pursuing paradigm shifting innovations, the use of other transactions as a contracting mechanism to speed acquisition, and the ability to directly leverage DARPA's resources by obtaining their commitment to share in the cost of technology development. All of this is happening today. Aside from periodic program reviews with the Army leadership, we have also ensured coupling to the Army Vision by making key personnel assignments. The DARPA Objective Force program manager is an Army colonel and the Army has also assigned a brigadier general as the Future Combat Systems program manager to prepare for the transition of the Army and DARPA technology into the Army's acquisition program at Milestone B in 2003.

FCS AND LSI

Question. How will the LSI ensure that the FCS will stay relevant over time as technology evolves at an ever-increasing rate?

Answer. By using an open systems architecture, an innovative approach to software insertion at the point of maturity, and a deliberate block approach to hardware upgrades, the Army and DARPA have contracted for the LSI to incorporate technologies into FCS designs based upon technology maturity, capabilities needs, and affordability criteria required for FCS. The Army will program funding for succeeding software and hardware upgrades to ensure FCS maintains technical performance dominance specified in the operational requirements document.

ARMY/MARINE CORPS COOPERATION ON THE FUTURE COMBAT SYSTEM (FCS)

Question. General Shinseki, the fiscal year 2003 request includes significant funding for R&D activities associated with the Future Combat Systems (FCS). The FCS will form the backbone of the post-2010 Army, the so-called "Objective Force." It is my understanding that the Marine Corps is planning to field a similar force with similar capabilities, just a few years after the Army. Would you please describe what collaborative activities the Army and Marine Corps are engaging in to prevent duplicative development programs?

Answer. During the concepts and technology development phase of acquisition, the Army has engaged the Marine Corps requirements community to discuss opportunities for collaborative programs at the system level of the FCS. Although the Marine Expeditionary Family of Fighting Vehicles does not have the same deployability requirements as the FCS, the Marine Corps is considering the value of FCS subsystems as potential derivative programs to enhance Marine Corps warfighting capabilities in areas such as lethality.

UNMANNED AERIAL VEHICLES (UAVS)

Question. General Shinseki, I note that the request includes \$46 million for UAV research and development (R&D). What capabilities do current systems lack that you feel must be developed if UAVs are to fulfill their anticipated role in the Objective Force?

Answer. Fiscal year 2003 R&D funding completes development of the Tactical Unmanned Aerial Vehicle system (Shadow 200), begins selection of an extended range air vehicle compatible with Shadow 200 ground control equipment to meet Army division and corps level requirements, and improves Shadow 200 target location error. Funding is also provided for development of advanced electro-optical/infrared and synthetic aperture radar/moving target indicator payloads to give the extended range air vehicle an all-weather sensing capability.

The Army envisions a family of UAVs directly supporting commanders at all echelons and across multiple battlefield operating systems. Shadow 200 will satisfy the threshold requirements of the Objective Force brigade-level commanders. However, the Shadow 200 system cannot satisfy the requirements at battalion and below and division and above for several reasons. Shadow 200 is too large to support battalion and below where the requirement is for a system that is man-packable, operates at a range of at least 12 kilometers, requires minimal training to fly, and can be launched from a constrained space. Small UAVs and micro air vehicles are being evaluated to satisfy these missions as well as operations in an urban environment. Shadow 200 lacks the range, endurance, and payload capacity required for an extended range/multi-purpose air vehicle to support division and corps level operations. The missions and roles envisioned for the extended range/multi-purpose UAV (long range reconnaissance, surveillance, and target acquisition; communications relay; armed attack; aviation manned—unmanned teaming; cargo lift; MEDEVAC; signals intelligence; minefield detection; chemical, biological, and radiological detection and survey; etc.) require greater dwell times, greater range, and larger payload capacity. Additionally, greater range requirements mandate a non-line of sight solution.

DIGITIZATION

Question. General Shinseki, what is the status of the digitization' of the III Corps at Fort Hood?

Answer. The Army is currently digitizing the divisions of III Corps at Fort Hood. Two-thirds of the 4th Infantry Division have been completed with the remaining elements at Fort Carson scheduled for fiscal year 2005. First Cavalry Division modernization is underway with completion scheduled in fiscal year 2003. The remaining corps units, at Fort Hood and elsewhere, are being digitized and will continue as the combat elements are digitized.

WHEELED VEHICLE MAINTENANCE

Question. General Shinseki, the Army is busy developing the Army of the future—one that will feature predominantly wheeled vehicles. However, your service has yet to identify a wheeled vehicle depot to maintain this new fleet.

Will you consider the merits of naming Red River Army Depot a "Center for Industrial and Technical Excellence" for wheeled vehicle maintenance?

Answer. Yes, the Army will consider this. However, final determination of repair location for each type of equipment will occur only after conducting the appropriate analysis to include best operational and cost value.

HYDRA-70

Question. General, the budget submission cuts funding for the Hydra-70 rockets from \$136.7 million in fiscal year 2002 to \$22.4 million in fiscal year 2003. This represents an 84 percent cut in this program and consequently reduces the amount of rockets for an aircrew to fire in training and qualification by an equal amount, down to just 26 rockets per crew per year. The fact that this system is used by all services and is the primary aerial-fired area suppression system for the services makes this cut even more significant.

What is the Army's plan to bridge the gap between this system and the precision-guided 2.75-inch rocket that will not be fielded until fiscal year 2007?

Answer. The Army has been asked to make tough choices to move the military toward Transformation. This is a clear example of where we have decided to move forward and accept risk by reducing the amount of Hydra-70 rockets procured and move toward rocket technology that will give the warfighter a low-cost, precision engagement capability that he does not possess today. As part of a continuing and ongoing review process, the Army is reassessing rocket strategies and will carefully manage the remaining Hydra-70 training round inventory. This strategy is tied closely to the fielding of the Advanced Precision Kill Weapon System.

Question. How does the Army plan to maintain an acceptable level of competence by its aircrews in the employment of these rockets?

Answer. To ensure that our aviators are prepared for combat, the Army anticipates no change to current training strategies for the next two years.

FORT BLISS ATSA RELOCATION

Question. General it has come to my attention that some in the Army are considering moving the ATEC Threat Support Activity (ATSA) from Fort Bliss to either White Sands Missile Range or Dugway Proving Grounds.

What is the impetus to this initiative?

Answer. The impetus of studying the possible move of the Army Test and Evaluation Command's (ATEC) Threat Support Activity (ATSA) was to determine if efficiencies and operational synergy could be gained. ATEC has an ongoing study to review possible realignment of assets, which includes a possible relocation of all or part of the ATSA; however, feasibility and appropriateness of such an action has yet to be determined.

Question. At what point did you plan to notify the Congress that such a move was being considered?

Answer. If the ATEC study concludes that relocating ATSA is both feasible and appropriate to gain efficiencies and operational synergy, ATEC will initiate a stationing study as required by Army regulation. Included in this process are procedures for notifying Congress of any relocation efforts.

SUBCOMMITTEE RECESS

Senator INOUE. We will stand in recess until March 13. At that time we will receive testimony from the Air Force. Thank you very much.

[Whereupon, at 11:48 a.m., Wednesday, March 6, the subcommittee was recessed, to reconvene subject to the call of the Chair.]

**DEPARTMENT OF DEFENSE APPROPRIATIONS
FOR FISCAL YEAR 2003**

WEDNESDAY, APRIL 17, 2002

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 10:18 a.m., in room SD-192, Dirksen Senate Office Building, Hon. Daniel K. Inouye (chairman) presiding.

Present: Senators Inouye, Feinstein, Stevens, Cochran, Domenici, and Shelby.

DEPARTMENT OF DEFENSE

MISSILE DEFENSE AGENCY

STATEMENT OF LIEUTENANT GENERAL RONALD T. KADISH, DIRECTOR

OPENING STATEMENT OF SENATOR DANIEL K. INOUE

Senator INOUE. Good morning. Today, we are pleased to welcome Lieutenant General Ronald T. Kadish, Director of the Missile Defense Agency. The purpose of today's hearing is to review the Department of Defense's (DOD's) fiscal year 2003 funding recommendations for ballistic missile defense programs.

Missile defense is, of course, a program of great interest to many, and one not without controversy. Indeed, the missile defense program is one of the most critical national security issues of today and for the foreseeable future.

There is no question that the ballistic missile threat against our nation and our troops in the field will continue to grow. It has been reported that the United States could face an intercontinental ballistic missile threat from North Korea, Iran, and possibly Iraq by 2015. As the anti-ballistic missiles (ABM) continue to proliferate, some estimate that these countries could have over 1,000 Scud-type missiles within a decade.

The question our country faces is how best to meet this threat. The administration's plan calls for a layered defense to intercept ballistic missiles of all ranges, in all phases of flight. It also calls for this missile shield to cover the territories and deployed forces of the United States, our allies, and our friends.

This is an expensive program. The DOD fiscal year 2003 funding plan proposes that more than \$46 billion be allocated to missile defense over the period of 2002 to 2007. In fact, the Congressional

Budget Office and others have estimated that funding for missile defense could approach \$200 billion when all is said and done.

This is also a complex program. Recently, the program has witnessed a string of successful tests, and for that, I commend you, General Kadish. There are still many technological and management hurdles to overcome, but let me assure you, General Kadish, this committee views the missile defense program as critically important to our national security, and we will do our best to support your efforts. Yet, given the risks and costs of this program, not to mention the tradeoffs that must be made between funding missile defense and other worthwhile military programs, we must be ever vigilant in our oversight.

So today's hearing provides the committee an important opportunity to understand the priorities and challenges of our missile defense program. So General, we welcome you, and we welcome your testimony.

But before we begin, let me turn to my co-chairman, Senator Stevens, for any opening remarks.

STATEMENT OF SENATOR TED STEVENS

Senator STEVENS. Thank you very much, Mr. Chairman, and I join you in welcoming General Kadish before our committee. He has been a trusted partner in this endeavor of ours to secure a reliable missile defense system. I want the General to know, those of us from our generation, who have lived through too many wars, are hopeful that before we depart this Earth, we will have a reliable defense system for the future of the United States. Now, since we had last convened—I am not predicting our leaving, by the way, but it is not that far away.

Since we last convened to review these programs, several elements of the missile defense architecture have significantly changed, and we welcome your comments and views, General Kadish, on these program realignments. More importantly, the ground-based mid-course segment of the program, previously known as the National Missile Defense Program, has, as its chairman said, enjoyed notable success, and we really congratulate you and your people.

You and your predecessor, General Lyles, made it clear that testing success must be a norm, rather than a random event, and these successes enjoyed in the recent testings validate the determination which you, and the Department, and Congress have worked to prove on the hit-to-kill concept.

As a result of those successful tests, the Department awarded contracts yesterday to commence the installation of the advanced testbed facility at Fort Greeley, in my home State. I look forward to hearing from you today about those plans, and the timetable to establish the initial testbed capability.

While the weapons side of the program involving Patriot, Theater High Altitude Area Defense (THAAD), and the ground-based interceptors have proceeded well, we face a more daunting challenge on the sensor side of the missile defense equation. We need your help today to try and understand the focus of the Space-Based Infrared System (SBIRS) High and SBIRS Low programs, I am sure my

friend from Mississippi is going to go into that, and the path of recovery on both, if that is to be our course.

General Kadish, you have been a frequent visitor to my State. You have earned the trust and respect of Alaskans, who will be partners in the construction, deployment, and operation of the missile defense facilities in Alaska. We will welcome you back any time. As a matter of fact, I will get you a permanent resident fishing license, if you would like. I am not sure our boss would like it, but we want you back whenever you can come back.

I appreciate your openness and candor on all these matters. You have really been a direct and open senior officer, and we have massive respect for your capabilities.

Thank you, Mr. Chair.

Senator INOUE. Thank you very much.

Senator Cochran.

STATEMENT OF SENATOR THAD COCHRAN

Senator COCHRAN. Mr. Chairman, thank you.

Welcome to the hearing, General Kadish. We appreciate the good work you have been doing in this office. You had taken over, I guess, almost 3 years ago, under a difficult situation, with constraints from the anti-ballistic missile treaty, and interpretations of that treaty, negotiations for demarcation agreements, and the like, that constrained what you could do in terms of testing and development programs.

We also had difficulties getting funding for many of the things that go into the Ballistic Missile Defense (BMD) Office that we were recommending, but you have brought us through this difficult phase of development to a point where we are now seeing almost routinely successful tests of various missile defense technologies and systems. For that, I think we need to recognize the great success that has been achieved, and to congratulate you and all those others, both within and outside of Government, who are responsible for the great success.

So I think we can look forward to a future where, as Senator Stevens suggests is important for us to achieve, we will be safe and secure from ballistic missile attack, and our troops and friends in the field and around the world will have a means of protecting themselves from theater-missiles or other missile attacks.

So we want you to know that we appreciate your efforts. And I for one, I am going to commit to you that we will continue to work in cooperation with the administration to achieve the goals that have been set by the President, and that is to get a defensive system into the field as soon as possible. I think that is very important, not only theater systems, but a long-term ballistic missile defense system as well. So you have our commitment to do our best to help ensure that we have the funds to achieve that goal.

Thank you.

Senator INOUE. Senator Shelby.

STATEMENT OF SENATOR RICHARD C. SHELBY

Senator SHELBY. Thank you, Mr. Chairman. I will be brief. First, I ask that my statement be made a part of the record in its entirety.

I just want to tell you, General Kadish, I think you have done a heck of a job under difficult circumstances, because the technology is evolving. You have shown that, and that you have had notable success, and I believe you will have more in the future. I think your tests, you will make them tougher, and tougher, and tougher, and I am here just to support you, and commend you for what you do.

Thank you.

[The statement follows:]

PREPARED STATEMENT OF SENATOR RICHARD C. SHELBY

Welcome General Kadish. I look forward to your remarks here today. In your testimony you clearly relay the fact that serious technology issues exist. I believe greater emphasis on technology development and maturation is absolutely necessary. Hurdles exist that must be overcome. I am one member of this committee, but I want to help you achieve your goals.

Only through a focused and investment-driven strategy to improving the technology currently available will MDA be able to pursue testing that is realistic and field systems that will work as designed day in and day out.

Every effort must be made to tighten the error ellipse our current systems produce. "Goal-tending" should not be an option. The C-band beacon must go. Focal plane array technology must improve. I haven't talked to any experts who believe that technology and hardware limitations can be overcome by software improvements.

The threat is real, evolving and growing as you pointed out in your testimony General, and we must make the investments necessary to protect our fighting forces, our allies abroad and our own homeland from those who will attack our citizens and vital interests in the future. We have indeed come a long way, and I believe we must go all the way on missile defense.

I support your overall fiscal year 2003 request because I believe it provides the necessary funding to improve technology and to continue robust testing regimes that will give MDA and our nation the best chance for success in the future. I do have some specific questions for you later.

Thank you Mr. Chairman.

Senator INOUE. Now, if I may call upon Lieutenant General Ronald T. Kadish.

General KADISH. Well, thank you, Mr. Chairman. I appreciate the comments from everyone on a very difficult road ahead. I do have some prepared remarks that I would ask to be entered into the record, and I would just like to summarize what I have in those remarks.

Senator INOUE. Without objection, your full statement is made part of the record.

General KADISH. As you have already pointed out, we have made really significant progress in the program, since I last testified to this committee especially, and we spent the past year testing very key technologies, and their integration into a larger system, and restructuring our program to better address the challenges we face, especially in a post-ABM Treaty environment.

Our budget and the basic objective of our program is to develop missile defense that is effective in protecting our country, our deployed forces, our allies, and friends from all ranges of ballistic missiles. We have asked for a total of \$6.7 billion for fiscal year 2003. That is slightly less than what we asked for last year.

The budget we have submitted, however, for fiscal year 2003 is very substantial, but it continues in the same range as last year to provide for a stability to the program. In so doing, it supports

our program priorities for development, and our extensive test schedule.

Now, let me talk about our testing progress, and give you a report card on our tests. As I said, we have made good progress, not only in our flight testing, but in our ground testing as well. Over the past 12 months, in hit-to-kill intercept tests against ballistic missile targets, we have a three-for-three record with our ground-based mid-course defense system against long-range missiles. The full record there now stands at four out of six. We are one-for-one with our Sea-based Midcourse system, a major step forward for us.

For the Patriot Advanced Capability-3 (PAC-3) over the past year, we are only one for two. We did miss once; yet, overall for PAC-3, the record is six-for-seven against ballistic missile targets. So we have made good progress.

That is not to say, however, that we have not had our failures—we have had some—or that we still do not have a long way to go. But as I pointed out, we are now at a testing crossroads in our program, with much success already building, and when success comes in increasingly more complex testing, as in PAC-3, for instance, we know we are on the right track.

I predict that the pace and the complexity of our testing is also picking up. We have 13 more flight tests scheduled for the remainder of this fiscal year, of all types, together with 10 ground tests that are significant, and 14 system-wide tests and exercises.

Now, let me explain some of the changes we have made to our program. I want to address some key aspects very briefly, and then I will be happy to discuss these in more detail in response to your questions.

First, why did we make the changes that we made? I think there are two main reasons. First, we are still facing an unprecedented technological challenge in bringing missile defense into effective use. Second, in order to do that, we need to speed up our acquisition processes and decision making, and ensure their relevancy in meeting this technological challenge.

The decision cycle time for the traditional major acquisitions program is too long for our purposes. Both the threat and the technology can change during the often lengthy time between setting a requirement and fielding a system.

The process changes we are making will let us adjust quickly to changes in both the threat and the technology, and hopefully shorten the time needed to field this capability; yet, the changes we are making affect only the development on portions of our program, not those dealing with service procurement and production, which we will continue to follow the more normal, traditional acquisition procedures when we offer them for production.

I would like to emphasize that some have said we are doing away with requirements with these changes. We are not doing away with requirements, as we need them. We are doing away with the way we derive and define them, and use them in the process. Since we cannot know with confidence what the specific threat will be over time, we will try to evaluate and anticipate the capabilities of an adversary, and those that they might have in a given time frame, by setting the range of our requirements more broadly than in the

past, and this can reduce the element of the surprise against our systems.

Additionally, because the pace of technological change is so rapid, we have users and developers sitting down together under our leadership for a whole period of the development time to draw up what the requirements should be, and strike the right balance between what is needed and what is possible. I think that is important enough to repeat. We need to strike the right balance between what is needed and what is possible.

The traditional system takes longer, because these players work sequentially, where requirements follow the development, and not simultaneously and in close concert that we are proposing with our processes. This approach allows for the early development of an effective capability, I believe, and one that can be enhanced over time, and nominally in a 2-year time period, or what we call blocks.

This is still a disciplined, documented process that we intend to follow for developing ground-breaking systems, and one that we have used, for instance, in very successful programs in our country's history in, for example, the Polaris C-launch Ballistic Missile, and the SR-71 Reconnaissance Aircraft.

Now, our management approach has also been adjusted to support this reduction in cycle time. As the Director, I have been given more authority, and we have flattened our organization of the Missile Defense Agency to make it more responsive. I continue to report, however, directly to the Under Secretary of Defense for Acquisition, Technology, and Logistics, and I am subject to consistent, frequent, and focused oversight.

The Department Senior Executive Council, or what we call the SEC, maintains executive oversight of the program. I have already met with them almost once a month, on average, since last August. It is the council's responsibility to decide major issues in the program, as well as whether to move elements into production, and make recommendations to the Secretary on fielding of elements of the system once they are ready.

The SEC's decision and mine are supported by a Missile Defense Support Group that was created, that also reports to the Under Secretary. This support group and its subordinate working groups combine the interests and efforts of 13 different offices and agencies within the Office of the Secretary of Defense (OSD). By providing their assessment and advice simultaneously, we hope we can greatly reduce decision cycle times on this program.

Now, our relationships with industry are very complex in this endeavor, but not unprecedented. The Government will rightly retain the responsibility for delivering this system, but a much closer relationship is necessary between Government and industry, because the cutting-edge expertise of what is possible will be done through the industry expertise and arrangements. Hence, we are bringing together what we are calling a National Team across all our contractors, and focusing whatever best and brightest talent we could find on this very difficult problem, from Government, academia, industry, and other places as well.

Mr. Chairman, over the past years I have said we have made some very significant strides in our development program, as some of our major test events have shown; yet, we also have some very

significant challenges ahead of us, both in defining and resolving the right technical issues, and in managing this unprecedented program, so we can ensure our missile defenses will become as effective as soon as possible, and will remain so over time.

PREPARED STATEMENT

Our budget request is focused toward this goal. It provides the resources for continued program progress, and some stability, and with your continued and very valuable support, and that of the American people, I have every confidence we will be successful.

Thank you very much.

Senator INOUE. Thank you very much, General Kadish.
[The statement follows:]

PREPARED STATEMENT OF LIEUTENANT GENERAL RONALD T. KADISH

Good morning. It is a pleasure to appear before you today to present the Department of Defense's fiscal year 2003 Missile Defense Program and budget.

The Department of Defense is developing effective missile defenses for the territories and deployed forces of the United States, allies, and friends. Ballistic missiles already pose a threat to the United States and to U.S. interests, forces, allies and friends. The missiles possessed by potential adversaries are growing in range, reliability, and accuracy. The proliferation of ballistic missile technologies, materials, and expertise can also occur in unexpected ways, enabling potential adversaries to accelerate missile development or quickly acquire new capabilities. Missiles carrying nuclear, biological, or chemical weapons could inflict damage that far surpasses what we experienced last September 11. The events of that day underscored the vulnerability of our homeland, even to assault from distant regions.

Defensive capabilities to counter this threat cannot be deployed overnight. We also recognize that the threat is continually changing. So we are taking an approach to build missile defenses that will allow us to put capabilities "in play" as soon as practicable to provide the best defenses possible against the projected threat, based on technological progress and success in testing. After nearly a decade of steady developmental progress, we are deploying the first Patriot Advanced Capability 3, or PAC-3, missiles to give our forces protection against short-range threats. In the coming years we plan to introduce new capabilities to defeat medium- and even longer-range ballistic missiles.

Over the past year, we have made considerable progress in demonstrating key missile defense technologies and integration concepts. This past January we took a significant step forward and broke new ground with the successful midcourse intercept of a medium-range ballistic missile target using a sea-based interceptor. Following successful intercepts of long-range targets in July and December of last year, and in March of this year, we gained further confidence in our Ground-Based Midcourse Defense (GMD) design and capability. And with the Airborne Laser, or ABL, we are making steady progress in the development of directed energy technologies by achieving record power levels in the last two tests and successfully completing the final lasing test for Laser Module-1.

Some of our tests showed we need more work to achieve our design objectives. The third test late last year of the boost vehicle under development for the GMD element failed to launch as planned. Because a faster ground-based interceptor will increase significantly our engagement envelope, we are focusing intently to resolve the associated development problems. Recently, PAC-3 began a series of operational tests. In mid-February, PAC-3 teamed up with PAC-2 in a multiple simultaneous engagement test to intercept three air-breathing targets, but intercepted just one. And although a second PAC-3 missile failed to fire in a test last month, we did destroy both the missile and air-breather targets. Despite some setbacks, we continue to make remarkable strides, Mr. Chairman, and we grow increasingly confident in our ability to deliver effective missile defense capabilities over the next few years. Yet we should all recognize that there remains a long road ahead.

Approach to Missile Defense

The Missile Defense Agency (MDA) will develop incrementally a Ballistic Missile Defense (BMD) System that layers defenses to intercept ballistic missiles of all

ranges in all phases of flight-boost, midcourse, and terminal.¹ These increments will be transferred to the Services for production and deployment as soon as practicable. We are working with the warfighters, the CINCs, and the Services throughout this process.

Based on the results of last year's rigorous missile defense review, the Department has moved away from an independently managed, element-centric approach and established a single program to develop an integrated BMD System. The BMD System will consist of elements configured into layered defenses to provide autonomous and mutual support, including multiple engagement opportunities, along a threat missile's flight path. The Missile Defense Program supports numerous risk reduction activities, including flight tests, ground simulations, and hardware-in-the-loop demonstrations.

Engineering complexities and operational realities associated with missile defense require operational and system integration as well as an ability to operate elements autonomously. Therefore, a key tenet of the missile defense program is robust, realistic testing within the BMD System Test Bed. This Test Bed is an integrated set of components that are widely dispersed among operationally realistic locations primarily throughout the Pacific and continental United States. While its specific components have independent utility, the Test Bed is designed to support development of missile defense elements and demonstrate an integrated, layered missile defense system. We will use the Test Bed over the next few years to validate the midcourse, boost, and terminal elements, including supporting sensors, and the necessary BM/C² and communications components. This Test Bed was most recently used to test the Standard Missile-3 interceptor for Sea-based Midcourse Defense (SMD) and in fiscal year 2002 it will host additional GMD and SMD intercept flight tests and a major System Integration Test.

The BMD System Test Bed includes prototypes and surrogates of the System elements as well as supporting test infrastructure to provide trajectory, sensing, interception, and BM/C² and communication scenarios that resemble conditions under which the System might be expected to operate. It will enable testing against faster, longer-range target missiles than we are using today, and it will allow us to test using different geometric, operational, and element configurations.

As they become available, we could use prototypes and test assets to provide early capability, if so directed. A decision to employ test assets would depend upon the success of testing, the appropriate positioning of Test Bed components, the availability of test interceptors and other assets, and the international security environment. Our test infrastructure, in other words, will have an inherent, though rudimentary, operational capability.

Our program is now entering a new phase, moving from technology development to system engineering, and we face a very significant challenge of integrating many diverse elements into one system. We employ thousands of individuals throughout the United States. We also are collaborating extensively with all of the Military Departments and the Joint Staff as we investigate different basing modes and deal with associated operational and planning challenges. Our approach to managing resources is clearly an important element of our approach to missile defense. This committee's support for the President's "Freedom to Manage" initiative will reduce statutory requirements that can restrict management flexibility, allowing us to more efficiently and effectively execute the Missile Defense program.

Acquisition Strategy

The BMD System is highly complex, so we are using an acquisition approach that capitalizes on advances in missile defense technology and continually adjusts to changes in external factors (e.g., threat, policy, and priorities) as appropriate. We are following an aggressive research, development, test, and evaluation (RDT&E) acquisition strategy that allows us to respond to changes in the threat, manages changes in System technologies, and ensures progress in development and testing.

The BMD System architecture will take shape based on periodic decisions and assessments within the MDA and the Department's Senior Executive Council. Annual assessments will include evaluations of element test performance, system architecture, technological and basing alternatives, and the threat. The initial goal is to provide limited protection against long-range threats for the United States and potentially our allies within the 2004–2008 timeframe, while delivering more advanced capabilities against shorter-range threats.

The traditional requirements process has not worked well for missile defense. Missile defense is a cutting-edge development effort and an area where we have very

¹On January 2, 2002, the Secretary of Defense established the Missile Defense Agency to manage the development of effective missile defenses.

little operational experience. The requirements definition process typically leverages operational experience to set system specifications many years before actual deployment, a process that can lead to a less than optimum deployed capability that does not take advantage of the most advanced technologies.

Let me illustrate what I mean. The B-52 bomber that first flew in 1952 is hardly the same aircraft that dropped bombs over Afghanistan in the war against terrorism. The original B-52 design, which gave us an early intercontinental bombardment capability, was enhanced over time through hardware and software improvements to meet evolving operational challenges. It may look the same, but today's B-52 is a very different aircraft.

Similarly, we enhanced over many years the Patriot batteries we saw in the 1991 Gulf War. Although its capability to defend small areas was improved during Desert Shield, performance against Iraqi Scuds was not impressive. As a result, the Department initiated a follow-on enhancement program and replaced the original missile with a completely new interceptor.

These examples illustrate that in today's dynamic security environment, a requirement written in a system's development phase can quickly become irrelevant or a one-way street that leads developers into a technological cul-de-sac. Five years ago, nobody could have written a requirement for today's Internet and gotten it exactly right.

We, therefore, have modified our acquisition approach. In line with the Secretary's decision to cancel the current Operational Requirements Documents (ORDs) related to missile defense, we are using the ORDs as reference documents, but not as the final measures of development progress. Instead of developing a system in response to a clearly defined threat from a known adversary, we are looking at missile capabilities that any adversary could have in a given timeframe. We also continually assess missile defense technology options and availability. Using a capability-based approach to ensure that a militarily useful BMD System can be deployed as soon as practicable, we are setting initial capability standards and engaging the CINCs, Services, and industry. This acquisition approach supports the effective engineering and integration of the BMD System and ensures a transition of effective, threat-relevant system capabilities to the Services for production, deployment, and operations.

While we are moving away from some of the rigidities associated with the traditional acquisition process, we are not abandoning discipline in development. Capability-based acquisition requires continual assessment of technical and operational alternatives at the element and BMD System levels. We will build what we can technologically, and improve it as rapidly as possible. Configuration management and risk management will continue to guide the engineering processes.

In a capability-based approach that pursues parallel development paths, a risk management program is essential. To execute BMDS level risk management, we are identifying risk issues and an analytical basis for modifications and enhancements. This disciplined risk management process supports the annual review and assessment of the BMD System and accommodates significant user participation at the appropriate times during development.

The missile defense acquisition strategy engineers and tests the system using a two-year capability "Block" approach, with the initial introduction of elements into the expanded Test Bed starting as early as fiscal year 2004. The initial BMD System capability (Block 2004) will evolve as technologies mature and are demonstrated satisfactorily in the BMD System Test Bed. This capability will be increased incrementally in future Blocks through the introduction of new sensor and weapon components, and by augmenting or upgrading existing capabilities.

Each BMD System Block is comprised of selected element configurations integrated into the overall System BM/C². There will be annual decision points at which time assessments will be made on the basis of: effectiveness and synergy within the system; technical risk; deployment schedule; cost; and threat. This assessment of progress will determine whether a given developmental activity will be accelerated, modified, or terminated. Implementing changes expeditiously and prudently maximize value from our investments and allow more rapid program adjustments based on threat projections and technological progress.

Each subsequent Block will build on and be integrated into the capabilities provided by predecessor Blocks that make up the BMD System. This evolutionary strategy allows us to put the high performance technologies "in play" sooner than would otherwise be possible. Once they have been demonstrated, elements or their components will be available for emergency use, if directed, or for transfer to the Military Departments for production as part of a standard acquisition program.

Program Description

Our approach to developing missile defenses builds on the technological, engineering, and integration progress we have made to date. We are currently pursuing parallel development efforts in order to reduce risk in the individual RDT&E efforts and aggressively demonstrating technologies for integration on land, sea, air, and space-based elements. When a capability is sufficiently validated, that element or component will be ready for a decision regarding transition to production.

We are also exploring new concepts and experiments for the development of advanced sensor suites and kinetic and directed energy kill mechanisms for potential sea, ground, air, and space deployment. In line with our disciplined walk-before-you-run, learn-as-you-go approach to testing, we are incorporating more realistic scenarios and countermeasures into the missile defense development test program. The Test Bed will be expanded to accommodate this aggressive and robust testing approach.

FISCAL YEAR 2003 BUDGET ALLOCATION BY WORK BREAKDOWN STRUCTURE

[TY dollars in million]

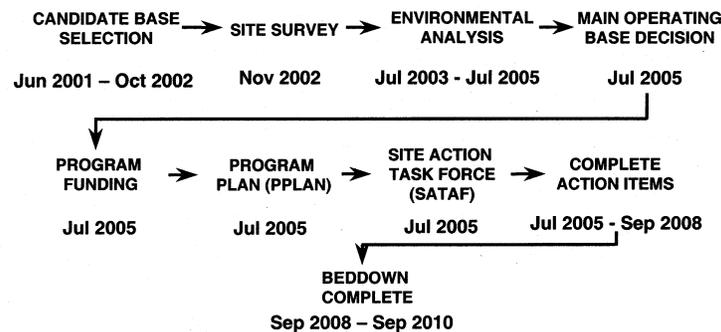
WBS	Fiscal year—					
	2002	2003	2004	2005	2006	2007
1.0—BMDS	846	1,101	1,252	1,200	1,182	1,219
2.0—Terminal Defense Segment	2,026	1,128	927	1,078	1,149	1,499
3.0—Midcourse Defense Segment	3,762	3,193	3,074	3,016	2,969	2,596
4.0—Boost Defense Segment	600	797	1,390	1,400	1,591	2,275
5.0—Sensor Segment	335	373	489	1,146	900	1,008
6.0—Technology	139	122	155	130	143	147
MDA Total	7,709	6,714	7,287	7,970	7,934	8,743

The Missile Defense Program allocates resources required for the BMD System, including the integration of individual elements into a single, synergistic system to defend the territories and deployed forces of the United States, allies, and friends. The BMD System segment comprises System Engineering and Integration (SE&I), BM/C², Communications, Targets and Countermeasures, Test and Evaluation, Producibility and Manufacturing Technology, and Program Operations (which includes Management Headquarters and Pentagon Reservation). Funding in this segment provides resources to define, select, test, integrate, and demonstrate the elements in the Terminal Defense, Midcourse Defense, Boost Defense, and Sensor segments. The tasks included in this segment are those that will benefit the entire BMD System, not just a particular element or program. This segment also includes management efforts to ensure architectural consistency and integration of missile defense elements within the overarching missile defense mission.

The President's Budget requests \$1.1 billion in fiscal year 2003 for RDT&E in the BMD Segment, an increase of \$255 million over the fiscal year 2002 enacted funding level. RDT&E and military construction funding in this segment across the fiscal year 2003–07 FYDP is about \$6.0 billion.

Basing Decision To Support Deployments

- Same procedure conducted for all weapon systems...F-22, Global Hawk, etc.
- Process managed by HQ ACC/XP
- Force structure decisions coordinated through AF channels



As the central engineering component within MDA, the Systems Engineering and Integration activity provides the overall system engineering development and integration of the BMD System. SE&I activities will define and manage the layered BMD System collaboratively by providing detailed systems engineering and integration across the entire spectrum of System capabilities. Capability-based acquisition requires continual assessment of technical and operational alternatives at the component, element, and system levels. The systems engineering process involves setting BMD System Technical Objectives and Goals; addressing existing, emerging, and postulated adversary capabilities; assessing and determining System design and element contributions; synthesizing System Blocks; introducing new technologies and operational concepts; conducting System risk analyses; and considering impacts of potential foreign contributions to BMD System capabilities.

The BM/C² activity will develop and integrate the BM/C² and communications functions for the BMD System. To provide maximum flexibility to the war fighter, this activity includes the development of specifications needed to ensure Terminal Defense, Midcourse Defense, Boost Defense, and Sensor segments are properly integrated and interoperable with external systems, to include those of allies. Communications funding consolidates and refines BMD system-wide communication links to allow components of the BMD System to exchange data and to permit command and control orders to be transmitted to weapons and sensors.

The Targets and Countermeasures program provides capability-based ballistic missile targets, countermeasures, and other payloads to support system-testing as well as element testing across the segments. Standard interfaces are being defined between payloads and boosters, so that we can introduce different targets into BMD System flight test scenarios with greater efficiency. Beginning in fiscal year 2002, we are establishing an inventory of target modules (boosters, reentry-vehicles, countermeasures, and instrumentation) to shorten the build-cycle and support more frequent flight tests.

The Test and Evaluation program includes the test and evaluation infrastructure, tools for program-wide use, and execution of system-level testing. Individual BMD System elements will conduct risk reduction, developmental, and operational testing. System level tests go beyond these, testing synergy, interoperability, BM/C² and communication links across the elements. Also resourced are those tests conducted for the purpose of making critical measurements required across the missile defense regime, for example, measurements of adversary missile characteristics such as plume signatures, lethality measurements, and characterization of potential countermeasures. Such data collection becomes an important input to the design and development of effective defenses.

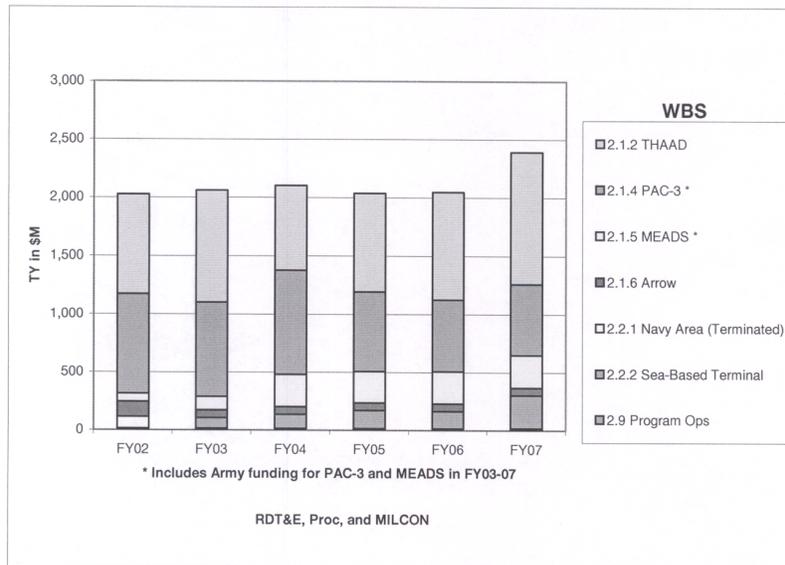
Supporting robust, realistic testing requires a significant investment in the development and maintenance of the requisite test infrastructure, analytical tools, and computational capabilities. Because this supports both the System and all of its elements, it is resourced centrally at the System level. The BMD System test infrastructure includes a number of critical, specialized ground test facilities, test range facilities, launch capabilities, and instrumentation, such as several airborne sensor platforms and other mobile capabilities unique to missile defense testing. Core models and simulations, both for engineering and integration purposes, are also developed, validated, and maintained. These range from detailed phenomenology and lethality codes used by all the System elements to large-scale wargaming simulations required for BM/C² and operational concept of operations development. A number of computational facilities, data libraries, and simulation facilities are also resourced at the System level.

Terminal Defense Segment (TDS)

The Terminal Defense Segment involves development and upgrades of missile defense capabilities that engage short- to medium-range ballistic missiles in the terminal phase of their trajectory. The missile or warhead enters the terminal phase when it reenters the atmosphere. This is a short phase, lasting less than a minute. Elements in this defense segment include Theater High Altitude Area Defense (THAAD), PATRIOT Advanced Capability Level 3 (PAC-3), Medium Extended Air Defense System (MEADS), and a sea-based terminal concept definition element (successor to the Navy Area activities). Additionally, other elements funded by the MDA are the Israeli Arrow Deployability Program, which includes the Israeli Test Bed (ITB), Arrow System Improvement Program, and studies via the Israeli Systems Architecture and Integration effort.

The MDA budget allocation for TDS activities in fiscal year 2003 is \$1.1 billion, which includes funds for RDT&E and military construction. The MDA budget includes about \$5.8 billion in fiscal year 2003–2007 for the terminal defense segment. These figures reflect a decision by the Department to transfer to the Army all funding for PAC-3 and MEADS from fiscal year 2003 to fiscal year 2007.

The Congress returned PAC-3 and MEADS to MDA for fiscal year 2002 pending the fulfillment of congressionally mandated requirements. Upon satisfaction of all congressional directives, we will transfer the PAC-3 to the Army.



TDS Elements

THAAD is designed to defend against short- to medium-range ballistic missiles at endo- and exo-atmospheric altitudes, which can make effective countermeasures against THAAD difficult to employ. It also allows multiple intercept opportunities,

and can significantly mitigate the effects of weapons of mass destruction. THAAD will protect forward-deployed U.S. and allied armed forces, broadly dispersed assets, and population centers against missile attacks.

In fiscal year 2003, we will complete missile and launcher designs and initiate manufacturing of missile ground test units, continue fabrication of the first and second radars, and continue to fabricate and test the BM/C² hardware and software. We will support robust ground-testing and flight-hardware testing in preparation for missile flights in fiscal year 2004 at the White Sands Missile Range. The element development phase will refine and mature the THAAD design to ensure component and element performance, producibility, and supportability. There are five major THAAD components: missiles, launchers, radars, BM/C², and THAAD-specific support equipment.

PAC-3 provides terminal missile defense capability to protect U.S. forward-deployed forces, allies, and friends. PAC-3 can counter enemy short-range ballistic missiles, anti-radiation missiles, and aircraft employing advanced countermeasures and a low radar cross-section. PAC-3 successfully completed development testing last year, during which there were three intercepts of ballistic missiles, two cruise missile intercepts, and four multiple simultaneous engagements of ballistic and cruise missiles. The start of PAC-3 operational testing in February 2002 shows that we still have work to do. In fiscal year 2003, we will execute activity to develop, integrate, and test evolutionary block upgrades. Plans include transitioning PAC-3 to full rate production to build up PAC-3 missile inventory and field additional PAC-3 capabilities.

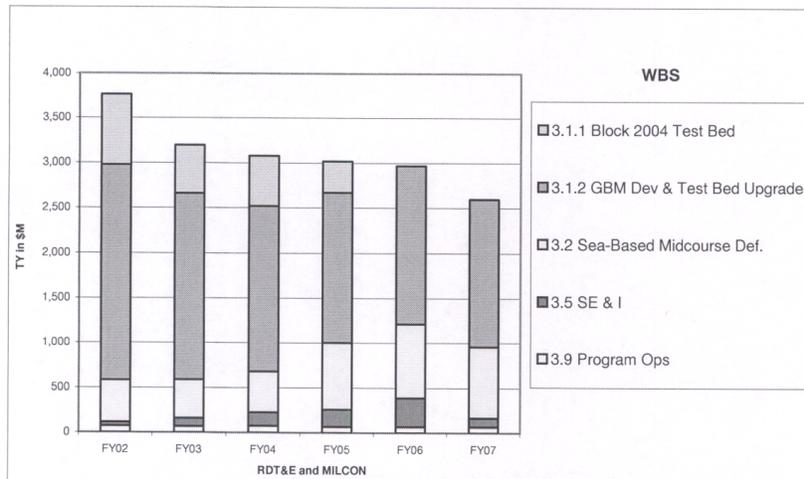
The Department decided in December 2001 to cancel the Navy Area program after a Nunn-McCurdy breach. Nonetheless, the need for timely development and deployment of a sea-based terminal ballistic missile defense capability remains. We have initiated the sea-based terminal study directed by the Department, which we expect to conclude this spring.

MEADS is a cooperative effort between the United States, Germany, and Italy. MEADS will provide robust, 360-degree protection for maneuver forces and other critical forward-deployed assets against short- and medium-range missiles and air-breathing threats, such as cruise missiles and aircraft. In fiscal year 2001, the trilateral MEADS activity embarked on a three-year Risk Reduction Effort. In fiscal year 2003, MEADS will continue design and development activities for key system components, which includes efforts to integrate the PAC-3 missile with MEADS.

The Arrow Weapon System (AWS), developed jointly by the United States and Israel, provides Israel a capability to defend against short- to medium-range ballistic missiles. The Arrow Deployability Program allows for Israel's acquisition of a third Arrow battery and Arrow's interoperability with U.S. systems. The Arrow System Improvement Program will include both technical cooperation to improve the performance of the AWS and a cooperative test and evaluation program to validate the improved AWS performance. We will support additional flight-testing and supply of components for additional missiles to be built in Israel. Continued U.S. cooperation with Israel will provide insight to Israeli technologies, which may be used to enhance U.S. ballistic missile defenses.

Midcourse Defense Segment (MDS)

Midcourse Defense Segment elements engage threat ballistic missiles in the exo-atmosphere after booster burnout and before the warhead re-enters the earth's atmosphere. The Ground-based Midcourse Defense and Sea-Based Midcourse Defense elements of the MDS are the successors to the National Missile Defense and Navy Theater Wide programs, respectively. The Sea-based Midcourse activity includes a cooperative missile technology development effort with Japan. Our budget for this segment in fiscal year 2003 (RDT&E and military construction) is almost \$3.2 billion, or \$570 million less than the funding enacted for fiscal year 2002. MDS funding is about \$14.8 billion across the FYDP.



MDS Elements

The Ground-based Midcourse Defense (GMD) will engage threat missiles primarily during the descent phase of midcourse flight. Our GMD development activity has three main objectives: (1) demonstrate Hit-to-Kill; (2) develop and demonstrate an integrated system capable of countering known and expected long-range threats; and (3) develop infrastructure and assets for the initial GMD components of the BMD System Test Bed to conduct realistic tests using operationally representative hardware and software and produce reliable data for GMD and BMD System development.

During fiscal year 2002, the GMD element will build upon recent successful intercept tests by further demonstrating hit-to-kill and discrimination capabilities using increasingly complex and realistic test-scenarios. Development of the 2004 BMD System Test Bed continues with an upgraded COBRA DANE radar in Alaska as a temporary surrogate for Upgraded Early Warning Radars (UEWRs); an accelerated version of the In-Flight Interceptor Communications System (IFICS) and Battle Management, Command, Control and Communications (BMC³) capability; five “common” silos with sparing; Command Launch Equipment (CLE); and software upgrades.

In fiscal year 2003 five Ground-Based Interceptors using a precursor of the objective booster and an operationally representative kill vehicle will be developed for installation and testing in fiscal year 2004. MDA will continue to develop the objective booster and continue with the complementary EKV activity. This objective may allow for a common EKV for Ground and Sea-based Midcourse Defenses. BM/C² and communications incremental prototypes will be integrated and demonstrated at multiple locations and assessed with user participation. The Prototype Manufacturing Rate Facility will continue in fiscal year 2003 to support a wide range of interceptor needs for the increased rate of flight tests. Research and development efforts for Block 2004 and subsequent Blocks will support the development of the initial GMD parts of the Block 2004 BMD System Test Bed. This facility will also support continued development and testing of more-capable interceptors, sensors, and targets.

Sea-based Midcourse Defense will develop a ship-based capability to intercept threat missiles early in the ascent phase of midcourse flight. SMD continues to build upon the existing Aegis Weapons System and Aegis Light-weight Exo-Atmospheric Projectile (LEAP) Intercept (ALI) activities while pursuing alternative kinetic warhead technologies.

In January 2002, we conducted the first of many flight tests for the Standard Missile 3 (SM-3) in order to demonstrate kill vehicle guidance, navigation, and control against a live ballistic missile target. The SM-3 launched from the U.S.S. *LAKE ERIE*, which was positioned in the BMD System Test Bed more than 500 kilometers away from the Pacific Missile Range Facility, and successfully collided with its tar-

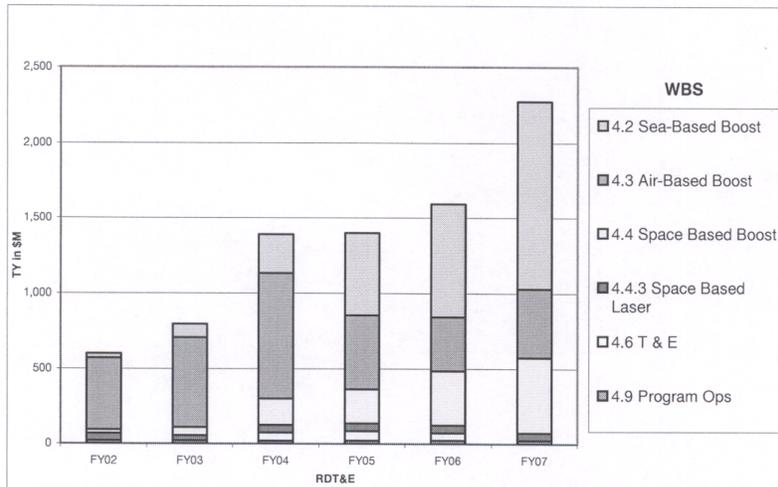
get missile in space using infrared sensors. This was the first intercept for the hit-to-kill SMD element.

Funding in fiscal year 2003 continues for concept definition, risk reduction and testing to further the development of a capability to defeat medium- to intermediate-range threats. The SMD project has three primary objectives in fiscal year 2003: (1) continue testing and complete ALI Flight Demonstration Project; (2) design and develop a contingency ship-based ascent and midcourse ballistic missile intercept capability based on ALI and associated technologies; and (3) continue an effort initiated in fiscal year 2002 to provide a ship-based missile defense system designed to provide an ascent midcourse phase “hit-to-kill” technology in the fiscal year 2008–2010 timeframe.

The United States and Japan, under a 1999 Memorandum of Understanding, are conducting a cooperative systems engineering project to design advanced missile components for possible integration into the SMD element. This project leverages the established and demonstrated industrial and engineering strengths of Japan and allows a significant degree of cost sharing.

Boost Defense Segment (BDS)

The Boost Defense Segment addresses both Directed Energy and Kinetic Energy (KE) boost phase intercept (BPI) missile defense capabilities to create a defense layer near the hostile missile’s launch point. To engage ballistic missiles in this phase, quick reaction times, high confidence decision-making, and multiple engagement capabilities are desired. The development of high-power lasers and faster interceptor capabilities are required to engineer kinetic and directed energy capabilities to provide options for multiple shot opportunities and basing modes in different geographic environments. MDA RDT&E funding in the Boost Defense Segment is \$797 million in fiscal year 2003, an increase of \$197 million over fiscal year 2002 enacted funding, and is approximately \$7.5 billion from fiscal year 2003 to fiscal year 2007.



The BDS employs multiple development paths. Information derived from this approach will help evaluate the most promising BPI projects to provide a basis for an architecture decision between. The BDS will demonstrate the Airborne Laser (ABL) for the Block 2004 Test Bed. It will define and evolve space-based and sea-based kinetic energy BPI concepts. Also, we will evaluate space-based laser technologies. At the appropriate time, based on mature system concepts and technologies, we will initiate a focused demonstration of this concept in the Test Bed.

BDS Elements

ABL will acquire, track, and kill ballistic missiles in their boost phase of flight. Management and funding responsibility for ABL has officially transferred from the Air Force to the Missile Defense Agency. ABL integrates three major subsystems (Laser; Beam Control; and Battle Management, Command, Control, Communica-

tions, Computers and Intelligence (BM/C⁴I)) into a modified commercial Boeing 747-400F aircraft. ABL-specific ground support equipment also will be developed.

Building on successful sub-system testing and the modification of aircraft structures, in fiscal year 2003 we will commence major subsystem integration and testing activities. The ABL Block 2004 phase culminates in a lethality demonstration (missile shoot-down) against boosting ballistic missile threat-representative targets and delivers one aircraft for integration and testing. If directed, this aircraft could also provide an emergency defensive capability. We plan to develop a second test aircraft, which will further develop this new technology.

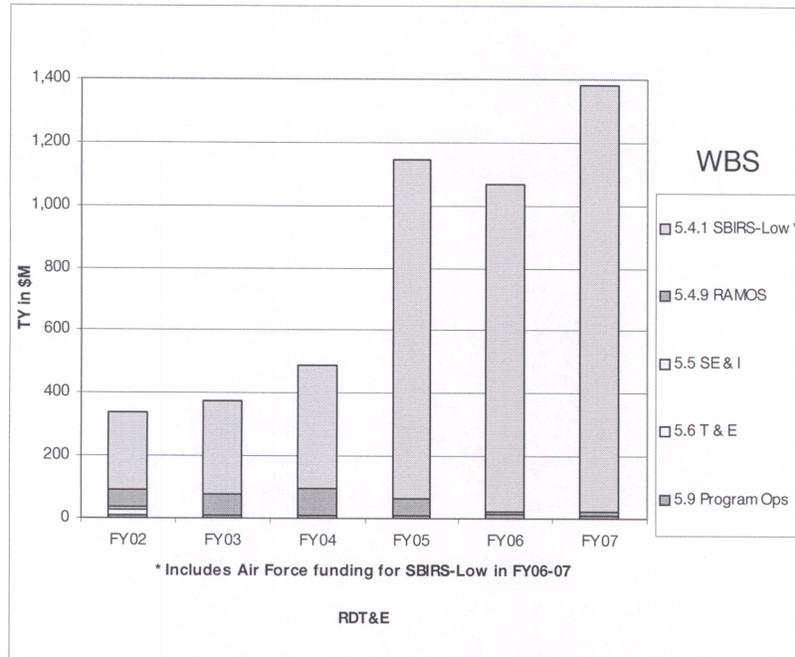
The Kinetic Energy Boost defense activity reduces the technical and programmatic risks of fielding a boost phase intercept capability. The KE Boost strategy is to define and assess militarily useful boost phase concepts, invest in focused risk reduction activities, and execute critical experiments. We will tap the brightest minds in the public and private sectors to define the most effective approach to killing ballistic missiles as they boost. We identified several lucrative technology candidates for immediate investment, including fast burn and flexible axial propulsion technologies, agile kill vehicles, early detection and track sensors, quick-reaction BM/C², and affordable weapons platforms. We will assess these component technologies through rigorous ground and flight tests.

We will evaluate prototype component and element configurations under realistic operational conditions. We will experiment using emerging component technologies and test infrastructure to resolve tough technical challenges, such as predicting the point of intercept and finding the missile tank in the presence of hot exhaust. When possible, we will exploit targets of opportunity by tracking space launch vehicles and test missions launched out of Vandenberg Air Force Base. The test data we collect from our risk reduction work and critical experiments will help guide decisions concerning focused demonstrations in fiscal year 2005.

We are evaluating options for continuing Space-Based Laser (SBL) activity. The SBL project involves technology development and risk reduction activities in the key areas of laser output, beam control, and beam director design to demonstrate feasibility of boost phase intercept by a high-energy laser in space. These efforts leverage work started under previous SBL-funded technology development programs.

Sensor Segment

Sensors developed in this segment will have multi-mission capabilities intended to enhance detection of and provide critical tracking information about ballistic missiles in all phases of flight. The fiscal year 2003 budget request for RDT&E in this segment is \$373 million, which represents an increase of \$38 million over fiscal year 2002 funding. The MDA budget provides \$3.9 billion for the sensor segment during fiscal year 2003 to fiscal year 2007.



The Space Based Infrared System-Low (SBIRS Low) element will incorporate new technologies to enhance detection; improve reporting on ballistic missile launches regardless of range or launch point; and provide critical mid-course tracking and discrimination data for the BMDS. When SBIRS Low is integrated with other space-based infrared, interceptor, and surface-based radar sensors, the BMD System will have a capability to counter a broad array of midcourse countermeasures. Moreover, SBIRS Low will not carry many of the risks associated with forward deployed ground-based sensors, which can be vulnerable to attack and for which foreign basing rights must be negotiated.

Per direction in the fiscal year 2002 National Defense Appropriations Conference Report, plans for Satellite Sensor Technology, including SBIRS Low, will be provided to congressional defense committees by May 15, 2002. The restructured SBIRS Low activity will support numerous risk reduction activities, including technology maturation, ground simulations, and hardware-in-the-loop demonstrations. Based on cost, schedule, capability, and threat assessments, decisions will be made regarding production of a demonstrated SBIRS Low capability.

The international component of the Sensor Segment is the Russian-American Observation Satellite (RAMOS) project. We are cooperating with the Russian Federation in the area of early warning missile defense technologies. RAMOS is an innovative U.S.-Russian space-based remote sensor research and development initiative that engages Russian early warning satellite developers in the joint definition and execution of aircraft and space experiments.

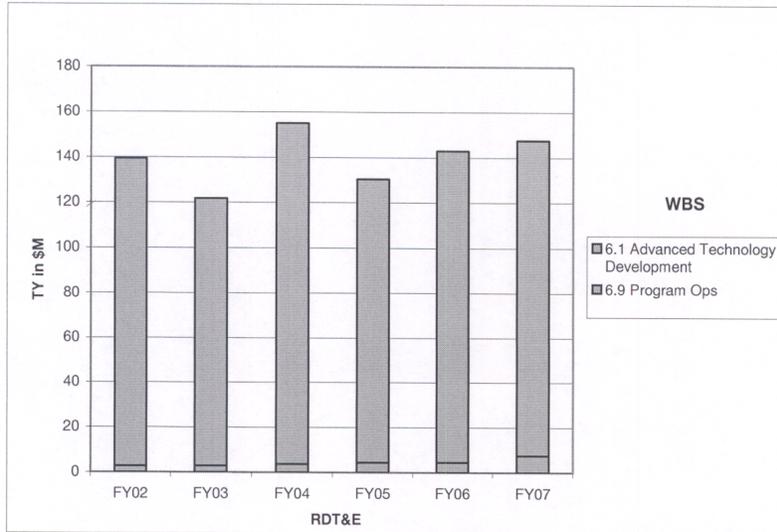
The Russians continue to review the agreement to execute the RAMOS project presented last July by the United States. Assuming agreement is reached this summer, in fiscal year 2003 we will complete detailed designs of the satellites and sensor payloads, begin fabrication and assembly of U.S. sensors and ground support equipment, and continue sensor software and modeling and simulation development. Launches of the first and second RAMOS satellites are projected to occur in fiscal year 2006.

Technology

The Technology effort will develop components, subsystems and new concepts based on high-risk, high-payoff approaches. The primary focus of this effort is the

development of sensors and weapons for future improved missile defense platforms. Investments maintain a balance between providing block upgrades to current acquisition programs and developing the enabling technologies for radically new concepts.

Our budget for the Technology segment in fiscal year 2003 is \$122 million (RDT&E), a reduction of \$18 million from fiscal year 2002 enacted level. Funding from fiscal year 2003 to fiscal year 2007 is projected to be about \$697 million.



To enable the BMD System to pace the threat, the Advanced Technology Development (ATD) effort is focused in four primary areas: (1) Terminal Missile Defense, (2) Midcourse Counter-Countermeasures, (3) Boost Phase Intercept, and (4) Global Defense. In addition to these tasks, investments are made in a strong technology base to move beyond the state-of-the-art in radars, infrared sensors, lasers, optics, propulsion, wide band gap materials, photonic devices, and other innovative concepts. The ATD office also works with the Systems Engineer and other segments to ensure seamless transition of proven advanced technology products into the BMD System.

Summary

The BMD System will counter the full spectrum of ballistic missile threats, capitalize on existing technologies and capabilities, and foster innovation. It will incrementally incorporate capabilities needed to detect, track, intercept, and destroy ballistic missiles in all phases of flight using kinetic and directed energy kill mechanisms and various deployment approaches. We have implemented a disciplined and flexible acquisition strategy to provide a timely, capable system. This approach protects against uncertainty by ensuring that the United States will have the ability to defend itself, its deployed forces, allies, and friends from a ballistic missile attack should the need arise.

I believe the approach I have outlined here toward developing and deploying missile defenses can meet the growing threat and provide for the earliest possible fielding of effective defensive capabilities.

Thank you, Mr. Chairman. I would be happy to answer any questions.

THEATER MISSILE DEFENSE

Senator INOUE. General, several years ago, the focus of our missile defense program was protecting our forces in theater. Since then, we have refocused our attention on national missile defense, and justifiably so, given the threat to our Nation, but I am concerned that with the exception of the Patriot program, there are no

funds for procuring any other theater missile defense system in DOD's Future Years Defense Plan. Are you concerned about this situation? If so, what can we do to address it?

General KADISH. Mr. Chairman, we have a situation where we are on the verge of developing those very systems that you discussed against shorter-range missiles for our deployed forces. The reason why no procurement funds are allocated at this point in time is because they are not ready for production.

I am not concerned so much about not having procurement funds as I am about making sure that those programs progress as rapidly as possible so that we can procure them. I believe in the next 2 to 3 years those programs will be in a position to add significant amounts of production money to buy those systems.

THEATER HIGH ALTITUDE AREA DEFENSE (THAAD)

Senator INOUE. Where is THAAD at this time?

General KADISH. THAAD is going through a redesign effort, and we are 2 years away from its first test, but it is making very good progress in our ground testing leading up to our first test program activities in early 2004, I believe. So in that particular case, if we do the right testing on the ground that we have programmed—which is, by the way, very expensive—I believe that our testing program will have a high degree of success to begin with, and we will be able to move rapidly to procure those systems.

Senator INOUE. What is the status of airborne laser (ABL)?

General KADISH. The airborne laser program is making remarkable progress; however, we had to look very realistically at the schedule very recently, and we are projecting a first attempt at shoot-down with the airborne laser in the 2004 time frame, in the fall of 2004 calendar year, at this point in time.

We have done a number of significant ground tests in the airborne laser that have shown us that we should have confidence, once we get over the integration phase of airborne laser, of actually integrating the laser capability into the aircraft. We would have a potential for a high degree of success in those tests.

We do have a delay, however, in those tests, and we are going to have to deal with that, but I see nothing that is fatally flawed in the approach at this point in time on airborne laser.

PATRIOT PAC-3

Senator INOUE. What is the status of the PACs?

General KADISH. I am sorry?

Senator INOUE. Are we ready to deploy some of them?

General KADISH. Patriot 3s?

Senator INOUE. Yes.

General KADISH. Yes. As a matter of fact, we are in very early limited procurement of the Patriot 3s. The last time I looked at the numbers, I think we had over 20 missiles already in deployment status, potentially, and we are building those every month. So we are in the very early stages, but we do have an initial capability for Patriot 3.

Senator INOUE. Do you know if this year our Nation will formally withdraw from the ABM Treaty? Can you describe for the committee what withholding withdrawing from the ABM Treaty

means in practical terms for your program? That is, what key testing programs can now move forward, what construction and development programs can now be undertaken?

General KADISH. The withdrawal from the Treaty is having a big effect on the program, as we look at what we can do without the Treaty constraints more in detail in the past few months. I think there are basically two emerging elements of the treaty that will be very apparent to us over the next 6 to 8 months.

The first area that has developed, and I think that it is significant, is that we are looking very differently at our sensor capability, in light of the Treaty withdrawal, on our ability to look at radar capability, and other sensors that might have been prohibited by the Treaty for use in our overall system effectiveness. Of course, one of the rules for missile defense using sensors is: The closer your sensors are to the launching missile, the better off we are in the system's effectiveness.

So this is a very important element, and one good example of that is the promise that using Aegis-class radars from our Aegis destroyers and cruisers might give us more effective use of our ground-based interceptors, and that was prohibited, for instance, by the Treaty in the past. So that is the first, most visible and most important area that we are feeling the effects of from the withdrawal of the Treaty.

I think the second area that, of course, will be obvious, is that when we decide that we have enough technical and programmatic effectiveness, the administration and the Congress could decide to actually deploy the system without constraints to the Treaty. I would expect over the coming years that that one effect will be obviously very important to us.

So those are just two examples of what is happening in regard to the Treaty effects on the program that I deal with every day.

Senator INOUE. Thank you very much.

Senator STEVENS.

Senator STEVENS. Pardon me for going in and out, Mr. Chairman. There are other matters here on the floor.

CAPABILITY-BASED ACQUISITION

General, I want to make sure if—that I understand this concept about spiral development capabilities-based acquisition. It is my understanding from my staff that the approach involves a great degree of flexibility compared to prior procedures, and that the Missile Defense Agency wants to reward successful efforts and discontinue the unsuccessful ones to build a missile defense architecture based on elements that have been proven to work and to move on when possible. Is that a correct summary?

General KADISH. That is a correct top-level summary, Senator. There is a little bit more to this capability-based approach than meets the eye, and it gets very technical in the way we do acquisitions traditionally in the Department.

Senator STEVENS. Will this be less expensive in the long run, in terms of acquisition, than the older method?

General KADISH. In my view—and this is an opinion at this point—it will be. There is a reason for that. What we tend to do in the Department with very mature technologies, for instance, we

have been building airplanes—I think, next year, in 2003, it will be 100 years that we have been building airplanes in this country, and we have a very stylized and very good requirement system that has moved the state of the art of mature technologies, like aircraft development, very well, and it has given us the greatest air force in the world.

What we are dealing with here is a situation where the technology is uncertain. We have been after ballistic missile defense for 25 years, in earnest, probably, and 40 years, and 50 years has been the maturity of the ballistic missile itself.

So we are not advancing a mature state of the art. In the requirements space process, we would spend generally the time and money required to meet a specific requirement that we knew and specified very well. In the case for an airplane, for instance, it might be how far it goes with a specific payload, and we can do that in a very orderly process, and we have many examples of that in the programs that are before the Congress today.

In the case of missile defense, there is a little bit more give-and-take that is required in an unprecedented technology. Rather than setting a goal and not knowing whether you can meet it technically, and spend any amount of time and money required to meet that, we believe we can take it off in chunks, and do what is possible, and match that versus what is needed. In the end, I believe that that process will be a lot less expensive than if we went with the traditional requirements-based approach.

Senator STEVENS. Well, I do not want to be impertinent, but it sounds like you are saying that if we set the goal for a supersonic jet, and all three would have failed, we would have never had the airplane, but on the other hand, what was needed in 2003 was not an integrated, mature system. I am not sure how these parts fit together, if we abandon part of them along the line. Tell me, how do you fit the parts together if you abandon one?

General KADISH. Well, it is not a question of abandoning. It is trying to set the goal such that they are achievable within a time frame for a specific cost. For instance, on a missile defense system, we would want to have a certain level of effectiveness in the missile defense level, and it could be set very high to push the state of the art, but in our case, the state of the art is what it is.

TECHNOLOGY AND INTEGRATION

Senator STEVENS. Maybe I was misled, and I guess—I think I can say this: At one of the briefings I asked a question, that is not on the record, at a classified briefing, and I asked the question, “What is the problem here?” And the answer was that the problem is integration of the system, not developing technology. Are we saying we do have technology problems now?

General KADISH. Well, I included integration in the technology basket, and that might be part of the problem with understanding—

Senator STEVENS. I do not want to take too much time. Let me get a little provincial here, and ask you about the Greeley Testbed. Can you tell us what the schedule is, status of construction, et cetera? What do we see, and is there enough money in the budget to proceed this year, as indicated?

General KADISH. I believe there is enough money in the budget to execute the program to build that testbed. We are on schedule. I think we are a little less than 900 days away from our target date of September of 2004 for that capability to be in place, and to use it for ground and integration testing. So I believe it is in pretty good shape. We are getting ready to issue more contracts to—

Senator STEVENS. How many interceptors will be in the first phase?

General KADISH. For the testbed, it is five interceptors at this point, and possibly a spare, depending on what the further analysis tells us.

NUCLEAR TIPPED INTERCEPTORS

Senator STEVENS. There has been speculation in the press, both in Alaska and nationally, that the Office of the Secretary of Defense is exploring nuclear tip missile interceptors, and that would replace the interceptors that are currently in the plan. We have not appropriated any funds, nor have we authorized any nuclear interceptors. Are there any being considered in terms of this testbed?

General KADISH. No, Senator. We have no part of our program that involves nuclear-tipped interceptors; however, people do think about those types of things across a broad range when you are dealing with missile defense.

Senator STEVENS. Well, I hope whoever thought about it in the Secretary of Defense's office is soon in a think tank.

General KADISH. Well, the Defense Science Board indicated—

Senator STEVENS. That has alarmed my people to no end, just absolutely no end, and I do not see any reason for it at all, and I would fire the guy. I am serious. We should not have people thinking out loud on the job, and speculating as to the future possibilities, when we are dealing with the reality of trying to get a missile defense system. It really—well, I cannot say that. It aggravates me. It is obvious. It makes me mad.

ANNUAL APPROPRIATIONS

Could I ask you one last question? And that is, you are looking at a block development, a 2-year program for this. Are we going to be able to use annual appropriations on a 2-year block program?

General KADISH. Yes, Senator, I believe so. We are looking at what we can do in a 2-year time frame from a developmental standpoint, and the appropriations would fall just like they traditionally have all the time.

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

Thank you, General. I mean no offense, except against that guy who has caused us so many night calls since it has been—

General KADISH. I have gotten a few of those calls myself.

Senator STEVENS. Yes, I am sure you have. It is just—I do not know. The press seems to report speculation a lot faster than they do fact.

Thank you, Mr. Chairman.

General KADISH. But I would like to make it clear, our primary technology right now, that we are having success with, is hit-to-kill, which is pure collision, kinetic energy, that destructs a mechanism.

Senator STEVENS. And no nuclear involvement at all?

General KADISH. None, whatsoever.

Senator STEVENS. Thank you.

Senator INOUE. Senator Cochran.

AIRBORNE LASER (ABL)

Senator COCHRAN. Mr. Chairman, thank you very much.

General Kadish, let me ask you about the likelihood of being able to keep the schedule on the airborne laser. I understand that you have a goal for a successful intercept using the airborne laser by 2004.

General KADISH. That is correct.

Senator COCHRAN. What is the likelihood, do you think, that you will be able to meet that schedule?

General KADISH. Well, we took a real hard look at the schedule in the fall of this past year, and that is where we set our expectation in the fall of 2004, which is basically 1 year difference from what we originally thought we could do, and the reason for that was that, although there was no one item that was causing our schedule problems to be—that you could point to as a significant flaw, there were a lot of things that were being delayed, because of the complexity of that particular revolutionary technology.

So 2004 was set at about a 80 to 90 percent confidence in the schedule, to give us a point in time where we think that that kind of likelihood would produce the shutdown.

Now, as with anything of this nature, that is our best estimate. We believe, with some confidence, that we can make it plus or minus a couple of months in that area, and we have to work hard to make it happen. So that is our status right now, but I think over the next 6 to 8 months, more data will come available to us, and we will have to take another look at it in the fall time frame.

Senator COCHRAN. The budget forecast for the airborne laser includes about \$30 million to begin procurement of a second airborne laser 747 aircraft, which I am told is being purchased from the commercial production line, rather than as a military purchase. Could you explain why you are taking this approach, and what the consequences would be if procurement of the aircraft does not begin this year?

General KADISH. Well, the idea of adding the second aircraft has a couple of aspects associated with it that are pretty, I think, important to the program. The aircraft we are building today is a demonstration aircraft, and we have learned an awful lot about how to build the inside of that 747 with the laser. I just told you about our confidence in actually making that happen. What the second aircraft would give us, because of the lead times involved, is an ability to put a better design approach and capitalize on what we have learned into a second aircraft, to further the development of the airborne laser concept. So we would actually have an air frame—a commercial airliner, off the line, ready for our use in a few years to actually move this program along more rapidly than if we did not have that aircraft.

So I look at it as an ability to take what we have learned off the demonstration aircraft, the first aircraft, start the process of building a better airborne laser with the second aircraft, and then be in

a position, time-wise, not to have to start that process 2 or 3 years later, if we got delayed. So it is basically an enhancement to the overall development, and in my view, a risk reduction effort. Since it is a commercial aircraft, the risk is not as high as if we militarized or bought something different than a 747.

SPACE BASED INFRARED SYSTEM (SBIRS) LOW

Senator COCHRAN. Senator Stevens mentioned the SBIRS Low program, the sensors that would be an important element in a ballistic missile capability. In your prepared testimony, you mention that SBIRS Low would not be subject to some of the risk associated with ground-based radars. You have to have a system, either a ground-based system—am I right—or something in space in order for a ballistic missile system to work. Is that an essential element of the system, or the program?

General KADISH. Both radars and space-based sensors are important elements of our thinking about an effective system. If I might take a minute to explain why that is important, I think it would help.

Radars, what we call X-band radars, in particular, are very accurate long-range radars. They suffer from the fact, however, that they have to be located in the right position to do their job. So they are very expensive, and when they are in place, they do a good job, but you have to put them somewhere. One of the rules of missile defense, as I alluded to earlier, was the closer they are to the launch point, the better off we are in terms of their effectiveness. So although they are a very important component, they do have their disadvantages.

Now, when you go to space with a sensor—it is very difficult to put radars in space, so we look at infrared sensors, in this case. You can get global coverage and solve that geography problem with the space-based approach. Those two sensors working in concert also complicate the adversaries' ability to fool any one of them. So that is why these are complementary and potentially important.

Now, from an affordability standpoint, the argument has been, and I think will continue to be, whether both of those are affordable in this sense. I do not think that we have enough information that is compelling enough, at least to us right now, that says we ought to choose between radars and space-based sensors. At this point, we need to know a little bit more about the space-based sensors by putting them on orbit, experimenting with them, and then deciding whether or not, either technically or for affordability reasons, we ought to make those trades. So that is why we want to carry both of these efforts together at this point.

Senator COCHRAN. It was disturbing to me last year that we saw some changes in the budget on SBIRS Low. We provided some language in conference with the House that gave the administration some latitude to make a decision along the lines that you are suggesting would be appropriate. Does this budget contain sufficient funding to help achieve that goal, or will we have to add additional funds to move this program along so that we can actually have a sensor developed and placed in space, so we can test it and see how it works?

General KADISH. At this point, I think, from a 2003 and a 2002 perspective, we might have to add some more money. We just provided the committee a report, I believe, in the last couple of days, of what our plans are to restructure SBIRS Low, and then as a part of that report, I believe we indicated that we will put forth a reprogramming in fiscal year 2002, and adjust the program in the out-years to accommodate this new restructure.

So we will probably have to look at adding some money in the 2002 time frame, with a reprogramming action, to lower the risk in this program, to the degree that we feel comfortable with. Those numbers and that effort will be a separate action coming to the committee.

ARROW

Senator COCHRAN. Okay. Last year, Congress appropriated \$40 million to set up a co-production capability in the United States for the Arrow missile. You have requested another \$5 million this year. How important is it to the Arrow program to have this co-production capacity in the United States?

General KADISH. Well, we believe it was very beneficial to the Arrow program to have that capability to co-produce Arrow in the United States, as basically a very straightforward reason, in my view.

We have worked with the Israelis to buy—I believe the number is 200 Arrow missiles and three batteries, and the current arrangement is for Israel to make about two missiles per month in the process. That very low rate of production limits their ability to populate those batteries in a time frame that we would like. So this co-production effort with the United States allows us to do more production per unit time, and, therefore, fill out those batteries sooner than would ordinarily be done.

Senator COCHRAN. I recall from a visit to Israel that there were some simulations and some tests that were being managed in concert with our capabilities in Huntsville, Alabama. Do you think that this program provides some benefits for us in terms of understanding technologies, and contributes to our development of ballistic missile capabilities?

General KADISH. I believe it does, and it has. There are some things we learned from the Arrow program that have been very useful to us, and I expect that that will continue.

Senator COCHRAN. We talk about sharing information and some of the benefits of the ballistic missile program with other allies as well. We have talked about Russia; we have talked about Japan.

ALLIED COOPERATION

There is a specific program, the Medium Extended Air Defense Systems (MEADS) program, that involved, I think, Germany and Italy at one point, and the funding has not been forthcoming at levels that were earlier anticipated. But my question is: Is the collaboration with allies in these specific instances that I have mentioned—is it beneficial, or have we done enough of it at this point to really know whether we have benefits that we can derive from working closely with trusted allies on these issues?

General KADISH. I think it is very beneficial to continue to work with our allies on missile defense technology. It is a difficult road to go down in this area because of the restrictions that tend to be put on the high technology that we have now for export controls, and other reasons, but I believe that one of the chief stumbling blocks, in my view, at least, is that the ABM Treaty specifically prohibited us from engaging our allies against—especially against long-range missile defense technologies. With our withdrawal from the Treaty, that window opens for us, so that we could look even broader among our allies for help in even specific technologies that might be useful to us, as well as share ours with them.

So I believe that there will be a more intense look at allied cooperation in our program as we go forward in the coming weeks, months, and years.

Senator COCHRAN. Thank you, Mr. Chairman.

Senator INOUE. Thank you.

Senator Shelby.

Senator SHELBY. Thank you, Mr. Chairman.

SMALL BUSINESS

General Kadish, referring to the Missile Defense National Team, I want to discuss your funding plans briefly, and the role of small business. I believe it is critical to ensure that the expertise and capabilities that reside in our small business technical base that supports the Major Defense Agency (MDA) remains strong and viable.

In supporting the Missile Defense National Team (MDNT), I hope a situation does not arise that would require you to migrate funds away from equivocal programs and offices like the Ground-Based Midcourse Program Office. Such funding issues might have a far-reaching impact on systems engineering and technical assistance contractors who contribute to the success of our missile defense and space programs.

Concern exists, especially in the smaller contract families, that migrating funds to support MDNT might lead to a migration of talent away from small business. With these concerns in mind, can you discuss how you plan to fund the Missile Defense National Team during the remainder of 2002, and beyond?

General KADISH. Well, Senator, I might just state up front that the small business community is extremely important to us across a broad range of efforts within missile defense.

Senator SHELBY. So much of the talent lies there, does it not?

General KADISH. Well, an awful lot of talent lies there, and some of our problems are making sure we get at it, both for short-term and long-term needs. Although not directly related to the systems engineering activity, we have a very active broad-range small business program and an innovative research program that I think we are going to spend at least \$130 million on this year.

Now, with regard to the elements, specifically ground-based, the source of the funds for the National Team idea, I think we have accommodated without effect to the rest of the program, because of the—

Senator SHELBY. Without migrating the funds?

General KADISH. Without migrating funds. Now, there are always puts and takes, and daily decisions that many thousands of

people make, so I am not sure I can say categorically that something did not get moved around for whatever reason; however, that is not our intent.

But I want to make clear that the National Team idea is very circumscribed in its function, in that it does—it helps us do the engineering required for a multi-faceted, ground-based, sea-based, multi-service type of system that we could have a potential to integrate. So I do not see this to be a very large operation in the future. If it does, I think it probably got out of control.

So somewhere in the neighborhood of \$80 million to \$130 million a year is what I have been looking at for the specific systems engineering activity, and that is accommodated within our budget activities.

One of the characteristics that, unfortunately, we are trying to find out how to deal with with small business is: The nature of the National Team is to get individuals from companies into this engineering environment, and we want the best. And to get into that environment, they have to sign very stringent conflict of interest clauses, which prohibit them from being used in any competition or any other future work that we might put out to the larger industry.

So that represents a very high opportunity cost to each one of the companies. Do they put their best people in that environment or not? That has been a struggle for all the companies, not just the small business, and we are working our way through that, but there is no intent to exclude them. Quite the contrary. We need the best, and we go wherever we can to find them. If they can meet the requirements, then they are in.

PATRIOT PAC-3

Senator SHELBY. On the Patriot, the PAC-3, would you discuss the status of the conditions being met, that is, especially the issue of full funding for PAC-3?

General KADISH. The full funding for procurement?

Senator SHELBY. Yes. In other words, your 2003 budget request again supports moving the PAC-3 program to the Army. Are you—you are very familiar with all of this. And what is the issue—where are we on the issue of full funding?

General KADISH. Well, this tennis match we have between whether it is in our budget or the Army's budget really gets confusing sometimes even to me, but where we are with Patriot (PAC-3) is that we have money in the budget, whether it is in our budget or the Army's budget, depending on where the transfer was made, for, I believe, 1,100 missiles. I will have to get you the exact number.

Senator SHELBY. It is 1,159 missiles, but the Army requirement is at least 2,200 missiles.

General KADISH. Those are inventory objectives—

Senator SHELBY. Okay.

General KADISH [continuing]. Of the Army. The way these programs work, the Department and the Congress either fund the inventory objective or they do not, so it is a stake in the ground.

Now, we are in discussions with Mr. Aldridge and the Army about who is going to make and how we are going to make the full

rate production decision on PAC—on Patriot 3, and I think in that process, and in the 2004 budget process, particularly, adjustments will be made to the total inventory. So I think that process is under control, but is not fully vetted yet in terms of what the number is really going to be.

THEATER HIGH ALTITUDE AREA DEFENSE (THADD)

Senator SHELBY. And I have run—well, I have a minute or so. I will go to the THAAD program. I understand it is doing a lot better.

General KADISH. Well—

Senator SHELBY. I would like your comments on it.

General KADISH. All the indicators—we restructured that program, and I have been criticized for being way too conservative in putting in a lot of ground testing in the process, but I think that is the right thing to do. What we are seeing in THAAD right now is the coming to fruition of those plans that we have made to ensure that when we get the flight tests, we have every chance of being successful and move rapidly to various flight tests.

What is key to that is the ground testing of the piece parts, and then into larger assemblies, and into the final assembly, and that takes time. It takes time, and it takes money.

So we are spending that capital now, the time and money, and we are asking you for, I think, \$950 million next year for this, and to be patient with us in actually getting through this early, very critical design phase.

Senator SHELBY. Are you fairly confident that we are now on the right track?

General KADISH. I believe we are. We are 22 percent done in the program, and we are ahead of costs, and ahead of schedule, but that does not mean much to me now. I want to wait until we are 85 percent done, and be ahead of costs and ahead of schedule, but all the trends are in the right direction.

Senator SHELBY. Thank you, Mr. Chairman.

Senator INOUE. Thank you.

Senator DOMENICI.

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

MISSILE DEFENSE SPENDING

It is nice to see you again, General. From the information that I have put together, the Missile Defense Agency, since 1985, has spent \$73.5 billion in research and development, and on various forms of missile defense. Critics will point out that after this spending, there remains no deployed missile defense system in the United States or overseas. How do we answer that question?

General KADISH. Well, I think there are two answers in the way I try to discuss that issue. The first is that that level of spending, in an unprecedented endeavor called missile defense, has gotten us to the point where we are today, and that point is that we are at a program and technological crossroads where I believe that we are increasingly confident that hit-to-kill can work, and that the next step is to make it work reliably enough to make it effective, and we are on the verge of doing that.

So to the degree that the country has spent the treasury in this regard, we, I think, have done very well getting to the point we are at now. We can argue about whether we should have gotten there earlier, based on some of our management activities, but on balance, that investment is starting to pay off.

In regard to a deployed missile defense capability, we declared—it was a small step, but a large one at the same time. We declared Patriot 3 capable with 16 missiles back in September, and we are building that inventory now. So from a hit-to-kill perspective, we do have our first field capability, as small as it is, but we now set that bar as a milestone to our journey to an effective missile defense.

Senator DOMENICI. General, the data from the MDA shows that the annual appropriations of all forms of missile defense almost doubled from the end of President Clinton's administration through the Bush administration.

What measures have been taken to ensure that the controls over this increase funding request will remain intact and adequate? Does part of the increase under President Bush result from the budget request being more fully funded, in terms of being able to accomplish declared goals for various programs or not?

General KADISH. I think the controls that we have on the spending of the money are as tight as they have been all along. In fact, we are paying an awful lot of attention to that, and our statistics on obligation rates and expenditure rates are meeting all the targets that we set for them.

I do think, in regard to your last question, that increase represents more of a full funding of our efforts, as opposed to an increase in our activity, in the short term. Now, we will change that over time, as we look at boost phase and things of that nature, but our strategy really has been to make sure that we can fund what we are doing today, and move as rapidly as we can with the program.

Senator DOMENICI. I have another round. When I come back, I will ask them.

Senator INOUE. Senator Feinstein.

Senator FEINSTEIN. Thank you very much, Mr. Chairman. I would like to ask that my statement be placed in the record, if I might.

Senator INOUE. So ordered.

[The statement follows:]

PREPARED STATEMENT OF SENATOR DIANNE FEINSTEIN

Thank you Mr. Chairman, and thank you General Kadish for joining us today. I am pleased to be here today as well, as I have many questions regarding missile defense. When Deputy Secretary Wolfowitz testified before this committee on March 27th of this year, I voiced some of those questions in the broader context of our overall national defense strategy.

Today's discussion affords us the opportunity to delve deeper into the details of the program, and as we all know, the devil is in the details.

We are currently fighting an asymmetrical global war on terrorism that requires a shift in our strategic thinking. This war has forced us to confront the old cold war mentality that is so prevalent in defense circles, and instead embrace change in force structure and procurement.

Unfortunately, it appears that our current missile defense program may in many ways represent the old way of doing business.

I am concerned that the testing, cost and strategic arms control implications of the Administration's current missile defense plans may detract valuable resources from more pressing security needs, such as the war on terrorism.

The price tag associated with this year's Research, Development, Testing and Evaluation program for missile defense has produced considerable sticker shock for many of us on this committee.

I, for one, am far from convinced that we have achieved the technical maturity required to field an effective missile defense system. Systems such as SBIR's Low (Space Based Infrared) are, by some estimates, more than a decade away from being operationally deployable. Additionally, our testing criteria frequently fails to accurately replicate real world intercept scenarios, including countermeasures. There also remains much debate over the warhead options available, in particular the validity of the "hit to kill" approach being proposed.

Perhaps of greatest concern to me is the misdirection of funds for an expensive, "feel-good" system that does not adequately address the potential threats we face.

Do we, for example, face a greater threat from an incoming ballistic missile, or from a "dirty" radiological bomb that was smuggled into a U.S. port in a shipping container?

Or for that matter, what are we doing to defend against the possible threat of a homicide bomber in downtown Washington, DC or San Francisco?

In a time of limited budgetary resources we have an obligation to use the taxpayers funds wisely.

I look forward to discussing these important issues with you so that I may get a better understanding of your proposed funding and implementation plan.

Thank you.

NUCLEAR TIPPED INTERCEPTORS

Senator FEINSTEIN. I would like to continue along the lines that Senator Stevens did, who indicated his strong opposition to any nuclear tipping of these missiles. I have before me the April 11th article in The Washington Post, General, which rather clearly states that the Secretary of Defense has opened the door to the possible use of nuclear-tipped interceptors in a national missile defense system, and that the chairman of the Defense Science Board has received encouragement from Secretary Rumsfeld to begin exploring the idea as part of an upcoming study of alternative approaches to intercepting enemy missiles.

I want to concur with Senator Stevens. I want to say that I find that just absolutely inexplicable, how we would even explore the use of nuclear-tipped interceptors, with what they might do with radiological fallout to people, and to countries. If that is the case, I think that that really makes this whole national missile defense system just a reprehensible effort.

COSTS

We are spending \$7.5 billion this year on research that still nobody knows is really workable on a consistent basis. So I really want the record to reflect what I believe would be the American reaction to this as well, as just being unconscionable, and really one not to be countenanced at virtually any cost.

Secretary Rumsfeld also announced in January a reorganization of our missile defense efforts, creating the agency that you head, and the current 2002 defense authorization bill, including several new reporting requirements that were applied to the ballistic missile defense organizations, and various other organizations, such as the Director, Operational Test and Evaluation. It has some oversight or review of the missile defense program.

My question to you, General Kadish, is when do you expect to finish the report to Congress on cost, schedule, testing, and per-

formance goals for ballistic missile defense programs required in Section 232 of the 2002 defense bill, which was due on February 1 of this year?

General KADISH. Senator, we are trying very hard to meet all the reporting requirements levied on us last year, and to do it in a way that makes sense. If I remember right, that particular report, we believe we satisfied with the actual submission of the budget.

Now, I think there was some discussion with the documentation that we actually submitted to the Congress that supported our budget activity. If that is not sufficient, I will have to go back and look at it, but that is my recollection at this point.

Senator FEINSTEIN. Would you mind then resubmitting that portion of that submission to us, which answers the provisions of Section 232, in your opinion?

General KADISH. To the best of our ability, yes, Senator.

Senator FEINSTEIN. I would appreciate that. Thank you very much.

RADAR

In earlier years, General, we were told that the X-band radar on Shemya was critical to the effectiveness of the program. Now, your R-2 documents show that you plan initial development of a test X-band radar, but it is unclear if it will be at Shemya Island or not.

Where will this be located? If it is not at Shemya, how will this affect the contingency capability you plan to deploy at Fort Greeley? And is it not correct that even with an upgraded Cobra Dane radar on Shemya Island, the contingency capability will be severely limited in its discrimination capabilities?

General KADISH. Let me take the last part of your question first, if you do not mind. A contingency capability is basically that; that is, it is a lot less than what we would like to have in any of the systems, should we find it useful to declare that capability. Certainly, some more testing needs to go.

It will have, in my view, some inherent countermeasure capability, but it will not be what we would have postulated with the previous National Missile Defense (NMD)-type program, with the big X-band radar at Shemya, if that is certainly the case. But that does not mean it does not have capability to offer a very, very basic defense. So in a more classified forum—

Senator FEINSTEIN. So you are saying it would not limit its discrimination capabilities.

General KADISH. It would limit the discrimination capability, but the capabilities it would have would be sufficient for what we expected it to do, which would be a lot less than what we had with the NMD architecture that we previously talked about.

So if we decide through testing and our evaluation of the system that that testbed has the capability to be used, this will all come out and be very well understood by the decision makers.

Senator FEINSTEIN. All right. What about its location at the—of the X-Band Radar (XBR) at Shemya?

General KADISH. We have, today, a prototype X-band radar at Kwajalin Island. It is there for a lot of reasons, but it is not the ideal place for our test program to have that X-band radar.

So two things have been happening. The first is, the idea of having the radar at Shemya, against an operational mission in the Pacific, it was an ideal location, just because if you look on a map where Shemya is in Alaska, it is the closest U.S. territory to North Korea, for instance. So that was a very good location from an operations standpoint.

We would like, but no decision has been made, to move to a deployment activity that would include that type of radar, so it is not there in our budget. What is there is an idea that we want to build another X-band radar for our test program, and we have not decided where that radar should be just yet, whether it would be better in the Hawaiian Island area, whether it would be useful at Shemya for test purposes, or someplace else, to include a mobile X-band radar on some sort of a sea-based platform. We are in the process of trying to decide what to do about that, and we have not made the final decisions on it yet.

There are advantages to each one of those locations for different reasons.

Senator FEINSTEIN. So Shemya may be in the picture. May I ask this question? If it is not Shemya, how is this going to affect the contingency capability you plan to deploy at Fort Greeley?

General KADISH. The contingency capability that might reside at Fort Greeley would be a lot less than if we had an X-band radar in that part of the world.

Senator FEINSTEIN. Can you quantify that for us—

General KADISH. Well, let me put—

Senator FEINSTEIN [continuing]. In terms of dollars, or any way you can in an unclassified setting, to quantify it?

General KADISH. What X-band radars and sensors give us of that nature is the ability to watch a threat warhead very precisely, and measure things in very minute ways. Let me give you an example.

If we had an X-band radar that we might use for the THAAD program here in Washington, we can see the rotation of a golf ball over Seattle in our data. So it is a very useful thing to have. To get the kind of distances we need up in the missile defense architectures against long-range missiles, these have to be very powerful radars. If you do not have them, then you are relying only on the sensors that are less precise than an X-band radar, which is the kill vehicle—the infrared sensors on the kill vehicle itself, and some early warning radars that are less accurate in the process, like the Cobra Dane radar that we might have at Shemya today. So the idea of an X-band radar addition would be very, very precise information to guide that interceptor better than would ordinarily be done.

However, even with those X-band radars not as part of the architecture, there is, we believe, a good capability inherent in the kill vehicle and our early-warning radars to provide us a missile defense capability should testing prove it to be effective. I do not know how to say it any better than that. It is not what we want, but it is useful.

Senator FEINSTEIN. So you are saying that the expenditure for Fort Greeley would remain the same—

General KADISH. It would remain the same.

Senator FEINSTEIN [continuing]. Even if it was not at Shemya?

General KADISH. The expenditure for Fort Greeley would remain the same. If we wanted to add a radar, it would be an increment of hundreds of millions of dollars above what we are requesting right now to do Shemya. I think the X-band radar—

Senator FEINSTEIN. Other than using Kwajalin.

General KADISH. Other than using Kwajalin, which is out of position for operational uses.

Senator FEINSTEIN. So we could anticipate that there is going to be an additional amount.

General KADISH. I think that as we look at deploying more effective missile defenses beyond the testbed, where we would prove the integration of this system to ourselves, in my view, it would be more resources required to do that. Yes.

Senator FEINSTEIN. Mr. Chairman, I guess my time is up. I did have a couple more questions. May I submit them, please?

Senator INOUE. Without objection.

MDA SPENDING DATA

General Kadish, to date, the committee has not received any spending data from your agency for fiscal years 2001 and 2002. Will you assure the committee that prior to our markup of the fiscal year 2003 bill that we will receive spending data from your agency?

General KADISH. Yes, Mr. Chairman. I will guarantee it as soon as we can.

NAVY AREA DEFENSE

Senator INOUE. I appreciate that. General, as you may recall, during deliberations of the 2002 defense bill, the Pentagon notified the committee that it would cancel the Navy area-wide theater missile defense program. This decade-old program was designed to launch intercept missiles from ships to shoot down incoming warheads, but after having spent about \$2.4 billion, and then with expectations that the program might exceed estimates by more than 30 percent, the Pentagon said, "That is it." However, we have been advised that such a system still exists.

Earlier this year, the Commander-in-Chief of the U.S. Pacific Command testified to Congress that terminating the area-wide program was a blow to their plans of deploying ballistic missile defense as quickly to the Pacific theater. The Navy area program was our only ballistic missile defense system that used the explosive warhead found on—to destroy a target versus a more technically complex hit-to-kill technology found on the other BMD systems. Some argue that using explosive warheads would be more effective against, again, certain threats, such as Scuds, and less costly. What do you think is the future of this program? Is it completely dead?

General KADISH. Mr. Chairman, we are in the process of going through a very intense look at what we need to do in light of the Navy area program cancellation right now. I would like to talk to you more about that in probably 3 or 4 weeks when we get the final decisions made there, but I would like to say this about the approach we are taking: We realize that the Navy area program had a very specific and very valuable contribution to missile de-

fense, especially because it is mobile, and a forced-entry requirement exists.

The problem we were having was that we were trying to integrate an infrared sensor with a radar sensor, and even though the blast fragmentation part of this might add value to it in certain circumstances, we could not make it work without spending a lot more time and money on it. At the same time, we were advancing our understanding of the hit-to-kill process.

So what we are doing right now is: We are taking a very comprehensive look at all of our systems, and what we can do to solve the Navy area void that was created from an operational perspective. We are not ready to tell you what those answers are, because we have not made the final decision, but they look very promising in our ability to cover the threats that Navy area was supposed to cover, and hopefully can do it in a time frame that is not too far out of line with where we were going with Navy area to begin with.

So if you would indulge me, I would like to wait maybe until the end of May to report to the committee on exactly what we can do there, and if we can do it earlier, we will.

Senator INOUE. General, because of the sensitive nature of the next question on countermeasures, I will be submitting them for your consideration.

General KADISH. Thank you.

Senator INOUE. Senator Cochran?

Senator COCHRAN. No further questions, Mr. Chairman.

Senator INOUE. Senator Feinstein.

THREAT

Senator FEINSTEIN. I have one other question. Just one quick statement: Being a Californian, and being very concerned as a member of the intelligence committee about the possibility of a dirty bomb coming in in a cargo container, and in spending time in Hong Kong last week with the chief executive and the port people to see how feasible it really is to push our borders to create a system internationally of search, certify, and sealing these containers, that, to me, seems the threat we face. And this seems such an unrealistic area, I just cannot point out to you the point/counterpoint of the world we live in, and the world you live in now.

I just have to believe that the terrorist wars that we are in are not going to end anytime soon—in other words, for the next decade—and the improbability of a missile coming at us from a rogue nation that cannot be met with a reprisal that would certainly be so strong, and is so strong that it is an effective deterrent to such an attack, whereas we have no deterrent to protecting our borders from what is a very real threat, it kind of boggles my mind. I know this is not your problem, and I appreciate the work you are doing.

COST CONTROL

Let me ask this last question. The 2003 budget has a lot of money for missile defense, and what I would like is your assurance that the program will stay on budget. For example, critics claim the cost estimate of the airborne laser testing subset is projected to increase from \$10 billion to \$23 billion. I would like to know

from you whether you believe that is true or false, and whether this program will stay on budget.

General KADISH. Well, Senator, we are doing everything we can to make sure that our programs execute the way we plan them, but we are in a technology area, especially when you talk about something as revolutionary as an airborne laser capability, never been done before, certainly from an airplane.

I am not sure I can guarantee you that we will not miss our estimates on what it takes to do these types of things, but what I can tell you is that everything that we are trying to do is—we are going to manage as best we can to ensure we bring that capability in for as little dollars as possible, and we are working every day to do that.

Sometimes we are going to fail, but I do not know really what the ultimate cost of that capability is going to be right now, because we are at some of the critical phases of the program. But right now, the costs are under control, to the best of our ability. The indicators look like we are going to slip the schedule to the 2004 time frame, but even with that, we have a pretty clear idea of what needs to be done, and what dollars are required to make it happen.

If we do not meet those goals, we will be back here next year telling you why, but we are doing our best.

THREAT

Senator FEINSTEIN. Of course, it will not do anything for our problem with containers, 6 million a year which come into this country, and less than 1 percent searched. You do not have to answer that. It is just—

General KADISH. On a personal note—

Senator FEINSTEIN. I do not mean to be difficult for you, but it is just—I mean the real world that I see out there, and the world that this meets, are just so different, it is unbelievable.

General KADISH. Well, Senator, if I could offer to you, we have some views of the threat that I would be more than happy to share with you in a classified forum that may give you a different perspective.

Senator FEINSTEIN. I would like that very much, if you would, please. I would appreciate it. Thank you.

Mr. Chairman, thank you.

Senator INOUE. Senator Domenici.

Senator DOMENICI. Well, I might just say to the distinguished Senator from California, I did not visit any foreign countries recently to get information, but I would say to you, reference to such a threat as containers coming into America, and the enormous quantity and numbers, et cetera, as one of the new threats we have to confront, I would urge that you or your staff have one or more of the national laboratories brief you on the kind of technology that is in the process of being developed just for that kind of thing.

Now, nobody had pushed them heretofore, because this was just a natural offshoot of some research. Now, obviously, somebody cares. We have so much potential out there in these fields, but we did not care about it. There were other things with higher priority, like the one you just brought to our attention here, but I think you

will find in the sciences that there is tremendous breakthroughs on how they are going to do that, and tell you pretty well how long it will be before these things are fully developed, et cetera. I think it would be very helpful, and I thank you for listening.

SCIENTIFIC WORKFORCE AVAILABILITY

General, let me ask you: You are involved in leading a program that probably develops as much American science and technology as any other program we have. We pride ourselves with the space program, it is a science-based program, but they are doing—95 percent of what they are doing is the same thing being repeated, with some improvements, and a few new research prospects. But we are asking you all to do something very, very different. And I wonder if your program is suffering from, maybe I would call it brain drain, or maybe I would say there is not sufficient talent out there to appropriately bid these projects, and do the work in the fastest time frame.

I am of the opinion that almost everything the United States is doing that requires a lot of scientists, a lot of physicists, a lot of engineers, we are running behind, because we just do not have enough. Your program is going to require a cadre of the most esoteric applications of physics, and dynamics, and other things. What is your assessment in that regard?

General KADISH. Well, Senator, we get many tens of thousands of people working on the program right now, and they are doing a wonderful job for us, and they are very talented individuals. But as we look down the road to what we need to do, and where we need support from the country at large, I worry about it a lot, getting the types of talent we need to sustain that effort, and to make it better.

The National Team idea of trying to focus talent, going out to the national laboratories as much as we can, hiring folks that would not ordinarily be in Government to come into Government, to help us with this problem, is a challenge that we are trying to face up to right now.

In fact, if you read closely the letter that authorizes the Missile Defense Agency, signed by the Secretary in January, one of the key statements in that letter that I pay a lot of attention to is, is to try to get the best and the brightest to sustain the effort, and we are setting in process whatever we can think of to do that.

Senator DOMENICI. Well, General, I would suggest to you—and, Mr. Chairman, I would suggest, if we can—that we permit you to use whatever you can of your program to excite young brainpower. We are not getting enough young people enthused about physics, and chemistry, and engineering, so if different agencies are trying to excite them, it would seem to me that without an awful lot of money being required, you could do some of your programs in ways that some post-docs, maybe double or triple the number of post-docs you have on these programs, because that is the way to get young talent hooked, and I use that word in its better sense, not just a pejorative sense, to get them interested.

I would ask, if you are not too busy, if you might assign that to someone from the standpoint of working with the universities and laboratories on either post-docs, or guys who are still getting their

doctorate, and have as many of them as you can, men, women, and minorities, get into this observation mode, with a bit of the excitement that comes from this. Obviously, there is a lot of excitement.

General KADISH. Yes, Senator. In fact, that is a pretty good idea that we probably need to add to our toolbox here, and look at a little bit longer range than we might look for right now. In fact, let me get back to you on that, and tell me what you—tell you what we are going to do about it.

ADDITIONAL COMMITTEE QUESTIONS

Senator DOMENICI. Thank you very much.

I have three other questions that I will submit for the record, Mr. Chairman.

Senator INOUE. Without objection, so ordered.

[The following questions were not asked at the hearing, but were submitted to the Department for response subsequent to the hearing:]

QUESTIONS SUBMITTED TO GENERAL RONALD T. KADISH

QUESTIONS SUBMITTED BY SENATOR DANIEL K. INOUE

OVERCOMING COUNTERMEASURES

Question. General Kadish, many argue that the most difficult technical challenge facing our missile defense program is developing methods to overcome enemy countermeasures. How do you respond to critics who claim we are building a very complex, expensive missile defense system that can be foiled by inexpensive countermeasures such as simple balloon decoys or chaff?

Answer. The Ballistic Missile Defense System (BMDS) addresses the countermeasure challenge two ways—by a layered defense and by evaluating the threat target in many different and complementary ways. The BMDS will provide a capability to engage ballistic missile threats in all phases of flight. This includes opportunities to engage threats in their boost phase before they deploy the midcourse type of countermeasures mentioned in the question. The BMDS will employ sensors with multiple phenomenologies from which several discrimination features can be generated. Thus the countermeasures mentioned make identification of the warhead more challenging, but not impossible.

Question. General, this situation appears somewhat similar to the “arms race” mentality of the Cold War: we counter their weapons, they counter our countermeasures and so on. Is there any way to avoid such a “race?”

Answer. The question of avoiding an arms race is one the Department has had to deal with in all mission areas. Countermeasures are part of the natural evolution of any military capability. Most weapon systems we have today are susceptible to countermeasures. All weapon systems will be scrutinized by potential adversaries and probed for weaknesses. In addition, the “action-reaction” cycle is not a new phenomenon, nor is it limited to the development of weapon systems. It also occurs in operational strategy and tactics. We can, however, slow this cycle by applying appropriate security measures to our development efforts. To the extent we can limit an adversary’s understanding of our defensive capabilities, we can restrict their ability to develop countermeasures.

Question. Will future tests of our missile defense system feature more complex decoys and other countermeasures?

Answer. Yes. Our testing gets progressively more challenging. The BMDS will be tested against the threat capabilities of potential adversaries as described in the Adversary Capabilities Document. Tests will be designed to employ realistic scenarios and countermeasures. As projected threats become more complex, we will conduct tests with increasingly more stressing decoys and countermeasures.

Question. General, press reports indicate the Department is considering using nuclear-tipped interceptors as part of our missile defense system. Do you have any thoughts on this matter?

Answer. MDA is not designing, developing, or testing nuclear-tipped interceptors. It is Administration policy that we develop our missile defense program using non-nuclear “hit-to-kill” technologies. Our recent flight test history shows that we have

proven that “hit-to-kill” is a viable approach. Our current challenge is to show that our missile defense elements work reliably in increasingly complex environments. Our Ballistic Missile Defense System Test Bed is intended to demonstrate just that.

THE MANAGEMENT CHALLENGE

Question. General Kadish, you have said that managing such a complex program as missile defense is every bit as challenging as some technology issues we face. To help meet that challenge, the Department established a new Missile Defense Agency, though this has come with some controversy. General, what are the key management challenges you face and how will the creation of this new agency help you manage the missile defense program?

Answer. The primary management challenge I face is moving the program from element-centric to system-centric focus, integrating the formerly independent development efforts into a single system and facilitating the transitions during the acquisition cycle. This emphasizes the importance of communicating our vision to agencies external to the Missile Defense Agency (MDA): the Services, OSD, the Joint Staff, and the Congress. We are attacking this management challenge using a combination of new and more traditional acquisition, oversight, and coordination processes. When the Secretary of Defense renamed the Ballistic Missile Defense Organization the Missile Defense Agency, he did so in order to underscore the national priority placed on missile defense, and the need to provide the authority and structure consistent with development of a single, integrated missile defense system. In order to meet the uniquely complex and unprecedented challenges of developing the Ballistic Missile Defense System, the Secretary will look to the Senior Executive Council (SEC), chaired by the Deputy Secretary along with the Service Secretaries and the Under Secretary for Acquisition, Technology and Logistics, for policy and programming guidance. In addition, the Under Secretary has created the Missile Defense Support Group and an associated Working Group for independent analysis and advice to the SEC and the MDA Director. These groups will help in developing a shared understanding of the BMDS and its progress. Through their advice and guidance, they will also help me manage the missile defense program. In order to communicate our vision to Congress and to help you understand our activities, we will submit the BMDS RDT&E Selected Acquisition Report (SAR), reports to Congress, our detailed annual Budget Justification documentation, frequent briefings and information to fulfill Sec. 232 (c) and (d) of the National Defense Authorization Act for Fiscal Year 2002.

Question. Concerns have been raised about the MDA’s new acquisition process restricting internal DOD and Congressional oversight. General, can you assure the Committee that Congress will have complete, unfettered oversight of the missile defense program, as it does for any other acquisition program?

Answer. Yes. Internally, the Department has structured the program to better manage a very complex set of challenges, and provide for more focused oversight of MDA. MDA is reviewing all statutory and regulatory requirements in DOD 5000 and assessing how best to meet these requirements. Externally, our accountability will be just as transparent as in the past. There is no reduction in Congressional oversight. MDA continues to be subject to the federal acquisition system but is tailoring the traditional acquisition process to: (1) incorporate lessons-learned, (2) better align with best commercial practices, and (3) manage risk more prudently. Congress will continue to receive reports and have oversight of the single BMDS Major Defense Acquisition Program (MDAP) through the BMDS RDT&E System Acquisition Report, budget submissions, reports to Congress, and hearings. The reports will cover the entire BMDS program of development. Once force structure and production decisions have been made, the relevant procurement information will be available through normal Service channels.

Question. What is the status of the “national industry team” and how will this team support your efforts to manage the program? Do you anticipate that the members will continue to participate fully once missile defense systems go into production?

Answer. Although the Missile Defense National Team (MDNT) is in its initial build-up phase, the majority of the team is in place and working. The MDNT is comprised of Government, Federally Funded Research and Development Centers (FFRDC), System Engineering and Technical Assistance (SETA) contractors, and an industry team comprised of major defense contractors that are experienced in the development, integration and production of defense systems. The MDNT industry team members are currently assessing the existing capabilities of the missile defense elements so the MDNT can design and assess an integrated system. If changes are necessary, the MDNT industry team will, in collaboration with the rest of the

MDNT members, propose modifications to existing elements and/or new program efforts to the Government. (The Government is the determination authority for any approved programs/modifications and maintains Total System Performance Responsibility (TSPR) over the BMD System.) The recommendations will be vetted using a Configuration Control Process chaired by the Government. As changes and new programs are approved, MDA will provide program direction to the element program managers. The MDNT, including the MDNT industry components, will continue to function after the elements go into production. As these elements deliver capabilities, the MDNT will assess those contributions to system performance. In addition, the MDNT will be continuing to design improvements to the system as threats change and technologies evolve.

ABM TREATY

Question. General, are there any tests or programs funded in your fiscal year 2003 request that would cause a violation of the ABM Treaty, were we to remain a party to the treaty?

Answer. Treaty compliance determinations depend on the specifics of the activities to be undertaken and on the interpretation of the particular treaty provisions applicable to those activities. Since it is not necessary to determine whether MDA activities after June 13, 2002 comply with the Anti Ballistic Missile (ABM) Treaty, the Department of Defense is not undertaking the lengthy analysis required to answer such hypothetical questions. The expiration of the ABM Treaty will provide needed flexibility and eliminate impediments for all areas of our BMD program. For example:

- Testing of ABM components (to support the development of a Ballistic Missile Defense System to defeat long-range or “strategic” ballistic missiles) will no longer be limited to designated ABM test ranges (the United States presently has two: Reagan Test Site and the White Sands Missile Range in New Mexico). This will allow our agency to test missile defense elements and components wherever that testing makes the most sense.
- The numerical limitations on ABM components (i.e., missiles, launchers, and radars) set forth in the ABM Treaty, such as no more than 15 ABM test launchers at ABM test ranges, will no longer constrain our program and activities. This eliminates the need to divert resources to dismantling ABM components, such as ABM test launchers, before new ones can be constructed in order to remain under the treaty’s artificial ceiling.
- Testing and deployment of missile defense components can be done in any basing mode (i.e., sea-based, space-based, air-based, and mobile land-based), all of which are currently prohibited by the ABM Treaty. This will allow greater flexibility in both the testing and the deployment of our missile defense systems. The result should be greater protection for the United States, forward deployed forces, and our allies.
- The concurrent testing of ABM and non-ABM components will no longer be prohibited. This will allow the testing, and ultimately the deployment, of our missile defense systems in ways in which they will be working together with other missile defense and non-missile defense components (e.g., radars) to maximize missile defense effectiveness and thus provide greater protection.

The limitations of the ABM Treaty on transferring ABM technology to other nations will expire with the Treaty. This will greatly enhance our ability to engage in cooperative programs with other nations to develop, produce, and operate a more capable BMD System.

Question. General, you testified to Congress last year that the Airborne Laser shoot down test in 2004 would be the first to “bump up” against the ABM Treaty. Since that test has been delayed to 2005, what is now the first test or activity that would have violated the Treaty?

Answer. MDA plans for Integrated Flight Test (IFT)-7 (which occurred in December 2001) to use an Aegis radar at the Reagan Test Site to track the interceptor and to use the Multiple Object Tracking Radar (MOTR) radar at Vandenberg Air Force Base to track the target were cancelled by the Secretary of Defense after he determined they would violate the ABM Treaty. Plans to use an Aegis radar and the MOTR radar in the same manner in IFT-8 (which occurred in March 2002) were similarly cancelled by the Under Secretary of Defense after he determined, consistent with the prior decision of the Secretary, that they would also violate the ABM Treaty. MDA also planned to use an Aegis radar in both IFT-7 and -8 to view the strategic ballistic missile target as it was being launched from Vandenberg Air Force Base. These plans raised complicated questions of treaty compliance that could not readily be resolved. Given the complexity of the compliance issues in-

volved, the Under Secretary of Defense directed MDA to cancel plans to use the Aegis radar in this manner since, even if approved, some could nevertheless argue that it was a violation of the ABM Treaty. The next flight test in the series, IFT-9, will be conducted no earlier than July 2002, after the expiration of the ABM Treaty. We plan to use an Aegis radar in IFT-9 to view the strategic ballistic missile target as it is being launched from Vandenberg Air Force Base in order to help us determine whether Aegis can provide early warning of missile attacks and guide interceptor missiles to their targets. After assessing the outcome of that test, we will consider ways to more fully integrate it into our Ground-Based Midcourse Defense tests. The Aegis data from IFT-9 is also needed to develop targeting software for the entire missile defense system and to improve the operational realism of our testing. As in IFT-7 and -8, questions about whether this type of Aegis participation in MDA integrated flight tests would be consistent with the ABM Treaty were never resolved within the Defense Department. The MOTR is no longer needed for IFT-9 due to high confidence of similar data being available from other sensors, sensors that participated successfully in IFTs 7 and 8.

It should also be noted that MDA will begin interceptor silo construction in Alaska in late June 2002. Questions about whether these and other portions of the Alaska Test Bed were consistent with the ABM Treaty were never resolved within the Defense Department.

MISSILE DEFENSE PROGRAM EXECUTION

Question. General Kadish, missile defense programs received significant funding increases last year, including programs such as the Airborne Laser and the Theater High Altitude Area Defense missile. Are you satisfied that these and other programs under your control are meeting their spending targets for fiscal year 2002?

Answer. I am fully confident that these and other MDA Program Elements will meet their spending targets. Attached is a forecast that shows our plan to obligate close to 90 percent of the funds available to MDA in fiscal year 2002.

Program Element	Approp Amount	Program Amount	Released by OSD	Actual Obligations	Forecast End 1st Year Obligations
THAAD	872.481	846.901	846.901	642.265	823.317
NAVY AREA	100.000	96.184	96.184	57.856	97.700
BOOST SEGMENT	608.863	587.824	587.824	364.484	567.847
MIDCOURSE SEGMENT	3,820.534	3,675.994	3,475.994	1,725.920	3,444.897
SENSORS SEGMENT	340.600	319.610	319.610	230.451	301.804
PRMRF	6.571	6.571	6.571	4.100	6.571
BMD SYSTEM	819.084	793.062	793.062	327.145	743.354
PAC-3 (RDT&E)	129.100	131.415	131.415	46.343	112.455
BMD TECHNOLOGY	141.090	140.799	140.799	31.543	115.652
MGMT HQ—BMDO	27.758	25.673	25.673	2.917	25.673
TERMINAL SEGMENT	203.344	193.308	193.308	38.502	178.106
SMALL BUSINESS (SBIR)		145.102	145.102	7.000	129.141
PAC-3 (Proc)	736.574	731.455	671.455	377.361	241.380
MILCON	8.299	8.169	8.169	1.250	6.355
UNDISTRIBUTED REDUCTION	(39.000)				
TOTAL	7,775.298	7,702.067	7,442.067	3,857.137	6,794.252

Notes: (1) Obligation and Expenditure data as of 31 March 2002. (2) Program Amount equals Appropriation Amount less Congressional reductions to include SBIR.

CONTROVERSIAL PROGRAMS: NAVY AREA-WIDE DEFENSE

Question. General, based on a recommendation from the Pentagon, the Congress last year eliminated funding for the Navy Area Wide program. Everyone agrees that there still exists the need for a Navy theater missile defense. What is your plan to replace the Navy Area Wide program?

Answer. When the Navy Area program was cancelled, the Under Secretary of Defense (Acquisition, Technology, and Logistics), USD (AT&L), tasked the Missile Defense Agency, in close consultation with the Navy, to address sea-based terminal ballistic missile defense capability as part of the integrated Ballistic Missile Defense System (BMDS). We have completed an in-depth review of potential options for development and fielding of a sea-based ballistic missile defense capability and will provide you with details of the new effort once USD (AT&L) has approved them.

Question. General Kadish, we have heard that the Navy Area Wide program was particularly important for meeting the threat in the Pacific. How do you respond?

Answer. I fully agree that sea-based ballistic missile defense provides an important and needed capability for the Pacific. Of particular note, a sea-based capability will provide ballistic missile defense in circumstances where deployment of land-based defenses may not be possible, such as underdeveloped theaters of operation and forced early entry operations.

Question. When do you expect we can field a theater missile defense system in the Pacific, other than in Korea?

Answer. The Sea-based Midcourse Defense (SMD) element of the Ballistic Missile Defense System (BMDS) could provide a capability for the Pacific Theater with a limited production off-ramp decision in fiscal year 2004 with a sea-based option by late fiscal year 2006. However, with additional funding, an emergency capability could be available as early as fiscal year 2004.

Question. Some argue that the “explosive warhead” technology found on the Navy Area Wide missile is better against some threats than the “hit-to-kill” vehicles found on our other missile defense weapons. Do you agree?

Answer. The lethality community assessed the merits and demerits of both blast-fragmentation warheads and hit-to-kill technology earlier this year. Blast-fragmentation warheads have advantages in engagements where the target is maneuvering (e.g. maneuvering air breathers like cruise missiles). However, the current state of blast-fragmentation technology renders it impractical for exoatmospheric engagements of longer-range threats. In addition, the energy imparted to the target in the high-speed collisions resulting from intercepts of medium- and long-range ballistic missiles is several orders of magnitude larger for direct body-to-body hits compared to fragments hitting the threat. Hit-to-kill is an environmentally “clean” kill, better against Weapons of Mass Destruction, technologically proven, has lots of energy without a warhead or nuclear effects.

CONTROVERSIAL PROGRAMS: SBIRS-LOW SATELLITE

Question. General Kadish, the Defense Department is in the midst of radically restructuring the Space-Based Infra-Red Satellite system. What is the status of this effort and can we expect a complete report on the program prior to our mark up of the fiscal year 2003 Defense Appropriations bill?

Answer. The Department has restructured the SBIRS Low effort as an element of the Ballistic Missile Defense System. MDA will develop SBIRS Low using a capability-based acquisition approach and spiral development processes. Existing contracts are being modified and a new contract with TRW is being definitized for the development work. This restructure is described in a report delivered to the Congressional defense committees on 15 April 2002.

Question. General, your budget requests about \$294 million for the SBIRS-Low program in fiscal year 2003. Given the possibility that there may be radical changes to the program, how do you know that this figure is correct?

Answer. The restructure of the SBIRS Low activity is already underway. A letter contract was awarded to TRW to begin work and will be fully definitized later this fiscal year. For fiscal year 2003, we will pursue parallel development work on Block 2006 satellites supporting the Test Bed and development work on Block 2008 satellites incorporating next-generation sensors and other components. The \$294 million budget request in fiscal year 2003 adequately funds the restructured program. We will address out-year funding adjustments to support the restructured program as part of our fiscal year 2004–2009 planning process.

Question. Some argue that a land-based radar system can replace the Space-based system. Do you agree?

Answer. No. An effective BMDS capability will eventually require the appropriate mix of both land-based radar and space-based infrared sensors. Although a land-based radar system could provide an initial capability against near-term adversary capabilities along limited projected threat delivery corridors, MDA believes that SBIRS Low must proceed on the current development path to provide a credible capability against projected countermeasures for four reasons. First, although a large number of land-based X-band radar systems placed at strategic locations around the world could provide much of the sensor capability that a BMDS needs, radar effectiveness is limited against some projected adversary countermeasures. Second, an all-radar strategy using forward-deployed land-based radars relies on foreign basing in specific regions. The uncertainty in the U.S. ability to secure host nation agreements in the specific regions required is a very significant issue. Third, land-based radar is inherently limited to above-the-horizon sensing. Fourth, as adversary capabilities proliferate, threat delivery corridors increase to the point that a space-based system, that can track attacks from any point on the globe, becomes an essential element in the BMDS sensor mix. A BMDS with both land-based radar and SBIRS

Low would provide the integrated sensor performance that an effective BMDS needs. Land-based radar and SBIRS Low's infrared technology are complementary and the combination is expected to be highly effective against countermeasures.

Question. How would the costs of a land-based radar system compare to a space-based system? Is a land-based system feasible from an international political perspective?

Answer. The most desirable mix of sensors is dependent on their integrated performance, cost, risk, and national need. MDA is currently evaluating integrated sensor performance, including some sensors that have previously not been considered due to ABM Treaty limitations. Therefore, the relative cost of land-based radar and a space-based infrared system is not known at this time.

Although the possibility of a land-based defense for allies has not been formally discussed, there is no reason at this time to rule out such a system from an international political perspective.

CONTROVERSIAL PROGRAMS: THE THAAD MISSILE

Question. General Kadish, last year's Defense Appropriations Conference Report directed that no funding for the Theater High Altitude Area Defense (THAAD) missile program be used "to accelerate THAAD pre-production or deployment unless the Secretary of Defense certifies to [Congress] that threats to our national security or military forces warrant otherwise." Is there funding in your fiscal year 2003 THAAD budget request for pre-production of extra missiles, radars, or other items not essential for the test program?

Answer. There is \$40 million in fiscal year 2003 associated with the THAAD element acquiring 10 additional test configuration missiles for the BMDS Test Bed. These test missiles will include telemetry/safety instrumentation and were originally planned to be acquired later in the baseline program. Fiscal year 2003 funding is needed to meet a delivery schedule in fiscal year 2006 versus fiscal year 2008, as defined in the current baseline. There is no fiscal year 2003 funding non-missile components that are not essential to the currently planned Block 04 flight test program. (Note: the decision to acquire those additional assets would occur in fiscal year 2004).

Question. General Kadish, your budget request includes the purchase of 10 additional THAAD missiles beyond the amount needed for the testing program. Why is the purchase of these missiles necessary?

Answer. The 10 test-configuration missiles will support BMDS Test Bed risk reduction initiatives such as supplementing the minimal missile spares for early qualification testing, additional controlled flight tests, and earlier availability of production representative spares. Acquiring these missiles will give the program flexibility to build on successful flight tests or repeat flight tests in which anomalies occur.

QUESTIONS SUBMITTED BY SENATOR TOM HARKIN

NUCLEAR INTERCEPTORS

Question. According to recent press reports, the administration is investigating the option of using nuclear interceptors for mid-course missile defense. What would be the health effects of a nuclear explosion at likely intercept points?

Answer. MDA is not designing, developing, or producing nuclear-tipped interceptors.

Question. What would be the radioactive fallout over what area?

Answer. Since no part of MDA's program involves nuclear interceptors, I cannot answer this question.

Question. What would be the effects on the ground and on satellites of an electromagnetic pulse, the blast, and other phenomena due to the explosion?

Answer. Since no part of MDA's program involves nuclear interceptors, I cannot answer this question.

Question. Could a nuclear missile defense system allow a nation with ICBM's to cause a nuclear explosion without using a nuclear warhead of their own?

Answer. Yes, a non-nuclear threat intercepted by a nuclear-tipped interceptor would likely result in a high-altitude nuclear detonation. However, no part of MDA's program involves nuclear interceptors.

Question. Would a nuclear interceptor require development of a new nuclear weapon?

Answer. No part of MDA's program involves nuclear-tipped interceptors.

Question. How could a nuclear interceptor be tested?

Answer. Since MDA's program does not involve nuclear interceptors, we have not explored testing of nuclear interceptors.

Question. Would the tests violate the Nuclear Test Ban Treaty? Would they violate the Comprehensive Test Ban Treaty?

Answer. Unless the tests involved actual nuclear detonations, they would not violate either the Limited Test Ban Treaty or the Comprehensive Test Ban Treaty.

FORT GREELY AND EARLY CAPABILITY

Question. The administration has proposed building missile defense sites in Alaska not only for testing but also for a limited emergency defense capability by 2004. What types of interceptors do you plan to deploy at Fort Greely? Will those interceptors have been tested as part of the Integrated Flight Test program by 2004? Will operational testing for the interceptors have begun by 2004?

Answer. The Boeing Company, the prime contractor for the Ground-based Midcourse Defense (GMD) element, selected Orbital Sciences Corporation and Lockheed Martin Missiles and Space as its subcontractors to develop candidate boosters for consideration in the BMDS Test Bed. Lockheed Martin will build and integrate an upgraded and modified version of the existing Boeing Ground-Based Interceptor (GBI) boost vehicle design. Orbital will build and integrate a second source booster vehicle using existing or slightly modified versions of existing Orbital boost vehicles. MDA will test versions of the boosters in two non-intercept booster vehicle tests beginning in February 2003. MDA plans to test these vehicles against targets in IFT-14 and IFT-15, planned for 1Q and 2Q fiscal year 2004, respectively. No booster test launches are currently planned at Fort Greely.

The Secretary of Defense's January 2, 2002 memorandum states that MDA is responsible for Developmental Test and Evaluation. When a decision is made to transition an element's block configuration to a Service for procurement and operation, an Operational Test Agent will be assigned, and Operational Test and Evaluation will be conducted at the end of the transition phase of acquisition.

Question. Will X-band radar or SBIRS-Low be in place by 2004 that can track missile trajectories from North Korea to the United States?

Answer. Neither an XBR nor SBIRS Low satellites will be in place by 2004. MDA is refining the requirements for a test XBR at this time, and will begin environmental analysis of the proposal as soon as it is sufficiently defined. MDA plans to initiate development of the Test XBR in fiscal year 2003 and proposes that the Test XBR be interoperable with the Extended Test Range (ETR) Test Bed as soon as possible. Both the Test XBR and the ETR test bed are independently useful and would each help the development of missile defense. The first SBIRS Low satellites are planned to be launched in the 2006/2007 timeframe, providing limited coverage on such trajectories.

Question. What reason will we have for any confidence that in 2004 we could defend against even one missile with simple countermeasures?

Answer. With treaty restrictions lifted, the opportunity exists to bring in additional sensors to enhance tracking, discrimination, and identification of reentry vehicles. Technology initiatives, like the "Critical Measurements Program," provide data to refine radar discrimination algorithms aiding identification of the reentry vehicle among debris and intentional countermeasures.

Question. What is the budget for fiscal year 2003 and for future years for missile defense work at Fort Greely?

Answer. Fort Greely Estimate: Fiscal year 2003—\$209.453; fiscal year 2004—\$136.725.

Notes: 1. Fiscal year 2003-fiscal year 2004 funding is based on estimates in fiscal year 2003 Budget Estimate Submission (Feb 02) R-3 Exhibits and 1391s. MDA had not definitized the contract with Boeing at the time of the fiscal year 2003 Budget Estimate Submission.

2. As stated in the R-3 Exhibit: "The funding specific breakouts within the Prime Contractor/Boeing section of the R-3 are an estimate. At the time of the fiscal year 2003 Budget Estimate Submission, the contract was not definitized for the restructured Ground-based Midcourse Defense capability-based acquisition strategy. In addition, even when definitized, the Prime Contractor has the responsibility to balance resources across the GMD program and allocate funding according to program progress. This may require the Prime Contractor to reallocate funding, which would change the components' estimates, provided in this R-3 document."

Question. Are there any legal restrictions against flight tests at Fort Greely? If so, please explain. Are you actively seeking the legal right to conduct flight test launches from Fort Greely?

Answer. MDA will analyze any major federal action that may significantly affect the human environment pursuant to the National Environmental Policy Act (NEPA). We will also comply with Department of Defense safety requirements. In addition, we will also comply with any applicable Alaskan statutes and regulations. At present, we are still determining the feasibility and value of conducting a limited number of Ground Based Interceptor (GBI) flight tests from Fort Greely. If we determine that such tests would be feasible and of value, we will initiate an Environmental Impact Statement (EIS) pursuant to NEPA. We will not make any decision on whether to conduct flight tests from Fort Greely until an EIS is completed and evaluated. Nevertheless, the GMD test facilities at Fort Greely will assist in the development of an effective GMD regardless of whether flight tests are ever conducted from Fort Greely.

Question. I understand the January 2, 2002 memo outlining the creation of the Missile Defense Agency says it is a DOD priority to “use prototype tests assets to provide early capability.” The memo also exempts missile defense from traditional testing requirements. Section 232(f) of the fiscal year 2002 Defense Authorization bill requires a plan for demonstrating each critical missile defense technology “before that technology enters into operational service” and requires the Director of Operational Test and Evaluation to “monitor the development of [this] plan . . .” Do you plan to demonstrate each critical technology before entering any early contingency capability into operational service, and will the testing be monitored by the Director of Operational Test and Evaluation?

Answer. As prototypes and test assets become available, they could provide early contingency capability. A decision to deploy test assets to provide early contingency capability would depend upon the success of testing as well as other factors. MDA will conduct development testing. This testing characterizes the technical capability and military utility of the technologies, technical integration and progress toward making recommendations for transition and procurement of a missile defense element or system.

The Director of Operational Test and Evaluation (OT&E) will monitor testing. The Director, OT&E will annually review and report on the adequacy and sufficiency of the MDA test program during the preceding fiscal year. The Director, OT&E, is on the Missile Defense Support Group (MDSG) and will advise USD (AT&L) and the Director, MDA throughout the development and transition phases.

Question. What restrictions are in place to ensure that the Pentagon does not continue spiral development of “test assets” indefinitely, avoiding the “transition” phase described in the January 2 memo and thus the requirement to produce Operational Requirements Documents?

Answer. The missile defense program is subject to extensive, periodic departmental and congressional oversight. MDA will continue to provide detailed budget justification materials, an annual BMDS RDT&E Selected Acquisition Report (SAR), reports to Congress, and recurring congressional briefings. In addition, MDA is subject to independent review from agencies such as GAO. The Department will also conduct detailed and frequent reviews of the program. It is not our intent to systematically develop operational assets from RDT&E. This does not mean that test assets could not be used in an emergency, nor does it mean that we would not develop the test infrastructure that could later be used as part of the operational infrastructure. Our program plans include transitioning militarily useful developed capability to the Services for production, which would be governed by an ORD. The Secretary specifically charged the Senior Executive Council (SEC), chaired by the Deputy Secretary of Defense, to oversee MDA as it transitions programs to the Services for procurement. MDA reports to the SEC at least annually, and these reviews verify that MDA transitions effective capabilities to the Services for procurement and terminates systems that do not deliver the anticipated performance.

ORGANIZATION AND OVERSIGHT

Question. What independent operational or developmental testing is now planned for missile defense technologies? When in the developmental process will the independent testing occur? Who will conduct it?

Answer. When the Senior Executive Council (SEC) decides that a block configuration of an element of the BMDS is ready to enter the Transition phase, an Operational Test Agent will be designated. Focused operational testing will be conducted prior to the end of the transition phase.

Question. Who will certify that a missile defense technology is ready for production?

Answer. When an element of a BMDS block capability has adequately demonstrated sufficient technological maturity, MDA and JTAMDO will jointly assess

its military utility. Upon a recommendation from the Director, MDA, that the BMDS or a BMDS element should be considered for transition to production, and after approval by the Senior Executive Council, USD(AT&L) will establish necessary product teams to support a production decision by the DAB. USD(AT&L), as the Defense Acquisition Executive, would sign any resulting Acquisition Decision Memorandum for an element's production.

Question. Please explain in detail how a "capability-based" requirements process and a capability-based ORD would work. How would these requirements relate to actual and significant threats?

Answer. In the classic CJCSI 3170 ORD generation process, the user lists desired system performance characteristics that are heavily based upon current estimates of the threat and assumptions about the state of technological maturity. Once written, the ORD then undergoes a lengthy validation, review and approval process. The ORD is rarely changed, and changes can take several years to implement. A key weakness of this approach is its heavy reliance upon very precise threat and technology estimates. While both the intelligence community and industry offer their "best-guess" at the time, projections in these two critical areas are noted for high rates of change due to their dynamic environments. The current system does not accommodate this change well. ORD-based acquisition is well designed for procurements involving well-known technologies, proven systems, sizable production runs, established operational experience, and single-Service acquisition. None of that yet exists for missile defense. For example, a weakness is that classic ORDs tend to be single element (e.g., satellite, aircraft, ship, missile, or weapon) focused. This can downplay recognition that an element might be a component of an overall larger system with mutually supporting elements, and result in artificially high performance thresholds being set. In the "capability-based" requirements process the user, tester, and developer work together, rather than sequentially, to develop the right balance between what is needed and what is possible. Once a military useful capability has been demonstrated and validated, it is captured in a capability-based ORD that then guides procurement and production. The capability-based ORD is simply a specialized version of the existing CJCSI 3701.1B formatted document. In lieu of system performance estimates however, operational performance characterizations are used. In keeping with the capability-based approach, the threat is described in terms of technological capability, rather than addressing threat systems of specific adversaries. This will prevent designing missile defenses to "point solutions" that could prove not to match actual threats. Other facets of the standard ORD that speak to the suitability and supportability of the system remain unchanged. Further, as the system element transitions to a Service, the capability-based ORD will be brought through the traditional Joint Requirements Oversight Council process.

The capability-based approach defers commitment to procurement until a capability is actually demonstrated. It allows trade-offs to be made during development, and it can adjust to changes in the threat and to advances in technology during the period of development. It accelerates the process to field a BMD capability by deferring areas that can be improved over time to later builds. Moreover, by recognizing elements are part of an overarching BMDS, it expands the capability trade space across the entire system. The result provides sufficient flexibility to balance effectiveness against cost, and gives greater overall responsiveness to address changes in the threat as they occur.

Question. Both the Pentagon and the Congress have been well served by the independent assessments of the panels headed by Gen. Larry Welch. Will the MDA continue to get unclassified assessments from the Welch panel and/or from similar panels?

Answer. The MDA leadership values General Welch's insight and objectivity. We are currently making use of his expertise and advice by including him on our Red, White and Blue countermeasures/counter-countermeasures evaluation process. We plan to continue to do so in the future.

The newly-formed Missile Defense Support Group and Working Group, as well as others such as the Defense Science Board, RAND Corporation, National Academies of Science and Engineering, and JASONS will serve as independent assessment panels for MDA.

Question. If so, will those assessments, or unclassified versions of classified assessments, be made public, as they sometimes were in the past?

Answer. To the extent possible, consistent with security considerations, we intend to make the results of these assessments (or an unclassified version of them) public on a case-by-case basis.

Question. What is the current status and funding of the Red, Blue, and White teams created to increase the robustness of the countermeasures element of the mis-

ssile defense testing program, and how are they being integrated into the MDA's missile defense development program?

Answer. Fiscal year 2002 funding for the Countermeasures/Counter-countermeasures (CM/CCM) program is \$18.62 million. Funding for fiscal year 2003 is \$30 million. The CM/CCM program now features two separate adversary teams, Red and Black, to identify potential countermeasures. The Red Team, limited to open source information on the Ballistic Missile Defense System (BMDS), provides an "outsider's" view of the BMDS and its potential susceptibilities. The Black Team, with full access to all technical information on the BMDS, provides an "insider" aspect. The White Team approved the first adversary countermeasure on January 31, 2002. The Blue Team is currently assessing the performance of the BMDS against this countermeasure and developing potential solutions to mitigate risks.

The CM/CCM program transitions Blue Team solutions with significant potential to improve the performance of the BMDS against countermeasures to a development and test program to demonstrate capability improvements. Solutions that successfully demonstrate the potential to improve our capabilities against countermeasures may then be programmed for integration into BMDS block upgrades.

QUESTIONS SUBMITTED BY SENATOR DIANNE FEINSTEIN

NUCLEAR WARHEADS

Question. Recent media reports indicate we may be once again considering the use of nuclear-tipped warheads as part of a national missile defense system. Many feel this new initiative indicates there are problems with the "hit to kill" approach (no dedicated warhead, rather a kinetic impact). Additionally, a nuclear detonation at any of the three flight trajectories (boost, mid-course or terminal) will have grave consequences in terms of EMP (electro-magnetic pulse) interference with satellites, as well as nuclear fall-out over populated areas. Given the negative strategic, political and health ramifications of such a proposal, should we be considering it as an option?

Answer. MDA is not designing, developing, or producing nuclear-tipped interceptors. In fact, one of the benefits of a layered missile defense system is the potential to intercept ballistic missiles in the boost phase, so that the scenario described could be avoided altogether. Matters related to your question are under the cognizance of DTRA.

COSTS

Question. The 2003 defense budget request contains a significant amount of money for missile defense. Given the high costs that have already been projected for strictly RDT&E (Research, Development, Testing and Evaluation), can you assure us the program will stay on budget? For example, critics claim the cost estimate of Airborne Laser (ABL) testing, a subset of missile defense, is projected to increase from \$10 billion to \$23 billion.

(Source—Phil Coyle, former DOD head of testing and evaluation).

Answer. We are doing everything we can to make sure that our program activities are executed the way we plan them. However, there are a number of uncertainties in the missile defense technology development area, especially in the area of airborne laser development. This is a revolutionary, unprecedented development activity involving cutting-edge technologies. Precise estimates of costs and schedule projections for this type of development activity are not realistic.

MDA is committed to manage as best it can to ensure the development of an Airborne Laser capability in a fiscally responsible manner. Currently, costs are under control.

TESTS

Question. General Kadish, in prior statements you indicated you would conduct monthly testing in order to either prove or disprove the technologies required for a missile defense system. While the rate of testing appears to have increased, the quality of the tests continues to be a source of contention. Can you confirm that we have in fact embarked on an aggressive testing schedule that will adequately address the real world intercept and decoy scenarios a missile defense system may face? At our current rate of testing and development, when do you think we will have the technological maturity to fully field an effective missile defense system?

Answer. I can confirm that we are on an aggressive testing schedule. As an illustration, in the last 10 months we conducted 14 flight tests. In the next 5 months, we plan to conduct 12 more flight tests. Our aggressive test philosophy is based on

adding complexity such as countermeasures in a step-by-step fashion over time. This approach allows us to make timely assessments of the most critical design risk areas. It is a walk-before-you-run, learn-as-you-go development approach with testing in more realistic operational scenarios occurring later in the test cycle. Testing activities are stepping up the pace and provide critical information that reduces developmental risk and improves our confidence that a capability under development is progressing as intended. While our tests show increasingly capable systems, the timeline to deploying parts or all of the BMD System is dependent upon the needs of the nation. As prototypes and test assets become available, they could provide early capability. As in all defense systems, the military utility of a proven capability will be a major factor in deciding whether and when it is deployed. Our concept calls for the Secretary, with input from the Senior Executive Council, and based on recommendation by the Director, MDA, and the Military Services, to decide whether to use RDT&E assets for a contingency or emergency deployment. For other than an contingency or emergency deployment (i.e., to transition an element to procurement and operations), the Director, MDA, would recommend that the element should be considered for transition, and after approval by the Senior Executive Council, USD(AT&L) would establish necessary product teams to support a production decision by the DAB. USD(AT&L), as the Defense Acquisition Executive, would sign any resulting Acquisition Decision Memorandum for an element's production.

GENERAL/BUDGET OVERSIGHT

Question. Secretary of Defense Rumsfeld announced in January a re-organization of our missile defense efforts, creating the Missile Defense Agency, which you head. The current fiscal year 2002 Defense Authorization bill included several new reporting requirements that were applied to the Ballistic Missile Defense Organization and various organizations, such as the Director, Operational Test and Evaluation (DOT&E), that have some oversight or review responsibilities for our missile defense program. When do you expect to finish the report to Congress on cost, schedule, testing and performance goals for ballistic missile defense programs required under Section 232 of the fiscal year 2002 defense bill, which was due on February 1 of this year?

Answer. We believe we have satisfied that requirement with the details provided in our annual budget submission, delivered to Congress earlier this year. The fiscal year 2003 budget estimate provides information on long-term program goals. Specifically, the estimate provides funding requirements for the next six years, by year. It also provides schedule, including hardware and software deliveries, to the extent known, and planned decision points and test events for all program activities at least through completion of the planned testing and evaluation of the prototype.

TEST BED/X-BAND RADAR

Question. In earlier years, we were told that the X-band radar on Shemya Island was critical to the effectiveness of the national missile defense. Now your R-2 documents show that you plan "initial development of a Test X-Band Radar (XBR)," but it is unclear if that will be at Shemya Island or not. Where will the Test XBR be located? If it is not at Shemya Island, how will this affect the "contingency capability" you plan to deploy at Fort Greely? And is it not correct that, even with an upgraded COBRA DANE radar on Shemya Island, the "contingency capability" will be severely limited in its discrimination capabilities?

Answer. The revised GMD program concentrates on development of the initial GMD parts of the BMDS Test Bed by the end of fiscal year 2004 rather than on deployment of a specific system. As we examine the overall BMDS and potential architectures for the expanded RDT&E program, MDA has not determined the optimal location for an XBR. It would be premature to commit to any specific site as part of the BMDS Test Bed if it were not going to be part of an operational system. As such, the decision on the XBR at Shemya can be postponed.

The critical functions to be performed by an XBR are to detect, acquire, track, and discriminate. Other radars and surrogates will be included in the Test Bed—such as the COBRA DANE, the Navy's AEGIS, the XBR-P at RTS, and the FPQ-14 Radar in Hawaii—and contribute to the performance of these functions to a greater or lesser degree. Discrimination is the function done most effectively by the XBR, but even this function can be performed in part by the EKV's on-board sensors and computer. Even in a system that includes an XBR, the final discrimination and target selection will be performed by the EKV. Any contingency capability will provide a militarily useful capability that we do not now possess against the threat expected at that time.

OVERSIGHT AND TEST BED

Question. All of this work to construct the test bed is being done under RDT&E, rather than under Military Construction. You are, you say, now using a “spiral development” process, where you will use block upgrades to gradually improve existing capabilities. Also, following Secretary Rumsfeld’s January announcement, you are exempt from several oversight requirements, such as producing Operational Requirements Documents, or ORDs, until you enter the transition phase after a decision has been made to procure the system. Given the “Block” nature of your approach, and your intent to have the capability to field other test systems beyond the interceptors at Fort Greely with “contingency capabilities,” at what point in the process does the “Block” upgrades shift from RDT&E to Military Construction budgets, from exemption from ORDs to requirements for them? Is there anything to stop you from, under the RDT&E budget and spiral development, adding five more “test” interceptors every two years, until you have fielded 20 or 40 or 100 interceptors, without ever entering the transition phase, without ever using Military Construction funds, and without ever being required to produce an ORD?

Answer. The fiscal year 2002 Authorization Act authorized the Missile Defense Agency to use RDT&E funds for construction projects to establish and operate the Missile Defense System Test Bed. The authority was capped at \$500 million. This cap would not allow the Missile Defense Agency to periodically add RDT&E funded “test” interceptors or other testing infrastructure without Congressional action to extend the authority to use RDT&E funds for construction of a multi-element Ballistic Missile Defense System Test Bed. The missile defense program is subject to extensive, periodic departmental and congressional oversight. We will continue to provide detailed budget justification materials, an annual BMDS RDT&E Selected Acquisition Report (SAR), reports to Congress, and recurring congressional briefings. In addition, we are subject to independent review from agencies such as GAO. The Department will also conduct detailed and frequent reviews of the program. While test assets could be used in an emergency, our program plans include transitioning militarily useful developed capability to production, which would be governed by an ORD.

Furthermore, while the Test Bed could provide a limited contingency capability, it could not meet the requirements for missile defense as envisioned by the National Missile Defense Act of 1999. Formal procurement and operation require a capability-based ORD. The ORD will be developed in the transition phase and be based on capability definitions determined in coordination with the Services. The capability-based ORD will be brought through the traditional Joint Requirements Oversight Council (JROC) process prior to the Procurement and Operations phase.

MIDCOURSE BUDGET

Question. Although it is somewhat difficult to track because of the switch away from individual system budgets to more broad Terminal, Midcourse, and Boost phase budgets, it seems that after a very large increase in the budget in fiscal year 2002 for the Midcourse Defense Segment, that budget is now being reduced fairly dramatically, from \$3.76 billion to \$3.19 billion. What is the reason for such a drop in funding? Are you having trouble actually spending all of the substantial increases in funding that you got this year? That overall budget, however, also shows an enormous increase by 2005 in the budget for the Sea-based Midcourse Defense, from \$426 million in fiscal year 2003 to \$742 million on 2005. What is the justification for that increase?

Answer. MDA has requested funding necessary to carry out the described tasks in both fiscal year 2002 and fiscal year 2003. The higher spending in fiscal year 2002 is due in part to the ramp up of the BMDS Test Bed development and construction. MDA is not having trouble spending the funding that was authorized and appropriated. In fact, we expect to obligate over 90 percent of these funds by the end of fiscal year 2002. The increase in funding for the Sea-based Midcourse Defense (SMD) element of the Ballistic Missile Defense System between fiscal year 2003 and fiscal year 2005 can be attributed to the fact that SMD Block 2008/2010 will be engaged in concept definition work in fiscal year 2003/2004, with the actual engineering of the SMD Block 2008/2010 beginning in earnest in fiscal year 2005. This is in addition to the ongoing development of the Aegis LEAP Intercept 2004 Test Bed.

QUESTIONS SUBMITTED BY SENATOR PETE V. DOMENICI

AIRBORNE LASER

Question. General, it has come to my attention that since MDA took over the ABL program from the Air Force, testing for knocking down an in-flight ballistic missile has been pushed back by one year to 2004.

Would you please comment on what lead to this schedule change in ABL testing, and would you outline what the modified testing program will look like?

Answer. The ABL program was restructured to meet MDA's management strategy of lower risk and higher schedule confidence for all Ballistic Missile Defense System (BMDS) elements. The schedule for the original ABL acquisition strategy focused on one test aircraft, the PDRR aircraft, now called Block 2004 ABL. The strategy was to immediately transition to an Engineering and Manufacturing Development aircraft followed by a production decision. This was an aggressive schedule, relying upon the ability to make a production decision with only a limited amount of actual flight test data from one aircraft. The strategy also called for rapid prototyping to enhance capability between the PDRR and the EMD/production representative systems.

The new MDA ABL strategy seeks more actual flight test data and technology maturity through the development of a more advanced prototype. This spiral strategy will reduce concurrency, provide increased duration for testing, and extend manufacturing durations for unique high energy laser and optical components.

Question. Also, it is my understanding that MDA plans to apply the principles of spiral development to ABL. Could you give us a sense of how this will impact the overall schedule of the program, and how will it help get ABL into operation sooner?

Answer. Spiral development is an iterative process where the user, tester, and developer continually interact, providing ongoing feedback to help develop the best capability within a block increment. This process facilitates more timely capability trades and reduces decision cycle time. This process can accelerate ABL to operational status sooner than the previously used requirements-based approach since the warfighter can accept the system at a given point during development, once a militarily useful capability has been demonstrated, rather than forcing the expenditure of extra time and funds to reach inflexible, predetermined requirements.

Question. Two final questions on ABL—first, are you proceeding with lethality tests at Kirtland Air Force base? Secondly, could you tell me about the changes MDA has proposed to the ABL Environmental Impact Statement? I understand that MDA held public hearings on this issue just this week in Albuquerque and I am curious to know if you received any feedback on those hearings.

Answer. Yes, we are proceeding with lethality tests at Kirtland Air Force Base as planned.

MDA is preparing a supplement to the 1997 Final Environmental Impact Statement (FEIS) to cover specific proposed test activities and locations identified since the FEIS. These activities include ground tests of the tracking and beacon illuminator lasers, and the surrogate high energy laser over a 12–15 km distance at Edwards AFB. They also include flight tests of the lasers using airborne target boards at White Sands Missile Range.

In general, there was little public concern raised at the public scoping meetings held as part of the Supplemental EIS environmental review process. A total of four public scoping meetings were held: two in California (Lancaster, CA on April 1, and Lompoc, CA on April 3) and two in New Mexico (Albuquerque on April 15 and Las Cruces on April 17). No one provided comments for the record at the public meetings in New Mexico. Five people provided comments at the California meetings. Two spoke in favor of the proposed action, and three people indicated concerns about potential impacts.

WSMR TESTING

Question. As you know General, White Sands Missile Range hosts testing for both the Theater High Altitude Area Defense (THAAD) and the Patriot Advanced Capability 3 (PAC-3). Could you talk about what you have learned from the data you collected following the PAC-3 testing in February? I understand that it missed its cruise missile target, have you determined why? Is this a serious setback for your plans to proceed with full-rate production of PAC-3?

Answer. The mission conducted in February was a partial success, as the majority of objectives were met or partially met. The principal focus of the test was to assess PAC-3 performance in a simultaneous engagement against multiple air-breathing threats. The most stressing of the three engagements was the successful intercept with a PAC-2 missile of an attacking aircraft employing a weave maneuver and

electronic countermeasures. Another PAC-2 engaged, but failed to intercept the subscale airbreathing threat (ABT) due to a radar transmitter fault just prior to warhead fuzing. The fault interrupted the terminal guidance processing, and prevented uplinking the fuze-enable command to the interceptor. The system went into auto-recovery (within one second) in time to support the successful PAC-2 engagement of the aircraft. The PAC-3 engaged, but failed to intercept the cruise missile, due to the Fire Solution Computer incorrectly calculating the Predicted Intercept Point. This led to inaccurate missile cueing. We have determined that the missile performed nominally, however without an accurate cue the target remained outside the field of view of the missile seeker. The Army Lower Tier Project Office and the prime contractors have reviewed the OT-3 data and have charted a course for both near-term and long-term improvements to the PAC-3 Missile Software and Ground System Software. Operational testing of PAC-3 is continuing and we remain on track to conduct a production decision review of the PAC-3 element this fall.

Question. With respect to THAAD, when will you resume testing and what factors will determine this? Is full-rate production still on target for 2008?

Answer. THAAD Flight Testing will resume at WSMR in the 4th quarter of fiscal year 2004. Prior to flight testing, THAAD is undergoing rigorous ground testing over the next two years to ensure the highest probability of success in developmental and operational flight testing with production representative missiles and radars. To vastly improve quality, reliability, and producibility, every component of the THAAD missile, radar, BM/C2 and launcher was redesigned over the past two years, and will culminate in a Critical Design Review in early fiscal year 2004. Additionally, engineering level testing (wind tunnel, shock, vibration, thermal, and other environmental and hardware-in-the-loop testing) is occurring over the next two years to verify designs as they are being completed. I am confident that should the Department decide to field THAAD in its current configuration as part of our BMDS block construct, we will be able to enter the production phase by 2008, if not earlier.

QUESTIONS SUBMITTED BY SENATOR CHRISTOPHER S. BOND

SBIR

Question. On January 29, 2002, Senator Kerry and I sent a letter to Secretary Rumsfeld concerning a provision in the Fiscal Year 2002 Defense Appropriations Act (H.R. 3338/Public Law 107-117) that exempted the Department of Defense's ballistic missile defense programs from full participation in the Small Business Innovative Research (SBIR) Program. On March 1, 2002, I received an interim response. I have yet to receive a final response from the Department. When will this response be forthcoming and does the Missile Defense Agency (MDA) intend to honor its full contribution to the SBIR program in lieu of the exemption contained in Public Law 107-117?

Answer. The OSD Comptroller's Office has advised us that the final reply, dated April 17, 2002, has been forwarded to you and Senator Kerry. MDA intends to fully participate in the SBIR program in fiscal year 2002 and the Department's response reflects this commitment.

Question. As the fiscal year 2003 appropriations process is underway, will MDA assure that the agency will not seek any reduction, legislatively or otherwise, in its SBIR obligations for fiscal year 2003? Will MDA also notify me immediately if MDA becomes aware of any proposed or pending legislative provision that would limit MDA's SBIR obligation for fiscal year 2003?

Answer. MDA is not seeking any reduction to its SBIR requirement for fiscal year 2003. However, the OSD Comptroller has initiated a legislative proposal to clarify the fiscal year 2002 language, should a similar provision appear in the fiscal year 2003 legislation, to ensure that any SBIR limitation for MDA can only be interpreted as a floor, not a cap, thus leaving fully available the flexibility for the Department to increase the MDA's SBIR participation to the full amount required by the SBIR Act.

Question. At the National Defense Industrial Association in April 2001, Mr. Richard Sokol of MDA made a speech on your behalf citing successes that the Ballistic Missile Defense Organization (the predecessor to MDA) has had with the SBIR and the Small Business Tech Transer (STTR) Program. What is MDA doing to strengthen these programs and how is MDA assisting the development and commercialization of technologies and products developed through these programs?

Answer. MDA considers the Small Business Innovative Research (SBIR) Program a valuable resource. MDA considers SBIR a significant opportunity to reach out to the Small Business Community for products that will support our mission, and sup-

ports the dual-use nature of the SBIR as being advantageous to MDA and the nation. The MDA program roadmap will be employed to identify the opportunities where SBIR can be made a partner. To strengthen the program, an MDA SBIR Steering Group, under the direction of Rear Admiral Paige, has been empowered to lead this process, while an MDA SBIR Working Group has been established to provide coordination for SBIR topics, evaluations, and execution. MDA conducts an extensive outreach program, participating in conferences and trade shows around the country to specifically encourage Small Business participation in the MDA SBIR Program.

QUESTIONS SUBMITTED BY SENATOR KAY BAILEY HUTCHISON

AIRBORNE LASER (ABL)

Question. General, the President's budget submission reflects a restructuring of the ABL program. Are you confident that the Boeing-led contractor team will be able to follow this more realistic plan?

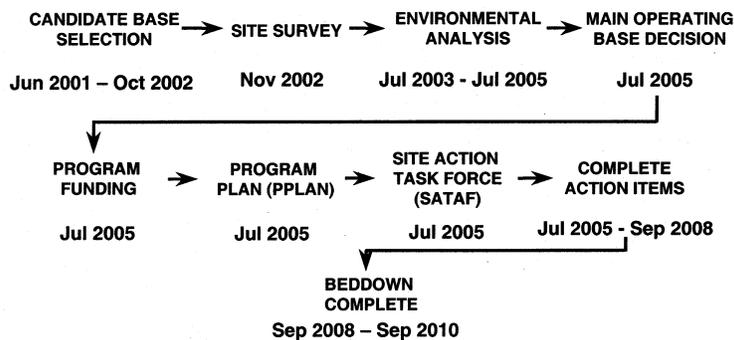
Answer. MDA conducted an extensive program assessment for the ABL element and restructured the program to reduce risk and increase schedule confidence. We are confident that the current schedule can be maintained, provided no unforeseen technical challenges arise. We will continue to evaluate the program to ensure satisfactory progress.

Question. ABL appears to be a system that holds great promise for destroying missiles in the boost phase. With its impending entry into service—and realizing that some facilities will have to be constructed to adequately house this new system—when will the site selection be made for the “bed down” location for this system and when will the criteria for this selection be identified?

Answer. I deferred this question to the Air Force, as they are the responsible agency. They have provided the following information. Determining the criteria for selection of the ABL “bed down” location is an ongoing process and the responsibility of the Air Force's gaining command, Air Combat Command. The process will optimize aircraft, mission, and operations requirements to identify usually 2 to 3 potential locations. This process is underway for ABL but not complete. The notional timeline for “bedding down” the ABL contains several significant events: conducting a site survey of candidate locations—approximately 1 year, completing environmental requirements such as an impact statement—approximately 2 years, and constructing facilities—approximately 2–3 years. Site selection will come after the completion of the environmental impact statement process. However, the timing of events is determined by working back from the “bed down” date. The attached chart was provided by Air Force.

Basing Decision To Support Deployments

- Same procedure conducted for all weapon systems...F-22, Global Hawk, etc.
- Process managed by HQ ACC/XP
- Force structure decisions coordinated through AF channels



SUBCOMMITTEE RECESS

Senator INOUE. General Kadish, on behalf of the committee, I thank you very much for your testimony this morning.

This subcommittee will stand in recess until April 24, 2002, when we will receive testimony regarding the Department's Guard and Reserve programs.

So thank you very much, General.

General KADISH. Thank you, Mr. Chairman.

[Whereupon, at 11:41 p.m., Wednesday, April 17, the subcommittee was recessed, to reconvene at 10 a.m., Wednesday, April 24.]

**DEPARTMENT OF DEFENSE APPROPRIATIONS
FOR FISCAL YEAR 2003**

WEDNESDAY, APRIL 24, 2002

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 10:12 a.m., in room SD-192, Dirksen Senate Office Building, Hon. Daniel K. Inouye (chairman) presiding.

Present: Senators Inouye, Dorgan, Kohl, Stevens, Cochran, and Domenici.

DEPARTMENT OF DEFENSE

NATIONAL GUARD BUREAU

**STATEMENT OF LIEUTENANT GENERAL RUSSELL C. DAVIS, USAFR-
NG, CHIEF**

ACCOMPANIED BY:

**LIEUTENANT GENERAL ROGER C. SCHULTZ, USAR-NG, DIRECTOR,
ARMY NATIONAL GUARD**

**BRIGADIER GENERAL DAVID BRUBAKER, USAFR-NG, DEPUTY DI-
RECTOR, AIR NATIONAL GUARD**

OPENING STATEMENT OF SENATOR DANIEL K. INOUYE

Senator INOUYE. Ladies and gentlemen, first, my apologies for being late. As you know, I am very, very seldom late, but we did have an emergency.

Today the subcommittee will receive testimony from General Davis, General Schultz, and General Brubaker of the National Guard. They will be followed by a panel from the Reserves consisting of Admiral Totushek, General McCarthy, General Sherrard, and General Plewes.

Gentlemen, our active component commanders are fond of stating that the country cannot go to war without the contributions of the Guard and Reserve. We have seen the evidence since September 11th. Guard and Reserve forces have fulfilled missions that have grown somewhat familiar over the last 10 years. The contributions of the Guard and Reserve forces in the area of airlift, aerial refueling, civil affairs, security forces and medical support reflect the design of our military force structure.

Perhaps less typical since September 11th is the mobilization of the Guard and Reserve forces to conduct antiterrorism, force protection and other missions to augment or replace active units that are currently deployed. This aspect of mobilization reflects prepara-

tions for the continuance and perhaps expansion of the global war on terrorism.

The Department of Defense is currently weighing how best to draw down Guard and Reserve mobilization to a level of 80,000 personnel from the authorized level of 101,000 and still sustain the support necessary for active duty forces. This morning we look forward to hearing from our witnesses concerning the management of this draw-down, and the involvement of the Guard and Reserve in Operation Noble Eagle and Enduring Freedom.

Also of concern to the committee are the longstanding issues of fielding of Guard and Reserve equipment and manpower funding. Today our witnesses will tell you how the fiscal year 2003 budget meets those needs.

I was prepared to call upon Senator Stevens at this point, but he is at a very important leadership meeting at this moment, but I will call on Senator Cochran.

STATEMENT OF SENATOR THAD COCHRAN

Senator COCHRAN. Mr. Chairman, thank you very much. I am very pleased to join you in welcoming our distinguished panel of witnesses today, the Chiefs of the National Guard and Reserve Forces of the United States. We appreciate very much your dedicated service in support of our national security interests. We know that all of you have been participating in leading the mobilization of large number of forces, 81,000 I think is the current number, in support of deployments around the world where our forces are needed now to help protect the interests of the United States, and we appreciate your dedicated service and your leadership very much. We look forward to your testimony and talking with you about the budget request that has been submitted for continued support of our National Guard and Reserve forces.

Senator INOUE. Well, shall we begin our hearing with General Davis.

General DAVIS. Thank you very much, Mr. Chairman and Senator Cochran, distinguished members of the committee. It's a real pleasure for us to be back here today and an honor to talk to you about the National Guard.

Today the National Guard is deployed all over the world, as you both alluded to in your statement, and it is very key that we understand where we can play and how we can play as guardsmen in support of our national security interests both at home as well as overseas. Being unique as the Guard is with both a Federal mission and a State mission, it has been a challenge since September 11, to say the least.

We are very busy at the State level. The State active duty personnel are being involved in providing force protection and security. We are equally as aggressively involved with those same kinds of issues in our Federal status, out at Fort McNair. The augmentation to the soldiers at Fort McNair have been some of our national guardsmen, as they have been all over the country.

Because we are deployed in multiple statuses, it's sometimes confusing to people about how the Guard operates, but with the outstanding leadership of the adjutants general and the Governors in the States, they make it work. At the same time, we are able to

respond to national requirements and have soldiers deployed in northern Washington, southern Washington, in Kosovo as well as in Bosnia. As a matter of fact, we have had the second opportunity to have command of the Task Force Eagle in Tuslik.

So as we deploy around the world, we want to make sure we are doing a number of things for our soldiers and airmen, and taking care of them is one of our top priorities, making sure they have the things that they need.

Our priorities in the National Guard start with national security here at home, homeland security. That has been our mission since 1636 and we continue to do it today, defense of the homeland. We are very busy in that mission.

During an earlier part of the year and last night I had the opportunity to be with Senator Stevens at an outstanding dinner that was held for Olympians. We had 4,000 people on the ground at Salt Lake City during the Olympics to assure that it came off without a glitch, and it did, in part because of what the Guard did, because they were just part of a major team and effort by the State, at the Federal level, and throughout the whole military establishment.

So we are very aggressively involved in homeland security, combat air patrols which have been recently reduced, and the National Guard has been a large part of that, as well as other missions, securing facilities all over this country. So our number one mission is homeland security. We want to make sure we do that.

Having said that, though, it is important that we have full-time manning of the Guard to ensure that we can take care of those men and women who are deployed. Increasing the folks deployed to 50,000, Army and Air guardsmen being involved, we need to take care of their families at home, we need to take care of their records, their pay records and all those things at home. We need the full-time manning to do that, to maintain the equipment so it is ready to deploy, to make sure that we have the right training preparation for our soldiers and airmen. Full-time manning remains one of our highest priorities.

Next is modernization and recapitalization of equipment, and you talked to that, sir, in your comments, Mr. Chairman. You talked about making certain that we had equipment that's there, that's prepared to go, we have the right spares, and we have the right depots to support. We are replacing some of our older equipment with newer equipment, and it has to be compatible, consistent and interoperable with the active component equipment.

And last but certainly not least, a major issue for us in quality of life is the facilities in which our young people work. We don't want them to come into facilities that they are not proud of, because that's where they spend much of their time during a drill weekend. They are able to accomplish their missions if we have the right kinds of facilities and equipment that goes in them to perform the mission. We need to secure at an even greater level weapons as an example, so we do that, and we work that pretty hard.

So these are our top priorities, these four priorities, homeland security, full-time manning, modernization and recapitalization of equipment, and our quality of life issues in terms of our infrastructure and facilities.

Thank you for the opportunity to come before your committee, and we have asked to join us today and it has been a little relief for us, but I did ask, if you don't mind, sir, I would like to introduce a couple of special guests we have with us today.

Command Sergeant Major Frank Lever, who is the senior enlisted advisor for the Army National Guard, a South Carolina guardsman, and as soon as he opens his mouth, you will have a little sense of who he is and where he is from, an outstanding individual who is the Command Sergeant Major for the State of South Carolina National Guard.

Senator INOUE. Welcome.

General DAVIS. Command Chief Valerie Benton, who is our senior enlisted advisor of the Air National Guard. She came to us from the great State of Wisconsin where she had previously been on tour a number of years on active duty.

The two of them have been out doing great work for the Guard, great work for our soldiers and airmen. They have been out to most of the airports throughout the country to look at the missions they are doing. They have gone out with the soldiers in other missions, with the airmen in other missions, as well as overseas. So we are really pleased to have them on board.

It is very key for recruiting and retention, an issue we will talk to a little later on today, that we have these two folks as well as a large number of their peers at the State level talking to our soldiers and airmen. Many issues come up as a result of the high op tempo and the level of deployment that we have now, so it is very important for us to get the feedback on how those soldiers are doing and what kinds of issues they are involved in. Many family issues come up during that time, many spousal issues come up, so that has been a major issue for us, so we are glad to have them on board and we thank them for joining us here today.

Thank you very much, Mr. Chairman, and I stand by to answer any questions you may have.

Senator INOUE. Thank you, General Davis. Now may I call on General Schultz.

General SCHULTZ. Thank you, Mr. Chairman and Senator Cochran, and members of this committee. We begin by saying thanks. Command Sergeant Major Frank Lever and I have the honor of serving as part of the leadership team for the Army National Guard. What sets us apart, Mr. Chairman, is our members, soldiers, we are 350,000, and their families.

And today as we talk to you about a different pace across the Army Guard, our employers as well are part of this team serving our Nation. What's special about them all, they are volunteers.

Today, Mr. Chairman, I am saying to you that the Army Guard will meet its end strength. Today we are over just a little bit in our prior service and our non-prior service enlistments, which is good news really. Our retention is higher than originally planned, which is good news really. But I want to note, I watch end strength very carefully and it's possible for us today in the Army Guard to overdrive our strength to the point that we wouldn't have enough money to pay for the membership. And so I very carefully watch how many soldiers we have in the States as we roll off the national figures, are members of the Army National Guard, so I will not

overdrive the end strength. But I just want you to know, we will meet our end strength with quality soldiers from across this Nation.

Now the Chief has already mentioned our priority for full-time manning, and I want the members of this committee to know with your support last year, and as you consider what full-time manning means to the Army National Guard and our readiness, as you consider the number that would be distributed to States, last year's growth in military technicians and active Guard and Reserve members went to the States and territories, and the District of Columbia. We kept none of those members on Title X tours, they went to the field as they promised last year they would.

Mr. Chairman, you know well the pace of activity in the Army today and the Guard today and we have tremendous depth in our organizations. We are not hurting in terms of the activity or tempo of things, but I want you to know, the pace is up a bit. Last year we trained in 89 countries.

It has been my intent to scrub all the work load across all the States and territories so that everyone shares a part of the mission. And as we talk about training or deployment or missions, it's our sense that we have the capacity in this team properly managed, and properly scheduled, to satisfy the needs of our Nation.

As we talk about the mobilization cap in the Army today, we're capped at 26,000 members in the Guard and Reserve. The Guard has just slightly over half of that 26,000. We are planning missions for more than that, as you are aware, so we have the potential to go beyond the 26,000, but today we're staying within the mobilization limits driven of course by circumstances that are beyond our reach inside the Army or the Guard.

Mr. Chairman, some years ago you recall we talked about integration in the Army and some would argue today that unit integration has gone to a level that many never expected. As the 29th Division's Virginia-based headquarters comes back home from Bosnia, members of the 155, Senator Cochran being from Mississippi, they were also a part of that rotation, with outstanding duty to the person, and the employers and their families supported that rotation.

I have not had one complaint from an employer so far in our rotational schedule which is now increased, but we're alert to long-term implications of deployments that run 6 months, 12 months and perhaps even beyond, very sensitive to that. And I just say that as long as we plan years in advance, tell the employers, tell the families, tell our members what's expected, it's my anticipation that we will be able to maintain the strength across the Army Guard and maintain mission capacity as well.

As I talk with you about mobilization since September 11, I just want to reinforce one point, and that is integration in our Army is really important. That means equipment must be compatible, for example aircraft, trucks, and communications systems. On very short notice our members are called to active duty these days, and so the point you raised at the opening is something that resounds across our formation to be sure.

Mr. Chairman, the Guard and Reserve appropriations, this committee has helped us with that requirement in the past and I want you all to know that as we talk about the support of your com-

mittee, those items of equipment go to the field, they go to the units and they change the readiness of our units. Last year, for example, we bought trailers for trucks, we had the authorization through the normal process budget activity to buy the tractors, so we took the appropriation from this committee and applied it to the trailers, which is really the complete system when you think about total requirement.

My final point, Mr. Chairman, there is a story that the Army Guard is reluctant to change and I just want to say, we are converting today from combat arms duty, 21,900 soldiers, to new duties, to support related jobs. And we can take all of those kinds of new skills and apply them to homeland security missions and we could also deploy them around the world as the Army requires.

Mr. Chairman, on behalf of our soldiers, I say thanks.

Senator INOUE. Thank you very much, General Schultz. General Brubaker.

General BRUBAKER. Mr. Chairman and members of the committee, on behalf of the 108,000 citizen airmen of the Air National Guard, I wish to thank you for the opportunity to be here today. Because of your past support the Air National Guard is trained and equipped to instantly respond to America's call to arms. For the past 7 months we have been engaged in continuous operations fighting side by side with our total force partners in a war on three fronts. The volunteer spirit of our Air National guardsmen and women guarantees we will continue to fight for as long as it takes.

The first aircraft scrambled in the skies above our Nation's Capital on September 11th were Air National Guard F-16s returning from a training mission. Within hours, 18 tanker wings were generated, 34 fighter units were ready, and 179 missions were flown on the first day. As of today we have logged over 100,000 hours and over 30,000 sorties. In addition, thousands of combat support personnel across every major functional area have leaned forward to serve around the world and at home.

The Air National Guard currently provides more than 25,000 men and women to operations Noble Eagle, Enduring Freedom, and the Aerospace Expeditionary Force. Today those members include over 6,000 volunteers, 17,000 mobilized men and women, a sustained 1,300 Aerospace Expeditionary Force (AEF) participants as well as over 18,000 full-time technicians and 11,000 Active Guard/Reserve Program (AGR) personnel who support our day-to-day operations. The Air National Guard makes this remarkable contribution to our Nation's defense in large part because of this committee's exceptional support, especially in providing funds for our National Guard and Reserve equipment account. This assistance is absolutely essential in order to provide us with the modern equipment and transformational capability that we seek, and quite frankly, our readiness levels depend on it.

LIGHTNING II TARGETING PODS

Procurement of 24 additional Lightning II targeting pods remain our number one priority. This capability will greatly enhance our ability to support combat taskings. In addition, increased antiterrorism, force protection requirements are also necessary to reduce the threat to our units and satisfy Air Force taskings.

KC-135

When congressional authorization released up to 100 wide body tankers in the fiscal year 2002 budget, we now have the additional possibility of replacing our aging E models with both flow-down KC-135-Rs from the active duty fleet, as well as new tankers for selected Air National Guard units.

C-17

In regards to the C-17, we are progressing with the conversion at Jackson, Mississippi. We continue to work towards a fiscal year 2004 bed down, but manpower and some equipment shortages still remain significant. We support the Air Force's C-17 multiyear procurement which should enable more units to be assigned to the Air National Guard. In that same light, we believe that our Air National Guard fighter units are ideally suited to fly both the F-22 and joint strike fighter.

Experience has shown that given the opportunity, the Air National Guard can do any mission. It is imperative that we be included up front in future unit equipped bed down plans in order for the total force to meet the challenges of tomorrow.

QUALITY OF LIFE

Two of our quality of life priorities, family readiness and support and the child care alternatives pilot test program are not funded. We are placing untold pressures on the families of our Air National Guard members as they serve their country selflessly. Today nearly 50,000 Air National Guard member families are in immediate need of dedicated full-time family readiness and support services.

HOMELAND SECURITY

On a final note, we are a capabilities based force that is ready to answer our Nation's call at home or anywhere around the world. As we continue to identify and redefine roles and missions in regard to homeland defense, we must remember that our homeland security capabilities derive from our warfighting capability. The Air National Guard is certainly prepared to play a significant role in this vitally important area but we must also be allowed to use our combat proven capabilities to continue to support other major wars and contingencies throughout the world.

PREPARED STATEMENT

With your continued support, the Air National Guard will remain an indelible part of American military character as a powerful expeditionary force, domestic guardian and caring neighbor, protecting the United States of America at home and abroad.

Thank you once again for all you do for the Air National Guard.
[The statement follows:]

JOINT PREPARED STATEMENT OF LIEUTENANT GENERAL RUSSELL C. DAVIS, LIEUTENANT GENERAL ROGER C. SCHULTZ, AND BRIGADIER GENERAL DAVID BRUBAKER

NATIONAL GUARD POSTURE STATEMENT—FISCAL YEAR 2003

PROTECTING AMERICA AT HOME AND ABROAD

EXECUTIVE SUMMARY

“America was not built on fear. America was built on courage, on imagination and an unbeatable determination to do the job at hand.”—(President Harry S. Truman—January 8, 1947)

The job of safeguarding our national security is fulfilled through the courage and determination of our diverse and capable Armed Forces. The National Guard, an integral component of our Armed Forces, is committed to supporting our national security strategy at home and abroad.

Our goal in this year’s Posture Statement is to highlight the unique and critical capabilities of the Army and Air National Guard. This Executive Summary is intended to give you a clear and concise overview of our top legislative priorities for fiscal year 2003. As we accomplish the business of the National Guard in 2002, you will see that our vision encompasses the future protection of this country. The attached compact disc provides as a more detailed reference tool for use throughout the year.

I hope you will invest the time to read this summary. In return, we will illuminate the most important issues facing the men and women of your National Guard as they strive to meet the challenge of protecting America’s interests at home and abroad.

Full-Time Manning

The National Guard remains an organization of predominately part-time citizen-soldiers and airmen. However, about 17.5 percent of our total Army and Air National Guard structure is manned full-time. This professional cadre of military technicians and full-time military personnel provides the core of experience and stability necessary to maintain our facilities and equipment, train our personnel, and administer the daily operations of our force.

At one time, these personnel were sufficient to meet the demands of the National Guard’s missions during the Cold War. Since the Gulf War, the Total Force Policy of our national military strategy has accelerated National Guard integration with the active component services in performing daily missions at an increasing pace. Correspondingly, the demands placed upon the National Guard have grown, stressing the ability of our full-time forces to support these missions. The additional capability required to fulfill our traditional role in Homeland Security further exacerbates the problem of keeping pace.

Providing enough full-time personnel to maintain our operational momentum is our most pressing need in the evolving new threat environment. It is also the lynchpin to readiness. Our full-time cadre is the bridge to rapid surge capability and the transformation from peacetime to wartime posture. Army National Guard full-time support authorizations presently fulfill only 57 percent of the total validated requirement. This places at risk the National Guard’s ability to provide adequate physical security, an initial response capability, and a community presence for an anti-terrorist/force protection capability.

Homeland Security

America’s history, heritage and community ties have always given the National Guard cause to execute our constitutional mission “To provide for calling forth the militia to execute the laws of the union, suppress insurrections, and repel invasions” (Art. 1, Sec. 8, Clause 15). The unfolding events since September 11th have given new urgency to that enduring language.

Our dual status as a state resource that can be accessed for federal roles makes the National Guard a cost-effective and uniquely flexible instrument of national defense. This is how we protect America at home and abroad. The military discipline, training and equipment provided by the United States Congress is used frequently in virtually every state and district to respond to civil emergencies. Responding to a Homeland Security incident is comparable in many ways to responding to any other disaster. It requires many of the same disciplined and trained personnel and command and control resources we already employ in our wartime role.

Strengthening the security of the American homeland will be a joint operational endeavor requiring unprecedented integration between all appropriate state and federal, civil and military capabilities. The National Guard brings to this effort a

unique level of experience and expertise in these areas. Its dual state-federal mission has provided it with an unmatched level of domestic civil-military operational experience. In addition, the National Guard Bureau's long-standing position as the nexus between state and federal military organizations makes it a natural base upon which to build the stronger federal-state integration that will be required for the future.

As we prepare the nation for wartime, we must refine the National Guard's role with more clarity in respect to its relationship with the Department of Defense. The National Guard is best situated to coordinate the efforts of local, state, and federal agencies so as to provide the nation with the best possible disaster response capabilities.

Modernization / Recapitalization

Our National Guard, like every modern military force, is dependent on state-of-the-art equipment. In the past, our equipment has been "cascaded" down from the active component services as they modernized. Consequently, the National Guard typically operates and maintains the oldest equipment in an already aging fleet. The stability of our workforce gives us an edge when maintaining this aging equipment; however, no matter how skilled the mechanic, aging equipment and a lack of spare parts can and does result in lost readiness. It becomes less cost-effective to maintain equipment that has aged to the point where there is no longer any appreciable return on investment. For this reason, it is important to modernize and/or recapitalize our existing capability as the best option to ensure we remain interoperable with other U.S. Armed Forces.

As we engage in integrated operations with our active component counterparts, interoperable equipment becomes even more critical. Because the Total Force is interdependent, our success in supporting the mission is complicated by the fact we often have disparate equipment. When the active component transforms to achieve more modern capabilities, it will be doubly hard for the National Guard to keep pace. As a result, we recommend the Total Force be viewed as a total transformational force in order to retain interoperability and to maintain full-spectrum capability.

America can no longer afford to wait a generation for modern equipment to "cascade" down to the National Guard if it wants to maintain the Total Force as an integrated structure. When our military modernizes to improve its capabilities, we must include the National Guard as a full partner. When new threats create new technologies and new responses, integration demands inclusion of the National Guard.

Infrastructure / facilities

Like people and equipment, infrastructure is critical to the readiness of the National Guard. Providing an efficient work environment is a key "quality of life" issue. Aging facilities and outdated utilities are a drain on resources, absorbing disproportionate maintenance costs and degrading the efficiency of the workplace.

The National Guard has more than 3,000 facilities in 2,700 communities in every state, territory and the District of Columbia. Our sites lack the extensive infrastructure (dormitories, hospitals, schools etc.) typical of active component posts and bases; they rely upon the community for this support. As a result, our facilities tend to be highly visible and are a shared community resource. Unfortunately, many of them are rated among the lowest in terms of quality and readiness status.

To merely maintain them in their present condition is a significant challenge in the neighborhood of \$350 million per year. To recapitalize and upgrade the readiness of all ARNG facilities would require a 341-year cycle at present levels of support. The current Department of Defense standard for recapitalization is 67 years. At the 67-year rate, the ARNG requires approximately \$1.5 billion from fiscal year 2003 to fiscal year 2007.

New and urgent missions such as the Weapons of Mass Destruction/Civil Support Teams levy additional requirements for new construction to counteract threats to Homeland Security. Nevertheless, the Advanced Division Redesign Study, the Interim Brigade Combat Team concept, and other organizational constructs are transitioning the National Guard from a Cold War force to the lighter leaner force the future requires with new correspondingly tailored facilities in which to train.

Summary

We have sketched our top concerns as we continue to achieve our goal to "Protect America at Home and Abroad." The goal itself is a reflection of our constitutional duty to provide for the "common defense". Our priorities mirror the means to execute that obligation. We hope that you will use the attached compact disc to view a much more detailed discussion of these priorities as they relate to the Army and

Air National Guard respectively. You will also find a comprehensive description of the significant programs and mission-areas of the National Guard.

RUSSELL C. DAVIS,
Lieutenant General, U.S. Air Force Chief, National Guard.

PROTECTING AMERICA

To “provide for the common defense”—of the nation, the National Guard Bureau provides the leadership and resources required to set the standard for the world’s premier reserve force, the National Guard of the United States. Our destiny is to respond to current and future worldwide commitments of the National Security Strategy with community-based, dedicated citizen-soldiers and airmen; well trained, organized, and supported with state of the art technology and equipment.

This vision provides the framework for the premier reserve force in the world. Providing for the “common defense” requires local, national, and global deployments of military personnel and equipment. When our national interests are threatened, the involvement of citizen-soldiers and airmen ensures the full commitment of our nation.

Following independence, the authors of the United States Constitution empowered Congress to “provide for organizing, arming, and disciplining the militia.” However, recognizing the militia’s state role, the Founding Fathers reserved the appointment of officers and training of the militia to the states. Throughout the 19th century the size of the Regular Army was small, and the militia provided the bulk of the troops during the Mexican War, the early months of the Civil War, and the Spanish-American War. In 1903, important national defense legislation increased the role of the National Guard as a Reserve force for the United States Army. National Guard aviation units, some of them dating back to World War I, became the Air National Guard, the nation’s newest Reserve Component in 1947.

Our dual constitutional role means our duties do not end at the federal level but extend to the states as well. Under state law, the National Guard provides protection of life, property and preserves peace, order and public safety. These missions are accomplished through emergency relief support during natural disasters such as floods, earthquakes and forest fires; search and rescue operations; support to civil defense authorities; maintenance of vital public services, and counterdrug operations.

Since the founding of the National Guard militias, we have embraced the fundamental and enduring goals of maintaining the sovereignty, political freedom, and independence of the United States, with its values, institutions, and territory intact; protecting the lives and personal safety of Americans, both at home and abroad; and promoting the well-being and prosperity of the nation and its people.

National Guard in our Communities

We are first and foremost an institution of people-soldiers, airmen, civilians, families and employees. The National Guard is the military face of the nation representing a familiar presence in many communities throughout America. Our greatest strength emanates from the diversity of our force—diversity of education, political affiliations, vocations, social and economic status, race, color, creed and age. More Americans connect their vision of the military with the local National Guard that they see routinely, than any other service. Guardsmen and women are our neighbors, friends, co-workers and relatives. The professionalism, dedication and trust, of the nation in our military, starts with the local Army National Guard armory and the Air National Guard unit. People from all walks of life fill the ranks of the National Guard and, as such, provide a direct connection to more than 2,700 local communities across the nation where Guard facilities are located. We share a common conviction and purpose built upon a bedrock set of values: integrity, loyalty, selflessness, compassion, family, dedication, service, and patriotism.

State and Federal Calls to Service

This community connection brings a unique perspective to the culture of the National Guard making it the logical choice for national priorities like executing Homeland Security, countering Weapons of Mass Destruction (WMD), supporting counterdrug activities, and defending against cyber-terrorism. The Army and Air National Guard embrace their Constitutional dual-role as both a federal and state force. A role that, because of recent events, is increasing at all levels.

National Guardsmen are under the command of the state governors unless the President specifically orders them into federal service. Whether they are serving in a state or federal status, members of the National Guard bring critical skills and resources to bear during both local and national emergencies. When a crisis occurs

that overwhelms the capabilities of local authorities, the Army National Guard and Air National Guard respond to assist as needed. In fiscal year 2001, local governments requested emergency support 365 times to assist victims of disasters such as hurricanes, floods, fires, droughts, ice storms, tornadoes, and terrorist attacks. In response, the Army National Guard and Air National Guard provided 382,000 man-days in a State Active Duty status to reduce the suffering of affected civilian populations by providing requested and required support (e.g. security, power, heat, water, transportation, food, shelter and emergency engineering support).

September 11, 2001 was a typical day for the National Guard. There were 12,400 National Guardsmen assigned in federal and state missions at home and abroad. Over 450 were in State Active Duty status fighting forest fires, protecting our communities from natural disasters, such as floods and storms, providing drinking water or electrical power, and other domestic missions. Nearly 12,000 soldiers and airmen were deployed in support of Commanders in Chief or Service requirements world-wide in a variety of combat and combat support missions, Bosnia/Kosovo, Southern and Northern Watch in Southwest Asia, and the enduring air sovereignty mission of Air National Guard and 1st Air Force air defense units.

Within minutes, Air National Guard fighter units were leveraging critical combat skills and equipment while performing combat air patrol missions, including Presidential aircraft escort, over the nation's skies. In New York, National Guard soldiers and airmen responded immediately. In all more than 3,000 National Guardsmen supported efforts at the World Trade Center site. Eighteen Air National Guard refueling wings, multiple strategic and tactical airlift units (C-5, C-141 and C-130), along with Army National Guard aircraft, provided necessary lift support to the combat air patrols, consequence management activities and Enduring Freedom response requirements. National Guard units provided rescue support, civil engineers, communications and power generation capability, air traffic control, medical teams, chaplains and other service support operations, i.e., food and shelter service, public affairs and command and control entities.

Since that tragic day, an additional 19,500 soldiers and airmen have been called-up to react to the emergencies resulting from the attacks and the continuing war against terrorism. Thousands of other National Guard members have also responded by volunteering each day for duty. The National Guard's unique Civil Support Teams have responded to more than 200 suspected chemical/biological incidents in which they put their cutting edge training and technology to precisely the use Congress envisioned. In addition, Active Component military installations were provided National Guard soldiers for additional force protection and critical asset protection.

Finally, the National Guard responded to the President's request to provide airport security to more than 400 airports across the nation. Today, the National Guard is not only performing these missions, but also deploying combat and support units in operations to defeat terrorism around the world. Only two months after the attack on America, the National Guard deployed 5,209 personnel on State Active Duty and more than 40,000 soldiers and airmen worldwide. This has translated into a three-fold increase in our operational tempo since the September 11th attacks.

NATIONAL GUARD BUREAU

Under Title 10 of the United States Code, the National Guard Bureau is the channel of communications between the military departments and the National Guard throughout the 54 states and territories of the United States.

The Chief, National Guard Bureau serves as the senior uniformed National Guard officer responsible for formulating, developing and coordinating all policies, programs and plans affecting more than half a million Army and Air National Guard personnel. Appointed by the President, the general serves as the principal adviser to the Secretary and Chief of Staff of the Army, and the Secretary and Chief of Staff of the Air Force on all National Guard issues.

The National Guard Bureau leadership also works closely with the Joint Chiefs of Staff. Members of the National Guard serve full-time on the Joint Staff to facilitate coordination on substantive issues pertaining to the National Guard. The National Guard Bureau works in a collective manner throughout the Department of Defense to create a seamless Total Force.

For the National Guard to function effectively, NGB maintains strong ties with all state and federal activities. Maintaining our basic freedoms and providing critical life saving support at all levels requires a National Guard that is trained, equipped and ready. It also requires the administration, coordination and leadership of a National Guard Bureau that is directly connected to all the people it serves.

This diagram illustrates the interconnectedness and complexity of our organization. A complete listing of State Adjutants General can be found in the Appendix.

A LEGACY IN HOMELAND SECURITY

The National Guard is proud of the legacy of Homeland Security handed down by past generations of Citizen Soldiers and Airmen. From the first militia in 1636, to the Air National Guard sitting runway alert in the 1950s, to the Army National Guard's Nike missile defense batteries during the Cold War, to the missions we serve today, Homeland Security continues to be part of the heart of your National Guard.

Defending our Home

On September 11, 2001, thousands of Americans perished in the Pentagon, the World Trade Center and aboard four hijacked airlines.

This act has brought home the realities of terrorism. This vicious attack has also brought to light a fundamental circumstance of our situation. That circumstance was best expressed by Secretary of Defense Donald H. Rumsfeld, "We cannot and will not know precisely where and when America's interests will be threatened, when America will come under attack, or when Americans might die as the result of aggression. We can be clear about trends, but uncertain about events. We can identify threats, but cannot know when or where America or its friends will be attacked. We should try mightily to avoid surprise, but we must also learn to expect it. We must constantly strive to get better intelligence, but we must also remember that there will always be gaps in our intelligence. Adapting to surprise—adapting quickly and decisively—must therefore be a condition of planning."

The National Guard has time-honored experience responding effectively to surprises ranging from wildfires, flashfloods, and tornadoes to riots and other emergencies. This was well demonstrated on September 11. We moved quickly to stand shoulder-to-shoulder with the civil responders, and remain a vital component of the recovery process. The machinery of accessibility is working just as it was designed, and the National Guard is able to promptly and flexibly meet the levy of both the President and the governors in responding to the needs of the nation and the individual states. Our dual status is proving to be a particularly useful feature of our organization, permitting National Guardsmen to be a federal military resource under Title 10 of the USC, or a state-controlled law-enforcement and consequence management tool under Title 32 of the USC or applicable state laws for State Active Duty. Consequently, there are a number of things that functioned smoothly as currently designed.

Large numbers of military personnel and equipment were brought rapidly to bear on the mission. Even after the on-site civilian Incident Command structure was lost in the collapse of the World Trade Center, the New York National Guard was able to effectively receive and fill requests for support from the New York Fire Department "second team" once they were up and running.

National Guard forces were employed across state lines. New Jersey National Guard readily joined in support of the recovery efforts.

Due to the unique institution of the New York Naval Militia, the governor of New York was able to gain access to Navy and Marine Corps Reserve assets inside his state as they were needed. The governor was able to successfully integrate requested federal forces into the response. Although specific to New York, this concept may provide a model for integrating the participation of other Reserve Components into a governor's response in other states.

We are proud to have been the "bench" for the brave firefighters, emergency medical technicians and law enforcement officials at the scene of the disasters. We provided medical personnel to care for the injured, military police to assist local law enforcement officials, key asset protection, transportation, communications, logistics, and a myriad of other support functions. We are making our resources available as needed, to restore order, stability, and safety to our fellow citizens.

When required to do so, National Guard troops were brought rapidly into federal status. Maryland Army National Guard military police units were very quickly brought on duty and dispatched to provide security at the Pentagon within 24 hours of the attack. Air National Guard fighters were on the scene within minutes. Indeed, our immediate execution of the President's airport security mission, while remaining under the control of the state governors, demonstrated the special speed and flexibility of the National Guard even under Title 32.

On September 27th, President Bush asked the governors to call up over 7,000 National Guardsmen to supplement security at the nation's 420 commercial airports for up to six months. The first National Guardsmen were on duty the very next day. Their purpose is not only to stop terrorists but also to restore the faith and con-

fidence of the public in commercial air travel until more permanent arrangements can be made. On November 9th, President Bush authorized an additional 25 percent manning added for the holiday period until January 6, 2002. Our commercial airline industry is a key link in the national economy and vital to our nation's interests. The President has invited America to "Get on board, do your business around the country."

As of November 26, 2001, over 48,000 National Guardsmen from 54 states, territories, including the District of Columbia and Puerto Rico, had been called to federal service in support of Operations "Noble Eagle" and "Enduring Freedom". We are responding as we are designed—"dual-missioned."

We are ready and prepared to "call out more of the National Guard" to ensure that the business of this country can continue to function without fear or interruption. There are challenges facing the National Guard as it implements and evolves its Homeland Security role. None are insurmountable. The mission of the National Guard, like all other military organizations, is driven by the roles and capabilities needed to meet the threat; and the resources that must be allocated to sustain needed capabilities. With support, the National Guard will meet the challenge to be ready for all aspects of the important Homeland Security mission.

Preventive Defense

Preventive Defense is one of the National Guard's federal roles that also contributes to homeland security. We are uniquely positioned to promote democratic practices abroad and find ourselves in frequent demand for overseas cooperative defense programs through the State Partnership Program.

The State Partnership Program

The purpose of the State Partnership program is to build long-standing institutional affiliations and people-to-people relationships with nations currently establishing democratic military organizations. By using National Guardsmen in their dual roles as citizen-soldiers, the partner nations' military leaders encounter highly trained and cost-effective members of the United States Armed Forces. Guardsmen serve as role models in making a compelling case for ideals of democracy, professionalism, and deference to civilian authority. They also demonstrate the necessity and economy of Reserve Components with the ability to react immediately to civil and military emergencies.

Much of the National Guard's success in promoting democracy abroad is the result of the State Partnership Program. To date, 32 states, two territories and the District of Columbia have joined as Partners or Associate Partners in extending the hand of friendship from grassroots America to 33 countries that would emulate our ways and institutions. Foreign military personnel and political leaders visit our country to observe how the National Guard operates within the state and federal framework. National Guard members reciprocate by visiting the partner country and providing detailed information on civil-military topics like search and rescue, medical support, disaster response, military law, and family programs. Importantly, these are more than just military-to-military contacts. By involving governors, mayors and their staffs, state legislators, and the families and friends of our National Guard members in building these bridges of friendship, we promote political "buy-in" on national security strategy at the local level.

Sharpening the military skills of our National Guard members while demonstrating their ability and willingness to enhance the quality of life for hemispheric neighbors is just one benefit of this timely and innovative engagement. We are firmly committed to sustaining this effort which has our Guardsmen helping to shape emerging democracies, and preparing for and improving readiness by engaging in international events and activities, and responding as our national security needs require.

As part of the National Guard's State Partnership Program, National Guard personnel participate in various command-sponsored activities. The National Guard participates in programs such as the North Atlantic Treaty Organization's Partnership for Peace program, European Command's Joint Contact Team Program, U.S. Southern Command's Traditional Commanders in Chief Activities Program, and similar activities sponsored by the Office of the Secretary of Defense, the Joint Staff and the State Department.

National Guard personnel, and the militia system under which they operate, are models for the role of a military in a democratic society. They provide an influential example of how a military force can be effective while demonstrating military subordination to civil authorities and illustrate how a military force of the people remains committed to the people. The wealth of civilian skills our National Guard members take overseas—and the diversity of non-military professions they represent—are

also important, giving our men and women a versatility and credibility as goodwill ambassadors that no other American military arm can match.

Future of the National Guard in Homeland Security

Virtually every policy expert in Washington seems to agree that the National Guard is a central military institution for the security of the homeland. This is a sentiment echoed in the Hart-Rudman report, by former generals, and respected authorities all across the spectrum. We agree. To arrive at that end state, however, it is not necessary to turn the National Guard inside out.

Various commentators have said that the National Guard should be reoriented, reorganized, retrained and re-equipped. In truth, the National Guard needs to be empowered for success on both the home front and the warfront—precisely where it has always been oriented. Initiatives such as the Army National Guard Division Redesign Study (ADRS) are underway to help resolve these questions.

Dual Mission Orientation

The enduring value of the National Guard has always been its orientation on both protecting the lives and property of Americans here at home and on going to war to support American interests globally.

The National Guard has participated with distinction in every major armed conflict of this nation and this mission should never be diminished. The special utility for the nation is that in addition to being a critical war-fighting asset, the National Guard is also a crucial source of local and state emergency response support. Both are critically important to the nation. Keeping both missions together is critical to the future strength of the National Guard. The resources, personnel, equipment, and training provided to accomplish the war-fighting role are in most cases the same resources that are needed and allow the National Guard to accomplish the local and state support role.

One specific example of this “dual-missioned” capability is found in the combat capability of our F-16’s flying over America. Since day one, these units rely heavily on Precision Targeting Pods for visual identification while at the same time using this critical equipment in their Aerospace Expeditionary Force Air Superiority role in Operation Southern and Northern Watch overseas.

The National Guard is willing to take on a greater role in performing the Homeland Security mission, however it is more important than ever that it maintain its Total Force combat and combat support mission capability. All enemies of the United States take note when the National Guard is deployed in combat because the enemy identifies the National Guard as the grass roots support of the local people in that conflict. The National Guard constitutes the local community and the state government support of any war effort that our country engages in.

The capacity of the National Guard Bureau to effectively maintain awareness, conduct coordination and provide guidance and resources to the National Guard must be strong to meet the needs of Homeland Security. The new National Guard Bureau Office of Homeland Security is one step in that direction and was an important asset in the nearly overnight execution of the airport security mission. As the National Guard’s part in the security of the homeland solidifies, the National Guard Bureau’s demonstrated capability and many years of successful experience in effectively coordinating across 54 states and territories will be put to good use.

Assessing National Guard Roles In Homeland Security

As a force consisting of both Army and Air Force assets the National Guard Bureau has a wide variety of capabilities that are available to support the many facets of Homeland Security. The seven mission areas that have been identified within the Homeland Security area are: (1) Combating Terrorism; (2) Military Assistance to Civilian Authorities; (3) Responding To Chemical, Biological, Radiological, Nuclear and high-yield Explosives Incidents; (4) Missile Defense; (5) Critical Infrastructure Protection; (6) Information Operations; and (7) Protecting the Nation’s Sovereignty.

The National Guard, with its community-based state-organized structure, is uniquely qualified and situated to provide a timely response. With a military focused force and established command, control and communications, National Guard structure addresses these mission areas as the front line for the Department of Defense in Homeland Security.

Combating Terrorism

The National Guard is the primary provider of immediate military resources, including units and personnel at the local and state level in the combating of terrorism. Again, because they are deployed in the state and have an immediate command, control and communications capability they can respond quickly to support local and state authorities. Within the state, the Adjutant General and the state Na-

tional Guard possess the local knowledge of the terrain, the assets, the vulnerabilities and the local and state agencies. This expertise is a powerful tool in combating terrorism and, as such, it may be in the best interest of the nation to use this expertise when the application of federal military assets is required. The National Guard can assist in the mission of combating terrorism by providing a coordinated and mutual supporting approach. This approach provides appropriate assistance at the local/state levels and, as required, at the national level. It reinforces the primary mission of the National Guard to provide combat ready forces for the United States Army and Air Force.

While the National Guard can and does provide force protection and other mission support, much of the National Guard's capability for combating terrorism lies in the realm of consequence management. There are a number of capabilities within the National Guard that could be brought to bear on the terrorist threat before an attack occurs. Specifically, because of its unique capability to provide military support to law enforcement agencies, the National Guard is also well positioned to play an important role in the detection and prevention of terrorist attacks. In much the same way that today's National Guard assets are so effectively employed in the war on drugs, they could similarly be employed in the war on terrorism. Special military equipment and skills have fought drugs with surveillance, aviation support, inspections and information analysis. In another example, Mobile Vehicle and Cargo Inspection Systems, which typically are employed in the search for drugs, were recently employed to enhance border security. The National Guard is prepared to move beyond consequence management to more broadly leverage our assets for employment in other phases of the war on terrorism. As an example, the 193rd Special Operations Group from Harrisburg, Pennsylvania is currently deployed in both the war on drugs as well as the War on Terrorism—providing high-demand psychological operations capability.

Military Assistance to Civilian Authorities (MACA)

Daily the National Guard is on the front line providing federally trained and equipped forces for the states and local communities in this critical area. Activities included in this mission are law enforcement support, assistance during civil disturbances, counterdrug support, and combating terrorism. The National Guard is a unique military force because it can act on missions outside the framework of posse comitatus. This applies as long as they are under the control of the state.

In the subset of military support to civilian authorities, the National Guard is renowned for providing assistance in disaster-related civil emergencies. The immediately responsive manpower, equipment, and command, control and communications are always the governor's first call when local, state or regional capabilities need additional support. The ability of National Guard forces to operate across state lines was perfectly demonstrated when the state of West Virginia fought floods using National Guard assets from five states under provisions of the Emergency Management Assistance Compact. The National Guard works closely with the local and state emergency managers and their national Federal Emergency Management Agency network responding to natural disasters (forest fires, floods and storms) and other actions where consequence management is necessary.

Consequence Management

In the past three years, the National Guard, with the help of Congress, the Department of Defense, and the Army, has established a new capability to support local, state and federal authorities in dealing with the consequences of a chemical, biological, radiological, nuclear or explosive terrorist event. Thirty-two Weapons of Mass Destruction Civil Support Teams (CST) have been established. Our newly certified Civil Support Teams provided Weapons of Mass Destruction support in their operational debut during the September terrorist attacks.

The 32 CSTs will provide state and local authorities specialized expertise and technical assistance to the incident commander to: (1) Assess the situation; determine the type of weapon used and the likely consequences; (2) advise the incident commander on potential courses of action; and (3) assist the local incident commander's response strategy with cutting edge technology and expertise.

Operationally, these teams are under the command and control of the governors through their respective Adjutants General. However, the National Guard Bureau provides national operational procedures and operational coordination to facilitate the employment of these teams to provide depth and backup capability to states currently without a full-time CST. After some difficult starts these teams have very rapidly progressed through a team effort by Department of Defense, U.S. Army and the National Guard Bureau to reassure the states that these teams have achieved the highest state of readiness.

Missile Defense

Missile Defense (MD) is expected to be a major mission for the Department of Defense. As currently planned, the Department of the Army has the overall responsibility for the ground-based, mid-course element of the proposed missile defense system. The Army National Guard would provide personnel to man significant portions of the ground-based element.

The current plan is for the Army National Guard to be the force provider for the U.S. Army Ground Based Midcourse Segment of MD, not the proposed MD Test Bed. Approximately 300 Active Guard and Reserve personnel will support missile defense in various states, including Alaska and Colorado. If a decision to employ a missile defense system is made, the Army National Guard will provide the operational force.

Critical Infrastructure Protection

In the mission area of Critical Infrastructure Protection the National Guard has the capability to expeditiously provide personnel and units throughout the entire nation and its territories. This may be required in an environment where much of our military force, to include the National Guard, has already been deployed overseas while terrorist activities may require significantly increased vigilance at home.

Because of the dual state and federal status of the National Guard, and the fact 23 of the Adjutants General are also the head of their State Emergency Management Agency, a good deal of focus and expertise on infrastructure protection already exists in the National Guard and could be a strong basis upon which to build future, broader capability.

Information Operations

The National Guard has units and capabilities assigned in both the Army and Air National Guard in this mission area. The Army National Guard units are assigned to the 54 states and territories, plus three additional teams work under the guidance of the Army's Land Information Warfare Activity, a part of the U.S. Army Intelligence and Security Command. The National Guard has a Joint Web Risk Assessment Cell that scans defense web networks to determine risk and provide assessments for follow-on action. In addition to the capabilities of the combat information operation units, the National Guard also has Vulnerability Assessment Teams and Field Support teams that provide enhanced protection.

The Air National Guard is currently expanding its role in information operations with the establishment of a new "assurance" unit in Washington State and a new unit in Maryland in partnership with the National Security Agency.

Protecting the Nation's Sovereignty

From its inception, the National Guard has been involved in protecting the sovereignty of the nation. Today portions of that mission are carried out by the Air National Guard in performance of the air defense mission conducted through First Air Force and other units. First Air Force, an Active-Duty Numbered Air Force operated extensively by members of the National Guard, coordinates with units operating throughout the continental United States. While a land attack is not considered a significant threat, the National Guard plays a key part in the plans for the land defense of the United States. Additionally, the National Guard (Army and Air) is an integral part of the ongoing counterdrug efforts wherever they are conducted. The National Guard is also assisting port and border control authorities to safeguard our nation's borders.

National Guard Counterdrug Program

Continuing our mission of defending America from the flow of illegal drugs, approximately 3,500 soldiers and airmen with skills in foreign languages, intelligence analysis, map-making, communications, engineering, diving, marijuana eradication, transportation, logistics, cargo inspection, and surface and air reconnaissance were involved in counterdrug operations in fiscal year 2001. Illegal drug profits are often used to finance the work of terrorists. Consequently our fight against illegal drug use is a fight for our children's future and homeland security.

The National Guard recognizes that the nation's illicit drug crisis is not exclusively a problem of demand or supply, but stems from both. Because drug abuse continues to threaten the health of our citizens as well as our national security, each National Guardsman knows that our neighborhoods and schools are battlefields where the struggle is waged one precious life at a time.

In an effort to reduce drug demand, the National Guard's State Demand Reduction Programs are a leading edge "force multiplier" focused on assisting schools, parents, and anti-drug community-based organizations. Serving as drug-free role models, soldiers and airmen provide a positive influence to young Americans who in-

creasingly face drugs, crime, and violence in our nation's school systems. As a partner of the Community Anti-Drug Coalitions of America, the National Guard serves as a powerful catalyst for state and community-based mentoring programs, parenting groups, speaker bureaus, Adopt-A-School, Red Ribbon, and Parents' Resource Institute for Drug Education (PRIDE) projects.

Our personnel continuously participate and support a number of proven drug demand reduction programs nationwide that focus on community coalition building, substance abuse education, youth mentoring, anti-drug message broadcasting and distribution, leadership development within vulnerable groups, and the promotion of high standards of citizenship.

In the effort to reduce drug supply within the continental United States, the National Guard supports various federal, state and local law enforcement agencies, task forces, and community-based prevention organizations. Law enforcement agencies greatly depend on the National Guard for specialized military equipment and highly trained soldiers and airmen, without which many interdiction operations would cease. They perform duties such as posting watch on our nation's borders, preparing and interpreting intelligence materials, detecting and eradicating marijuana, performing non-intrusive inspections at U.S. ports of entry, and translating court-ordered wire tap tapes into English for use in federal prosecutions of drug-related crimes.

In our federal role, we support our Commander-in-Chief by detecting and monitoring attempts to smuggle narcotics into the United States. Members of the National Guard fly on the Airborne Warning and Control System (AWACS) and the Patrol Orion aircraft to identify suspected and known drug smuggling aircraft in the Caribbean and South America. Parallel to this mission, National Guard members on federal active duty orders collect and report near-real-time narco-trafficking intelligence, provide radar surveillance support to the U.S. Customs Service Air Marine Interdiction Coordination Center and the Joint Southern Surveillance Reconnaissance Operations Center. In addition, the National Guard provides mechanical and logistical support to the U.S. Air Force Counter drug Radar Surveillance and Control sites in Colombia and Peru.

The National Guard has established goals and strategies to guide our efforts as we provide support to Law Enforcement Agencies. The first goal is to increase the cost effectiveness of our program. This goal will be accomplished by increasing support to Law Enforcement Agencies via specialized technology, specialized military skills, and counterdrug training. The second goal of the National Guard counterdrug Program is to support drug reduction efforts within our communities by increasing the level of support to High Intensity Drug Trafficking Areas, state and local task forces, and local community coalitions. The third goal is to enhance the quality of our workforce by increasing the amount of training for counterdrug personnel, and conducting annual reviews of existing regulations and policies.

The National Guard will continue to provide valuable support to various federal, state and local law enforcement agencies, task forces, and community-based prevention organizations so that drug use will continue to decrease.

Summary

The National Guard has tremendous quick response capability to support the local, state and federal agencies in accomplishing the Homeland Security mission. The National Guard Bureau, through the Adjutants General, is the primary line of communications between the several states and territories and the Department of Defense on military matters. It has been performing this role at the local, state and federal level since its inception nearly 365 years ago. With the necessary resources, the National Guard will continue to protect and defend our nation against all enemies foreign and domestic.

ON GUARD FOR THE 21ST CENTURY

As we continue to advance the role of the National Guard in the 21st Century, there are numerous concerns over shortages and authorization levels in critical areas such as modernization of major weapon systems and adequately compensating our personnel. Funding must increase in order to meet new and expanding requirements.

The National Guard must recruit, train, and retain people with the broad skills and good judgment needed to address the dynamic challenges of the 21st century. Having the right combination of imaginative, highly motivated military and civilian personnel at all levels is the essential prerequisite for achieving success. Advanced technology and new operational concepts cannot be fully exploited unless we have highly qualified and motivated enlisted personnel and officers who not only can operate these highly technical systems, but also can lead effectively in the highly com-

plex military environment of today. That environment needs the commitment of not only citizen-soldiers, but of every American.

Citizen involvement in national defense is critical to the longevity and health of democratic government. It is a reinforcing thread in the fabric of democracy itself. How the leadership defines our national security interest, in the end, is validated through the support of the people. Our rich heritage of being involved in national defense is rapidly taking on new dimensions. As we transform our organization, we must ensure that we recognize, respect, and protect our citizens' "commitment to serve." Only by preserving this commitment can we attract the needed personnel to our ranks and retain them in service throughout a productive career.

We entrust a tremendous responsibility in our young men and women and are committed to ensure that such trust is not taken for granted. Today's National Guard must provide good quality of life programs and training on state of the art equipment to ensure we recruit, deploy and retain the quality force our country deserves.

Full-time Support

National Guard full-time support functions are diverse and cover a wide range of unit-level activities that include administration, training, logistics, recruiting, and retention. Our full-time force contributes to our success in fulfilling our role in the National Military Strategy. National Guard full-time Active Guard and Reserve (AGR) members and military technicians are uniformed soldiers and airmen who serve as links between state and local communities and provide different workplace roles to support the nation's defense posture. Full-time support personnel are essential to the interoperability of the National Guard and active component and act as readiness multipliers during periods of increased demands and limited resources. The Army and Air National Guard have both recently submitted increased full-time support requirements.

Full-time support personnel are also critical to the National Guard's ability to perform its federal and state roles. They are the single, most important element to our readiness capability providing stability and corporate knowledge at every level of command.

The number of National Guard full-time technicians and Active Guard Reserves must increase in order to meet new and expanding requirements.

Maintaining a Military of Dedicated Professionals

The challenges faced by the National Guard in attracting and retaining National Guard members differs in several respects from that of the Active Component Services. For example, we are often constrained by where an individual lives and works. Unlike Active Component members, who are accustomed to frequent moves during a military career, the men and women of the National Guard have civilian commitments and responsibilities, in addition to their military duties, that tie them to the local area. Hence, we must target our efforts in the areas and regions where vacancies exist.

Our current economic climate has caused us to be more aggressive in our approach to recruit and retain quality members to support mission requirements. Our recruiting successes are a direct result of additional resources and initiatives, and heavy involvement by Adjutants General, commanders and the members themselves.

The Office of the Assistant Secretary of Defense, Reserve Affairs lists the following as reasons that Service members leave or consider leaving the National Guard and Reserves: civilian job and family conflicts, pay problems, lack of recognition, limited advancement or promotion opportunities, and work not challenging. The National Guard must provide a challenging, caring environment with upward mobility to retain our members. We must also look to not only retain the Service member, but also retain his or her family.

Members of the National Guard expect to continue their civilian career even after agreeing to join. Thus, their military responsibilities may take a secondary role, behind their primary profession and means of support.

The National Guard has implemented a number of programs in an effort to retain our personnel. We've added more recruiters, conducted a national advertising campaign, and expanded education incentives. Additionally, we have implemented Aviation Continuation Pay and special salary rates for aviators, as well as authorized special pay and enlistment bonuses for critical specialties. Continued support for our most effective recruiting incentives, including enlistment bonuses, the Army College Fund, Aircrew Incentive Pay, and the Loan Repayment Program, will help us continue to meet future manpower requirements.

National Guard Family Program

National Guard families are as crucial to the success of a soldier or airman as readiness is to a mission. The support of families help citizen soldiers and airmen perform at their optimum level whether in the field, in the sky or at their civilian jobs. In an effort to increase the awareness that family programs provide critical support to the families of our deployed troops, the National Guard declared 2000 the Year of the Family. To assist families in this challenging journey, state Family Program coordinators, community managers, full-time Family Readiness and Support employees, and volunteers give guidance and information on how to cope with the demands of their loved ones in the military.

State Family Program coordinators and volunteers work together to promote family member volunteerism, family readiness groups and networks, quality of life issues, and to facilitate family readiness training throughout the National Guard. During periods of increased Guard activity, such as deployments and state emergencies, Family Assistance Centers are set up to support the immediate and post deployment needs of families. The Air National Guard has recently identified the need for and begun hiring dedicated family readiness and support personnel at the wing level.

Though every family is different, there is one constant. All are concerned for the safety of their family member serving in unknown parts of the world and here at home. The act of terrorism on the United States has placed National Guard men and women in positions of increased high alert to protect this nation. Personal and Family Readiness Guides are available for both Army and Air National Guard members and their families. This guide gives the families various checklists and tools to help them plan. The Guard and Reserve Family Readiness Programs Toolkit, which is a comprehensive set of resources, is also a product available to families.

A key component to keeping National Guard families ready is to make sure the lines of communication are open with their National Guard members. Advances in technology have made this an easier task than the days of simply writing letters. Today, National Guard members can email their families on an almost daily basis depending upon their mission. Others may also have the opportunity for video-conferencing, thus being able to see their loved ones face-to-face. This technique of communication affords comfort to the family as well as the National Guard member, helping retain a highly trained and experienced force.

It is important to remember the total National Guard family. A Guard Family Youth Symposium was held in 2001 that gave National Guard teens and youth the opportunity to come together as a unique group. The group gathered for five days in Washington, D.C. to discuss issues that were important to them as children of National Guard members. The group returned to their states with new energy, ready to reach out to other teens coping with the deployments of parents and life as a youth in the National Guard family.

Employer Support of the Guard and Reserve (ESGR)

To foster positive employer-National Guard partnerships, the National Committee for Employer Support of the Guard and Reserve (ESGR) was chartered by Presidential proclamation in 1972 under the Office of the Secretary of Defense. It is the sole agency within the Department of Defense directed to "promote public and private understanding of the National Guard and Reserve in order to gain employer and community support to ensure the availability and readiness of National Guard and Reserve forces." The ESGR is comprised of a community-based volunteer network of over 4,500 members, who serve on 54 committees (in every state, the District of Columbia, Guam, Puerto Rico and the Virgin Islands), implementing employer support programs within their local communities. The volunteers implement a variety of programs and services for both Reserve Component members and their employers. They provide information on employment rights and responsibilities related to the performance of military duty, offer informal employment conflict mediation, and conduct employer recognition and public affairs events that promote understanding of the vital role of the National Guard and Reserve.

Today, in terms of both manpower and force capability, the Reserve Components comprise nearly half of the Total Force. As a result, employers are being asked to sustain a much greater level of employee absence and related consequences. We have long recognized that without the dedicated patriots who employ the men and women of the National Guard, our militia could not perform at the magnificent level we see today. In fact, 2001 was the National Guard's Year of the Employer. Our soldiers and airmen sacrifice when they answer the call to duty, and in a parallel manner, so do their civilian employers.

ESGR recognizes certain difficulties for employers stem from military duty that is aggravated by the increased operational tempo. These difficulties could be mini-

mized by modification of Department of Defense employment processes. Such adjustment would reaffirm a partnership of mutual respect and open communication between military and civilian employers. These adjustments might include such items as improving management of the duration of military service and making military recall procedures more responsive to employer needs.

Sustaining employer goodwill and support is essential to ensuring the availability and readiness of the Reserve forces. This partnership for the military is not just a mutual benefit—its a necessity.

We will continue to partner with the National Committee for Employer Support of the Guard and Reserve to ensure our employers remain satisfied with our “shared” people and their dedicated commitment to continued military service. At the same time, we have an opportunity to increase the visibility of the military in the communities to help the Total Force bridge the growing civil-military gap. In our effort to educate America’s employers, we educate a large community of leaders on the mission and values of military service.

It is because of the exceptional people in our units that we continue to overcome these challenges. It is the commitment of our people that is the heart and soul of the National Guard. While we’ve put more on our members’ plates, we’ve done it smart and with attention to bonuses, grade relief, grade enhancements, and employer and family support.

Equal Opportunity and the “Year of Diversity”

The Chief of the National Guard Bureau (CNGB) has concluded that the long-standing Equal Opportunity efforts of the National Guard should be augmented by an increased focus on diversity. The National Guard has designated year 2002 the “Year of Diversity.”

The National Guard Bureau’s Equal Opportunity Division (NGB-EO) is a Joint Staff office comprised of both military and civilian personnel. The NGB-EO vision is: “To create and sustain an environment in the National Guard that values inclusiveness and professionalism; to offer all personnel an equal opportunity for success; to enable the National Guard to meet its federal and state mission by taking full advantage of the demographic realities of the Twenty-First century.”

The CNGB and the Army and Air National Guard Directors have all launched diversity initiatives designed to strengthen the norms of inclusiveness that are essential to keeping our National Guard an effective, highly diverse, mission-ready organization. These initiatives include targeted training programs and curriculum designed to promote these inclusive norms.

Diversity goals are both right and smart. The Year of Diversity is an opportunity to plan and take action to position the National Guard for future growth, as well as a time to celebrate gains through diversity.

National Guard Youth Programs

Consistent with its role in local communities and state mission, the National Guard operates two youth programs, ChalleNGe and Starbase. These programs make use of the National Guard’s strengths in organization, planning, execution, self-discipline and leadership, leveraging its existing infrastructure in the states, so there is great value added with a minimum of additional resources.

ChalleNGe is a congressionally mandated program for youth between 16 and 18 years of age who are not in trouble with the law and are drug free, unemployed, and have dropped out of high school. The program consists of a five-month residential phase with a one-year post-residential mentoring phase. Its goal is to significantly improve the life skills and employment potential of these youth through military-based training.

Starbase is a nonresidential program for students in grades K–12, which targets “at risk” students, and provides instruction specifically designed to meet a state’s math and science objectives. The program provides the students with real-world applications of math and science through experiential learning, simulations, and experiments in aviation and space-related fields.

THE ARMY NATIONAL GUARD DIRECTOR’S OVERVIEW

During fiscal year 2001, our nation suffered one of the most horrific acts of war on American soil. To those whose sacrifices and selfless service purchased for us the privileges of freedom, democracy, and unmatched opportunity, we pay tribute and express a deep sense of gratitude. The events of September 11 clearly demonstrated that when called, the Army National Guard (ARNG) is there to respond at home and abroad.

Two hours after the attacks, Army National Guard soldiers began arriving at the site of the World Trade Center in New York City, providing site security and engi-

neering support to clear away the rubble. That same evening, military police of the Maryland Army National Guard arrived at the Pentagon in Washington, D.C., to provide security around the crash site. Soon after, we sent soldiers to our nation's airports to take back the skies from terrorists, restoring American citizens' peace of mind.

ARNG soldiers represent their communities as college students, teachers, police officers, lawyers, firefighters, doctors, moms, dads, sons and daughters. These everyday people are what makes the Army National Guard so special.

Our units have capabilities unrealized by the American people. Even with the unexpected events of September 11 and its subsequent requirements, we are barely scratching the surface of what the Army National Guard can do. Our soldiers are deployed throughout the world in support of Operation Noble Eagle and Enduring Freedom, in addition to the normal ongoing training missions, exercises and peacekeeping operations. These are all in support of our National Military Strategy and represent a small percentage of the more than 350,000 ARNG soldiers.

These missions mean soldiers are absent from their families. The families' willingness to endure these hardships to support their soldiers is critical to the effectiveness of the force. The sacrifices these ARNG families endure should not go unnoticed by our nation.

Another crucial element of our success is the employer. In recognition of this, the National Guard celebrated 2001 as the "Year of the Employer". The missions our citizen-soldiers perform are important to national security and world stability. However, when these missions take soldiers out of their workplace, especially for extended periods of time, employers can and often do experience hardship. It is a tremendous sacrifice that employers make and that sacrifice is recognized.

The National Guard Bureau has declared 2002 as our "Year of Diversity". I plan to leverage demographic shifts in order to capitalize on the diverse talents of the American people. The ARNG will recruit, train, retain, qualify and advance a force that reflects America, acknowledging the contributions of all its members to enhance our service to community, state and nation.

The fiscal year 2003 Posture Statement provides you with an update on what the ARNG has been doing, the progress we are making and how we will help meet the needs of the country as defined in our National Military Strategy. Some of the major issues addressed are equipment modernization, operational tempo, readiness, full-time manning and resourcing.

Additionally, we outline the many challenges we face as an organization. We particularly focus on our ability to balance requirements placed upon us by our states and nation while still maintaining the support of families and employers versus our ability to sustain acceptable readiness. The strides made by the ARNG in 2001 are evidenced by the performance of our units.

Our foundation is first-rate individual soldiers, molded into teams. These soldiers and teams are what make the ARNG a very special organization indeed.

The nation relies on the ARNG now more than ever to accomplish an increasing number of vital missions. We owe it to our soldiers to provide them with the best equipment, best training and a dedicated full-time support staff. As the Director of the Army National Guard, I will ensure that our soldiers are adequately resourced as a premiere fighting force, ready to defend our national interests. Our ability to be ready when called upon by the American people is, and will always be, our top priority and our bottom line.

ROGER C. SCHULTZ,

Lieutenant General, GS Director, Army National Guard.

THE ARMY NATIONAL GUARD TODAY

America's goals are to promote peace, sustain freedom, and encourage prosperity. Our world role provides a basis for a network of friendships and alliances with other countries to flourish. History shows repeatedly that the prosperity of America is linked to the prosperity of others. America's involvement in the world also contributes directly to global peace and freedom. The Army National Guard provides an essential service to achieve these goals, as it helps assure friends and allies of an unwavering U.S. commitment to freedom now and in the future.

The Army National Guard in Stability and Support Operations

The Army National Guard deployed over 21,000 trained and ready personnel in more than 85 countries in support of regional war fighting Commanders in Chief (CINCs). These deployments include sending soldiers to peacekeeping operations in the Balkans, Southwest Asia, Operation Joint Forge (Bosnia), Operation Joint

Guardian (Kosovo) and Operation Desert Spring (Kuwait/Saudi Arabia). This represents an increase in deployments of more than 8 percent over fiscal year 2000.

Reliance upon the Army National Guard continues to increase for fiscal year 2002, during which over 24,000 Army National Guard soldiers will be deployed worldwide in more than 89 countries and participate in more than 75 Chairman, Joint Chiefs of Staff and CINC sponsored events. This represents an increase in deployments of more than 12 percent over fiscal year 2001 and 20 percent over the two years prior (2000/2001).

U.S. Joint Forces Command Exercises (JFCOM)

Prior to fiscal year 2001, the Army National Guard did not participate in Joint Forces Command Exercises (JFCOM). Beginning in fiscal year 2001 nearly 900 service members participated in JFCOM exercises such as Joint Task Force Exercise and Unified Endeavor. Army National Guard division and brigade headquarters participated in both multi-service (category 2) and Joint Force (category 3) exercises. These exercises improve skills in joint interoperability areas and prepare units to participate in higher echelon exercises.

U.S. Southern Command (SOUTHCOM)—Central and South America

As the lead command in the New Horizons Nicaragua, Engineering exercise in fiscal year 2002, the Army National Guard will deploy more than 3,200 personnel in support of the SOUTHCOM Chairman, Joint Chiefs of Staff (CJCS) exercise program. The Army National Guard provided extensive support to Active Component (AC) forces in SOUTHCOM through the Overseas Deployment for Training (ODT) program this past fiscal year.

In fiscal year 2001, Army National Guard aviation aircrews and support personnel from Alaska and Iowa provided general support for New Horizons. The Army National Guard aviators completed a multitude of missions in the Central American countries of Honduras, Guatemala and Paraguay during fiscal year 2001. During fiscal year 2001, the Army National Guard deployed nearly 3,500 soldiers to support Central America through Medical Readiness Training Exercises (MEDRETE), unit exchanges and joint-combined exercises such as NUEVOS HORIZONTES, TRADEWINDS and FUERZAS ALIADAS.

U.S. European Command (EUCOM)

In fiscal year 2002, more than 11,000 Army National Guard soldiers will participate in more than a dozen exercises in addition to supporting annual infantry and engineer Opposing Force (OPFOR) rotations in the Combat Maneuver Training Center-Europe in Germany. The Army National Guard will also provide direct and general support maintenance units to perform readiness enhancing annual training periods at the Equipment Maintenance Center-Europe.

Additionally, the Army National Guard will provide Combat Service (CS) and Combat Service Support (CSS) functions across the spectrum to include aviation maintenance, military police, signal, medical, Judge Advocate General (JAG), chaplain, finance, public affairs and engineer facility support. Total Army National Guard support to Europe during fiscal year 2001 exceeded 13,000 soldiers.

U.S. Central Command (CENTCOM)—Middle East

The Army National Guard support to CENTCOM through the ODT program increased to nearly 900 service members in fiscal year 2001. This number will grow to more than 1,000 in fiscal year 2002. This support primarily consists of military intelligence, military police, Special Forces and communication efforts in support of Active Component (AC) exercises, e.g. INTRINSIC ACTION, LUCKY SENTINEL, NATURAL FIRE, IRON COBRA and BRIGHT STAR.

U.S. Pacific Command (PACOM)—Asia

Bilateral and multinational training exercises require Army National Guard participation in the Pacific Theater. During fiscal year 2002, the Army National Guard will deploy more than 3,200 soldiers to participate in three major Joint Chiefs of Staff exercises in Korea and Japan. Also linguists, engineers, aviation, maintenance, and public affairs will provide support to CINC Pacific (CINCPAC) and CINC Korea (CINCK) in non-exercise events. In fiscal year 2001, more than 2,600 Army National Guard personnel participated in these exercises.

U.S. Special Operations Command (SOCOM)

The Department of Defense has a number of Special Operations Forces to include Navy Seals and USAF Special Operations Wings. The majority of The Army's Special Operations capability resides in the Army National Guard. As key players in the National Military Strategy, the 19th and 20th Special Forces Groups (located

in 15 states) will provide more than 800 personnel in support of AC Special Forces missions during fiscal year 2002 as a result of operational deployments throughout the world.

Both 19th and 20th Special Forces (SF) Groups supported CJCS Exercises and Joint Combined Exercise Training (JCET) in several Theaters with a total of 1,411 soldiers deploying on 28 missions to 18 countries. In the Pacific Theater, the Army National Guard Special Forces provided 510 soldiers to support PACOM Exercises and JCETs. These exercises included FOAL EAGLE, ULCHI FOCUS LENS, and COBRA GOLD. Of the 384 soldiers deployed to PACOM, 254 participated in CJCS Exercises and JCETs in Korea. In the U.S. Southern Command, the Army National Guard Special Forces supported TRADE WINDS and CABANAS CJCS Exercises as well as conducting JCETs with 506 soldiers in Honduras, Jamaica, Argentina, Antigua, and Trinidad.

Major Exercises in the Continental United States (CONUS)

Army National Guard units throughout the country trained as part of the combined arms team in several major CONUS exercises. More than 17,700 soldiers from 158 units trained on mission essential tasks through participation in exercises such as ROVING SANDS, GOLDEN COYOTE, ROLLING THUNDER, GRECIAN FIREBOLT, PURPLE DRAGON, ROAD RUNNER, PHANTOM SABER and GLOBAL PATRIOT.

Operation Joint Forge (OJF)

Soldiers from the Colorado and Wyoming Army National Guard's 1022nd Air Ambulance Company deployed to Bosnia to provide aerial medical evacuation support for Stabilization Forces 9 (SFOR 9). The 1022nd AA provided four UH-60 Blackhawk helicopters, aircrews and support personnel during this Presidential Select Reserve Call-up deployment in support of peace keeping efforts in the region

Military Support to Civil Authorities (MSCA)

Army National Guard aviation continues to play a vital role in our Military Support to Civil Authorities (MSCA) missions. Army National Guard aviation assisted in extinguishing numerous forest fires during fiscal year 2001. Army National Guard aviation assisted local, state and federal law enforcement agencies in countering the trade and cultivation of illicit drugs within the borders of the United States.

Army National Guard aviation crews and assets were some of the first to respond during the tragic events that occurred on Sept. 11, 2001, in New York City, Pennsylvania and Washington, D.C. Army National Guard Aviation was on a high state of alert immediately following these events.

In New York, the Army National Guard provided 23 utility aircraft to assist in the recovery efforts near the site of the World Trade Center. Another mission was to provide transportation for the deployment of rapid response teams to virtually anywhere in the country, as requested.

The Pennsylvania Army National Guard had 33 aircraft standing by on a 15-minute response time from various airfields around the state. Their capabilities included mass casualty evacuation and fire fighting.

The Air Ambulance Company from the District of Columbia National Guard was on site to support the 24 hours per day recovery operation at the Pentagon. Within hours of the attack, five aircraft and multiple crews deployed to the site to provide support. The crews were rotated every 12 hours on the grounds of the Pentagon to ensure aircrew endurance and aircraft availability.

The Army National Guard will continue to provide vital aviation support to Homeland Security efforts.

Operation Desert Spring (ODS)

The Army National Guard continues to provide aviation support to Operation Desert Spring in Kuwait. Aviation Task Force 211, consisting of aviation crews from the Utah, Wisconsin and Indiana Army National Guard, deployed in August 2001. Army National Guard AH-64 Apaches and UH-60 Blackhawks provide essential aviation support and force protection to the Operation Desert Spring mission in Southwest Asia.

Military Intelligence Operations

In fiscal year 2001, Army National Guard Military Intelligence (MI) soldiers and units performed approximately 96,769 man-days of support. Operations ranged from language support in Mongolia to tactical intelligence support in the Balkans operations.

Army National Guard MI soldiers and units supported all the Regional Commanders in Chief (CINCs) and their Major Subordinate Commands both inside and outside the continental United States. Army National Guard MI soldiers participated in joint exercises in Japan and acted as watch officers in Korea and for Joint Task Force Bravo in South America.

The Army National Guard MI role in Balkans operations continues to grow. Teams and individuals augment active Army MI Battalions while the National Guard continues to stand-up tactical MI units to provide organic support to deploying National Guard Divisions. Army National Guard MI elements continue to provide essential MI mission and language augmentation to all Department of Defense elements, the Defense Intelligence Agency and the Department of Justice.

Information Operations Operational Support

The Army National Guard continues to develop full spectrum Information Operations (IO) teams to support the broad range of Army missions. The Army National Guard IO Field Support Teams (FST's) provide tactical IO planning capabilities to the Army's divisions and corps. These FST personnel deployed in support of Army exercises, joint missions, and contingency operations.

The Army National Guard, in partnership with the Combined Arms Center (CAC) at Fort Leavenworth, KS and Norwich University in Vermont is a key player in the development of Information Operations Training for the Army. Both network security technical training and Tactical IO Planning Courses are provided through the Vermont Training Battalion. Recently, the Army's first Functional Area 30 Qualification Course was developed in conjunction with the Army National Guard.

THE ARMY NATIONAL GUARD PREPARING FOR THE FUTURE

The War on Terrorism has focused the Department of Defense on the role of the military in Homeland Security. The Army National Guard is uniquely positioned to provide immediate support to domestic first responders in times of crisis. In the aftermath of the terrorist attacks of Sept. 11, 2001, Army National Guard soldiers provided a variety of supporting roles including site security, medical support and nuclear, biological and chemical site testing.

The Army National Guard also provided more than 7,000 soldiers to augment airport security in more than 400 airports. Additionally, the Army National Guard was called upon to provide critical infrastructure protection to ammunition and chemical storage depots as well as augmenting security for numerous electrical, nuclear and transportation assets nationwide.

To continue the critical work of our country a number of needs must be looked at. The Army National Guard has defined 11 key organizational goals that are critical to focus our support of the nation's defense. These goals are:

Manning.—Develop and execute an Army-wide integrated human resource system to acquire, distribute, manage, compensate, retain and transition people, enabling the Army National Guard to provide combat ready units.

Organizing.—Provide the maximum possible number of missioned Army National Guard units based on the Total Army Analysis (TAA) process, with required support as part of The Army's total force structure required to achieve directed capabilities.

Equipping.—Obtain and distribute mission capable equipment to optimize Army National Guard unit readiness, modernization and force relevance.

Readiness.—Ensure all Army National Guard units are resourced to attain and sustain readiness levels needed to meet Commanders in Chief (CINC) mission requirements and deployment timelines.

Sustaining.—Provide appropriate and efficient support for personnel, equipment and operations to accomplish all Army National Guard missions.

Training.—Produce ready units to meet the National Military Strategy. This requires the development of strategies and the planning, acquisition, distribution and execution of resources to train individual, leader and collective tasks in the live, virtual and constructive environments.

Quality Installations.—Provide state-of-the-art, environmentally sound, community-based power projection platforms that integrate all functions required to sustain and enhance unit readiness and community support.

Missioning.—100 percent of all Army National Guard force structure federally missioned—all Modified Table of Organization and Equipment (MTOE) units and Table of Distribution and Allowances (TDA) structure included within Time Phase Force Deployment Data (TPFDD) or supporting the Commander in Chief War plans.

Quality of Life.—Provide an environment and culture that promotes equal opportunity for all, fosters environmental stewardship and provides for the safety, health and fitness of the force, families and communities.

Knowledge Infrastructure.—Develop the infrastructure necessary to capture and create information and knowledge, store it in an organized manner, improve it, clarify it and make it accessible in a usable format.

Resourcing.—Secure resources for all statutory and critical requirements. Achieve parity by Force Package across all components to provide trained and deployable forces for The Army and CINCs.

The future years will present a variety of challenges for the Army National Guard. As we continue transitioning to the full spectrum force of choice, critical shortfalls in equipment modernization, real property maintenance and military construction must be addressed. The Army National Guard will continue taking a more active role as the traditional defender of our nation, at home and abroad.

MANNING THE FORCE

Army National Guard Full-Time Support

To meet the challenge of the future years, the Chief, National Guard Bureau recognizes that additional Full-time Support authorizations are the number one priority for the Army National Guard. The National Guard does not currently have the full-time authorizations or the funding to adequately support readiness requirements for organization, administration, instruction, recruiting and training, maintenance of supplies, equipment and aircraft and other daily support functions. Full-Time Support levels directly impact readiness and are required to efficiently and effectively transition from peacetime to wartime posture. Full-Time Support personnel are critical links to the interoperability of the Army's components. Additional Full-Time Support personnel are the most serious funding challenge faced by the Army National Guard.

Recruiting and Retention

Operational demands on the Armed Forces have taken a toll on active military personnel. Since the end of the Cold War, the Armed Forces experienced a reduction of total personnel while our security strategy has increased the demands placed on the reserve forces.

To meet the increasing mission requirements on the Army National Guard, we must not only attract but also retain our soldiers. In an effort to diversify the force, the Army National Guard has developed several new programs to reach previously under-represented populations in our communities. One such program is an Army National Guard-sponsored youth program that provides a life skills curriculum for financially disadvantaged youth. The second program is a series of Army National Guard-sponsored diversity career fairs. The third program is an English as a second language course taught in Army National Guard readiness centers.

The Army National Guard's fiscal year 2003 end strength objectives include achieving a selected reserve strength of 350,000—36,579 commissioned and warrant officers and 313,421 enlisted personnel. To attain this goal, enlisted gains are programmed at 60,504 with officer gains at 3,627. Enlisted losses are projected not to exceed 62,333.

Enlisted Personnel Recruiting and Retention

Enlisted personnel recruiting and retention were continuing success stories for the Army National Guard during fiscal year 2001. Enlisted accessions for the year exceeded the program objective of 60,252 by totaling 61,956 or 102.8 percent of the goal. Non-prior service accessions at 33,091 were 109.8 percent of the objective while prior service accessions at 28,865 represented 95.8 percent of the objective. These statistics reflect an accession mix of 53.4 percent non-prior service enlistments and 46.6 percent prior service enlistments. The overall Army National Guard loss rate through the end of fiscal year 2001 was 19 percent versus an overall objective of 18 percent.

Educational Assistance

Educational assistance continues to be an effective tool in improving recruiting and retention efforts in the Army National Guard. Increasing a soldier's educational standing not only benefits soldiers in their civilian lives but also helps the Army National Guard improve its quality and readiness objectives. During fiscal year 2001, \$9.1 million in tuition assistance was provided to 42,063 soldiers. In fiscal year 2002, the Army National Guard expects to provide \$11.3 million in tuition assistance to more than 30,000 soldiers and has increased the semester hour rate to match the rate offered by the other military Services.

Officer Accessions and Retention

The total officer strength at the end of fiscal year 2001 was 36,579. Officer end strength was 821 short of the programmed objective. The Army National Guard continues to have a higher than expected loss rate among Army National Guard officers. Some of this is attributed to resignation from the Army National Guard due to family pressures, Operational Tempo (OPTEMPO) and better income opportunities offered in the civilian sector.

The shortage of company grade officers in the Army National Guard, particularly at the rank of captain, results in a large number of lieutenants and warrant officers occupying captain positions. Our company-grade shortfall in units creates a detrimental effect on Unit Status Reporting, and thus in our overall readiness posture, unit morale and unit climate.

The Army National Guard continues to employ a number of measures to combat the critical shortfall in company grade and warrant officers. Measures targeted for execution include developing a robust advertising campaign; creating an officer/warrant officer recruiting and retention course; changing the coding for officer losses to ascertain reasons and identify patterns associated with junior officer attrition; capitalizing on alternate commissioning sources for increased accessioning into the Army National Guard; and identifying and resourcing programs to assist in the acquisition of new officers. These initiatives will contribute to the Army National Guard's ability to effectively man the force with quality officers and warrant officers.

Warrant Officer Personnel Management

The Army National Guard continues to address significant challenges in warrant officer accession and personnel management. Of significant concern is the critical shortage of technical service warrant officers and the impact this has on unit readiness. Currently the assigned warrant officer strength is 81 percent fill of the authorized strength. Technical warrant officer strength is down to 71 percent, while aviation warrant officer strength has fallen slightly below requirements to 95 percent.

In an attempt to address the declining strength within the technical warrant officer specialties, the Army National Guard is currently pursuing alternatives to mitigate the shortfall in our warrant officer strength.

Medical Readiness

Identified in the Medical Readiness Campaign Plan, the Army National Guard Medical Strategic Goals for fiscal year 2003 are to support deployment of healthy soldiers, support deployment of the medical units, and facilitate family care. To achieve these goals, the mission of the Army National Guard Medical Team is to promote medical readiness of the Army National Guard, assuring that forces are ready and deployable for federal, state and community missions.

The plan includes six focus areas. (1) Health Services Access/Policy; (2) Health Care Operations; (3) Medical Personnel Management; (4) Medical Force Modernization; (5) Quality Management; and (6) Preventive Medicine.

These initiatives allow the Army National Guard to accurately provide medical information for the partial mobilization, and State Active Duty calls to assist soldiers with the best possible health care coverage. Health care operations paved the way in tracking medical readiness data through the Medical Protection Occupational System (MEDPROS), allowing unit commanders and state headquarters to monitor the medical readiness of their soldiers.

Medical Personnel Management evaluates the critical Military Occupational Skills (MOS) that the Army National Guard needs to acquire or retain. The Army is transitioning many of the enlisted medical MOSs to the Health Care Specialist, known as the 91W. Proactive planning in Medical Force Modernization has placed the Army National Guard as the leader in the number of individuals currently trained as a 91W. Quality Management and medical standards for physical profiles is a high priority in attaining medical deployability for our soldiers. Preventive Medicine is a key force multiplier.

ORGANIZING THE ARMY NATIONAL GUARD FOR SUCCESS

We have long recognized that transformation of the U.S. military is essential to meet the new strategic era and the internal and external challenges facing America. Today the Army National Guard works tirelessly to ensure that we are properly organized, trained, equipped, and postured to provide for the effective defense of the United States. The current array of ARNG forces provide the governors with a wide range of capabilities to deal with Homeland Security issues. These capabilities will be enhanced in the near future as additional Chemical and Military Police structure is activated.

Integrated Division concept

The Army National Guard Division Redesign Study included a proposal to form two integrated Active Component/Army National Guard divisions. Each integrated division consists of an Active Component headquarters and three Army National Guard enhanced Separate Brigades (eSBs). On December 2, 1997, the Secretary of the Army approved establishing a mechanized division headquarters at Fort Riley, Kansas with a forward element at Fort Jackson, South Carolina and an infantry division headquarters at Fort Carson, Colorado. The 24th Infantry Division (-) and the 7th Infantry Division (-) formally activated on October 16, 1999.

The division headquarters are non-deployable and tailored to provide training and readiness oversight and evaluation of assigned eSBs. The eSBs selected for the 24th Infantry Division (-) are the 30th Mechanized Infantry Brigade (North Carolina), the 48th Mechanized Infantry Brigade (Georgia), and the 218th Mechanized Infantry Brigade (South Carolina). The eSBs that comprise the 7th ID (-) are the 39th Infantry Brigade (Arkansas), the 41st Infantry Brigade (Oregon), and the 45th Infantry Brigade (Oklahoma).

Teaming and Partnering of Active Component and Army National Guard units

Teaming is a program that pairs selected Active Component and Army National Guard units for mutual support of operational requirements. Teamed units participate in mutually supporting operational training events that enhance readiness and complement each unit's individual strengths.

Currently, teaming is limited to divisional units. The teamed divisions under III Corps are 1st Cavalry Division with 49th Armored Division (Texas), 38th ID (Indiana) with Fort Carson, Colorado and 34th ID (Minnesota) with 4th ID. Under XVIII Corps are 3rd ID and 28th ID (Pennsylvania), 10th Mountain Division and 29th ID (Virginia), and the 101st Air Assault Division with the 42nd ID (New York). Under V Corps is the 35th ID (Kansas) with Fort Riley, Kansas. Under I Corps is the 2nd ID with the 40th ID (California).

EQUIPPING THE ARMY NATIONAL GUARD

For National Guard forces to operate and fight alongside their Active Component counterparts as a seamless force, they must be equipped with either the same equipment as the Active force or highly compatible equipment.

The Army National Guard is dealing with the reality of aging and obsolete equipment. Equipping issues are becoming more significant as our units are preparing for deployments that require modernized equipment in the area of operation.

Units are training on some equipment that is a substitute for the more modernized equipment. For example, units are training with VRC-12 series radios for missions in which SINCGARS radios are the standard. There is a major shortfall in Nuclear, Biological and Chemical (NBC) equipment to include reconnaissance and decontamination systems. We must ensure that our soldiers have the highest level of force protection by fielding them with modernized systems.

Providing the Army National Guard with modernized equipment and associated training packages to operate equipment is essential to maintaining the capabilities of the Army National Guard. The Army National Guard equipment on-hand readiness posture improved in the last year, but equipment interoperability with the Active Component remains years away. Current programs are slowly modernizing, but the resources needed to meet requirements are not keeping pace. A significant consequence is equipment on hand continues to age at a faster rate than can be offset by modernization—increasing maintenance and operational costs. Although the Army National Guard continues to receive new and cascaded vehicles to maintain its fleet, the inventory still contains old equipment that cannot perform to mission requirement standards.

Artillery

The modernization of field artillery units to M109A6 Paladin, Multiple Launch Rocket Systems (MLRS) and Highly Mobile Artillery Rocket Systems (HIMARS) are significant initiatives. By the end of fiscal year 2001, the Army National Guard had fielded 18 M109A6 Paladin battalions. Thirteen Army National Guard divisional battalions still require Paladin to modernize. Due to a funding shortfall from fiscal year 2000 and fiscal year 2001, the MLRS conversion program will be delayed. Army National Guard MLRS is programmed to complete conversion in fiscal year 2005. The fielding of Highly Mobility Artillery Rocket System (HIMARS) to the Army National Guard is tentatively scheduled to begin in fiscal year 2005. The Advanced Field Artillery Data System fielding began in fiscal year 2001 and completes Army National Guard Field Artillery digital communication modernization in fiscal year 2009.

Bradley Fighting Vehicle

The Army is now fielding the M2/3A3 version of the Bradley Fighting Vehicle (BFV). The desired end-state for the Guard to achieve interoperability with the active digitized force is the M2/3A2ODS version. The Army National Guard currently has the first production models consisting of the M2/3A0, M2/3A2, and some M2/3AODS.

Congress appropriated \$165 million in fiscal years 1998–1999 to procure M2A2ODS and M3A2ODS Bradley Fighting Vehicles for the 218th enhanced Separate Brigade (eSB), South Carolina Army National Guard. This begins to address the need to provide the eSBs with upgraded BFVs, and the further cascade M2A2's into Army National Guard divisions. Follow on fiscal year 2000 and fiscal year 2001 Congressional appropriations were provided to complete the fielding of the 30th eSB (North Carolina Army National Guard) and the 48th eSB (Georgia Army National Guard) in fiscal year 2002 and fiscal year 2003.

The overall Bradley force will still have eight battalion sets unfunded to complete the heavy eSBs and the Armored Cavalry Regiment. The other seven heavy eSBs are currently equipped with M2A2/M3A2 and M2A0/M3A0 systems and M1A1 Abrams tanks. Initiatives are under way to upgrade the remaining armor from M1A1 tanks to M1A1HA.

Air Defense

Two Army National Guard Avenger Battalions were fielded complete sets of the Forward Area Air Defense Command and Control System (FAADC²I) and Sentinel Radar. The remaining seven corps Avenger battalions will be fielded with the FAADC²I and Sentinel Radar from fiscal year 2002 through fiscal year 2007.

Currently, there is no funding to support fieldings to the Army National Guard eSB Batteries or Divisional Battalion. However, the 263rd Army Air and Missile Defense Command (AAMDC) will field the remainder of its Air and Missile Defense Command and Control System (AMDCCS) equipment in fiscal year 2002, as a result of the decision made by Congress to accelerate fielding by five years.

Digitization

The Army Battle Command System (ABCS) is the Army's architecture for the overall integration of the digital command and control system found at all echelons from theater level to the weapons platform. Army National Guard units assigned to the III Corps will receive the required ABCS applications by fiscal year 2004. However, to make the ABCS applications interoperable and functional, units will require a digital pipeline. The Enhanced Position Location Reporting System (EPLRS) is the network backbone that supports ABCS applications until the Joint Tactical Radio System (JTRS) is fielded to the Army National Guard. The current Future Years Defense Plan (FYDP) does not have resources for these requirements.

Communications

One of the top Army National Guard equipping priorities is to replace obsolete Vietnam era VRC–12 series radios with SINCGARS, an essential element to Army interoperability. The fielding plan has a window from June 2000 through June 2004 for all 15 eSBs, eight National Guard Divisions, and all other support units. Currently all 15 eSBs have SINCGARS radios. The 29th Division (Virginia) has completed SINCGARS fielding as the first of the eight Guard divisions. Two more divisions will finish early in 2002. In addition, the echelons above division field artillery brigades and Air Defense units that support early deploying forces, are receiving SINCGARS SIP/ASIP radios. However, if not fully funded, the Army National Guard may have to wait until the Joint Tactical Radio System fielding starts in fiscal year 2007 for the cascade of older SINCGARS from the AC to fully purge the VRC–12 series radios from the Army National Guard.

Javelin

The Javelin is the new infantry anti-armor weapon system that is critical for a self-defense capability for light forces and mechanized infantry. The current budget addresses 100 percent of the Army National Guard Javelin requirements for the eSBs and Special Forces Groups. However, fielding to the Army National Guard eSBs and SF Groups will not be scheduled to begin until the third quarter of fiscal year 2004, with completion expected during the first quarter of fiscal year 2006.

Fielding for the Army National Guard divisions, separate infantry battalions and corps engineer battalions is planned to continue through the fourth quarter of fiscal year 2008. However, this is dependent on the availability of systems. Once the initial quantities run out, the fielding of Javelin to those remaining Army National Guard units stops.

Small arms

The ARNG received 2,105 MK-19 Grenade Machine Guns (GMG) in fiscal year 1999, 2,030 in fiscal year 2000 and 308 in fiscal year 2001. We are scheduled to receive 1,092 MK-19s during fiscal year 2002 and 700 during fiscal year 2003. This will complete the fielding to the enhanced brigades and divisions.

The Army National Guard started receiving the M240B Medium Machine Gun during the third quarter of fiscal year 2000. Fielding of the eSB follows beginning in the second quarter of fiscal year 2001 and ends in the second quarter of fiscal year 2002. Remaining Army National Guard units will receive the M240B beginning in the third quarter of fiscal year 2002.

The M4 Carbine fielding to Army National Guard eSBs began in the third quarter of fiscal year 2000 and continues through the third quarter of fiscal year 2002. This leaves an unfunded requirement of 39,541 M4s for Army National Guard units.

The Army National Guard is scheduled to receive 31,546 M249 Squad Automatic Weapons (SAWs) by the third quarter of fiscal year 2003. This will fill 84 percent of requirements. The Army National Guard will begin fielding 3,168 M16A4 rifles in the first quarter of fiscal year 2003 and complete with a final fielding of 23,849 in the fourth quarter of fiscal year 2006.

Night Vision Goggles (NVG)

The Army National Guard is short Night Vision Goggles for both air and ground units. The current inventory represents only 33 percent of the Army National Guard requirement for NVGs. This shortage adversely impacts a unit's ability to train for and conduct night operations. The older PVS-5 NVGs, used as substitutes for the PVS-7Bs NVGs, are inadequate and limit the unit's ability to maneuver under the cover of darkness with the same agility as PVS-7B equipped units.

The AN/PVS-14 Monocular fielding was completed in November 2000. Fielding of the AN/PVS-7D began in the third quarter of fiscal year 2000 to the eSBs, and will continue through the end of fiscal year 2002. Fielding to Guard divisions will begin after 2002.

Protective Masks

Fielding of new and cascaded M40 Protective Masks, M42 Protective Masks, and M41 Protective Mask Test Sets has been completed. Additionally, the M42 is being upgraded to the M42A2.

Family of Medium Tactical Vehicles (FMTV)

Fielding to modernize the current 2-ton and 5-ton fleets will not be completed until fiscal year 2024. Each time funding for this program is decreased, the fielding timelines are extended for Army National Guard units. Units continue to use cascaded vehicles coming from the AC that in many cases increase the technology gap rather than close it. Since the Army decision to field the FMTV, the Army National Guard has received less than 1 percent of the required 5-ton vehicles and less than 2 percent of the required 2-ton vehicles of the new series. The remaining 97 percent are the older models.

The Army National Guard completed the fielding of 168 FMTVs to field artillery, transportation and quartermaster units in fiscal year 1999. The second phase of fielding to the Army National Guard is scheduled to start in fiscal year 2001 and conclude in fiscal year 2003. The third phase will begin after fiscal year 2003 and continue through fiscal year 2008. The Army National Guard will receive an additional 2,030 FMTVs for fielding to First Digitized Corps Army National Guard units. Other Procurement Army (OPA1) is the source of funding for the second phase of FMTV fielding.

The Army National Guard is programmed to receive 1,034 M1078 Light Medium Tactical Vehicles (LMTVs) to modernize high priority units. The Army National Guard received the initial fielding of 380 LMTVs during the fourth quarter of fiscal year 2001.

Generators

The Army National Guard has less than 60 percent of its required tactical power generation equipment and equipment on-hand is more than 20 years old. The majority of this shortfall lies in the smaller 3 KW and 5 KW models.

Current fielding of the newer models of the tactical quiet generator (TQG) addresses Force Package 2 unit fieldings of 3 KW generators. The 5-60 KW TQG fielding through fiscal year 2007 will finish Force Package 3. Fielding of Force Package 4 units will start in fiscal year 2008 and fiscal year 2009. The Army National Guard needs to upgrade and improve its aging inventory of generators and accelerate the fielding of TQG to more units within the Army National Guard.

AH-1 "COBRA" and UH-1 "HUEY" Retirements

Aviation modernization remains among one of the highest priorities for the Army National Guard. It has become critical because of the Army's expedited retirement programs for the Vietnam-era AH-1 and UH-1 helicopters. Even after receiving cascading aircraft from the AC and delivery of previously funded aircraft, the Army National Guard will still be short more than 200 UH-60 Blackhawks.

All AH-1s were retired at the end of fiscal year 2001; however, the modernized AH-64s and RAH-66s to replace them are not available. To overcome this shortfall and to provide a means to maintain minimum readiness in the units affected, the Army has approved the use of OH-58A/C scout aircraft as a "bridge" over the modernization gap. These units will have minimal combat capability during this period.

The following units are affected: six Divisional Attack Battalions, Air Troops in eight Divisional Cavalry Squadrons, and two Attack Companies in the 278th Armored Cavalry Regiment's Air Squadron. Additional AH-64A replacement aircraft are expected to begin cascading from the active Army in fiscal year 2002, but the RAH-66s for the ACR and Divisional Cavalry units will not be available prior to 2011.

All UH-1s must retire by the end of fiscal year 2004. The Army National Guard has already begun to reduce the on-hand inventory. This accelerated retirement schedule, combined with the continued grounding of many of the UH-1s due to the most replacements, will present a substantial challenge to the Army National Guard for both unit and aircrew readiness. Currently, from fiscal year 2000 through fiscal year 2007, the Army National Guard will retire more than 700 UH-1s, while scheduled to receive less than 170 UH-60 replacements during the same period. To address this problem, the Army and the Army National Guard have identified a critical need to increase the rate of UH-60 procurements from the current schedule of 10 per year to about 30 per year. However, these increases are currently unfunded.

UH-60 Air Ambulance "BlackHawk"

Development of modernized versions of the Army's MEDEVAC Air Ambulance helicopters has been a National Guard development priority for more than seven years. Currently, eleven of the Army National Guard's fifteen Air Ambulance companies have been modernized. The Army National Guard also has one Air Ambulance Detachment with four UH-60Q Blackhawks. Only four of the companies are resourced at 100 percent (15 UH-60s). The remaining four companies are equipped with UH-1 Iroquois, which will be retired from service by fiscal year 2004. This reflects an overall shortfall of approximately 82 UH-60s.

An Army National Guard initiative for testing several variant prototype aero-medical platforms, using Tennessee Army National Guard aircraft, has resulted in Army approval of UH-60Q and HH-60L Air Ambulance designs for future requirements. There is now a formal Army program to eventually convert or procure these advanced UH-60Q and HH-60L designs for all Army and Army National Guard Air Ambulance units.

CH-47D Cargo Helicopters

The Cargo Helicopter CH-47D is programmed for modification to the "F" model. This improvement includes upgraded engines, drive train, and avionics. The Army program to upgrade current cargo helicopters to a fully modernized CH-47F configuration remains under funded. This will result in about two-thirds of the Army National Guard cargo fleet being modernized CH-47Fs, while the remaining one-third of the Army National Guard structure, plus Army training and float aircraft, remain as unmodified CH-47Ds. Because the Future Transport Rotorcraft (FTR) is now unlikely to be available for an extended period, the Army National Guard remains hopeful that the CH-47F program will eventually be extended to a full procurement objective of 431, in order to convert all Army CH-47Ds to the CH-47F configuration.

Summary

The Army National Guard remains an integral part of the Army's force structure. It has the majority of the artillery force and CS/CSS infrastructure. The enhanced separate brigades have reached, or are soon programmed to reach, the same modernization level as their Active Component counterparts. The Army National Guard has a traditional role in Homeland Security and overseas theater engagement missions, and supporting disaster relief. Despite the efforts of a number of programs, a significant lag will remain for several years in replacing the Army National Guard's overage tactical wheeled vehicle fleet, upgrading its tactical communication systems, and filling other equipment shortages that are most useful in Homeland Security and overseas mission support. Current programmed procurement through

fiscal year 2007 will not fill the existing shortages nor replace current obsolete equipment.

RESOURCES TO READINESS

The resourcing goal of the Army National Guard is to secure adequate funding, enabling the organization to meet all statutory and critical funding requirements. The Army National Guard readiness goal is to provide trained and deployable forces for The Army and Commanders in Chief (CINCs), thus the phrase “resources to readiness.” Our intent is to improve our readiness through funding parity within each Force package for all Army Components.

Resourcing Priorities

By prioritizing limited resources, our “First to Deploy” forces receive the highest funding in order to have the capability to meet the CINC’s requirements. This resourcing strategy ensures our early deploying units have the funds, people and equipment necessary to meet the Defense Planning Guidance deployment criteria, and greatly enhances overall readiness. Lower priority units, such as our eight combat divisions, are funded to meet baseline readiness goals at the individual, crew and squad levels of training.

Prioritization of resources, in terms of personnel assessment, equipment procurement, maintenance, training, and full-time support personnel support are the factors that determine readiness and capability across our force. The relatively new Army National Guard Weapons of Mass Destruction Civil Support Teams (CSTs) sustain appropriate levels of readiness to meet mission requirements. The number of units within the CST community will continue to increase based on National Defense requirements. Other high priority/early deploying units recently experienced a temporary decline of 3.9 percent in readiness due to structure additions. Focused resource management will cause these units to achieve readiness goals. Our enhanced Separate Brigades (eSBs) experienced an increase of 4.9 percent in readiness over the past 12 months. The eight divisions decreased 3.6 percent due primarily to personnel training shortfalls.

While adequate OPTEMPO funding is crucial to the continued readiness of our force, it is impossible to underestimate the impact of full-time manning shortages on the overall readiness of the ARNG. Military Technicians are integral to improved equipment readiness; Active Guard and Reserve soldiers in units are key to training and unit management. Full-time manning is our highest priority for improved Army National Guard readiness.

Budget Appropriations

Three appropriations apply directly to the Army National Guard: National Guard Personnel, Army (NGPA), Operations and Maintenance, Army National Guard (OMNG), and Military Construction, Army National Guard (MCNG). The Army National Guard is also funded by individual states for state-related functions. These three appropriations fund specific requirements as defined in congressional appropriation language, but should not be confused with the total costs of operations. Some support costs, including most equipment acquisition, are provided through other appropriations. The fiscal year 2002 appropriated funds for the Army National Guard is \$8.2 billion, which represents approximately 10.1 percent of the Army’s \$81.1 billion budget.

The fiscal year 2003 President’s Budget seeks to fund the steadily increasing pace and variety of operations. These rapidly occurring events include tremendous strides in Active Component Army—Army National Guard integration, ongoing support to peacekeeping efforts in the Balkans, and the recent expanding role in Homeland Security.

ARMY NATIONAL GUARD RESOURCES

[In millions of dollars]

	Fiscal year—	
	2002	2003 (PB)
Personnel	4,044	5,131
Operations/Maintenance	3,734	4,137
Military Construction	401	102

Contingency Operations

The Army National Guard is a stakeholder in The Army’s transformation. We continue to be called upon to provide an increasing number of soldiers and units each year to support the Army’s role in Contingency Operations (CONOPS). Army National Guard soldiers are supporting Contingency Operations in Bosnia, Kosovo and Southwest Asia. Funds for these operations were transferred to the Army from the Overseas Contingency Operation Transfer Fund (OCOTF) during the fiscal year 2003 Program Decision Cycle.

The OCOTF funds were transferred to the Army in fiscal year 2002 and distributed in the out-years. The Bosnia, Kosovo and Southwest operations missions have been ongoing for a few years and are considered stabilized. Consequently, the Office of the Secretary of Defense directed the OCOTF funds be transferred to the Services’ appropriations. ARNG support for these operations has provided a team effort for The Army in support of national defense. Deploying ARNG soldiers are conducting pre-mobilization training during Annual Training and Inactive Duty. Additional training days (incremental costs) for these deployments were funded from the OCOTF in fiscal years 2000 and 2001. The ARNG is scheduled to continue to support these missions and will work closely with The Army to ensure that incremental costs are reprogrammed to train, equip and deploy these soldiers as an Army of One.

The ARNG will command the Task Force in Bosnia for the Stabilization Force 12 though 15 planned rotations. The projected deployment force structure figures are still being debated based on the ARNG and Active Component mix.

While deployed, Army National Guard soldiers are mobilized in a federal status and paid from the active duty military pay accounts. Incremental military pay funding is required for the additional soldiers that must round out State Headquarters, State Area Commands (STARCs) and units in an Active Duty Special Work (ADSW) status to support the unit deployment. The majority of states deploying are manned full-time—between 40 to 60 percent—to support normal state training. Incremental OCOTF National Guard Pay and Allowances (NGPA) funding received in fiscal year 2000 and fiscal year 2001 is listed below.

Overseas Contingency Operations Transfer Fund (OCOTF)

	<i>Millions</i>
National Guard Pay and Allowances (NGPA):	
Fiscal year 2000	\$14
Fiscal year 2001	56.1
Fiscal year 2002	¹ 60

¹ Estimate based on known missions, which must be programmed and funded by the Army.

SUSTAINING THE ARMY NATIONAL GUARD

Sustainment programs directly support readiness and training and continue to be Defense and Army priorities. Adequate resourcing—both funding and full-time manning—is key to quality training and to both near-term and long-term readiness. Enablers such as the redistribution of major end items (Class VII), logistics support of the training strategy, depot maintenance, Command Logistics Review Team (CLRT) assistance visits, fielding of vital logistics automation systems, Single Stock Fund (SSF), and clothing initiatives form the backbone for continued sustainment support for fiscal year 2002. Sustainment overall is adequately resourced in fiscal year 2002 and the logistics community has set goals to effectively use these resources to sustain existing logistical operations while planning for future challenges.

Redistribution of Major End Items

The Army National Guard equipment on-hand readiness posture improved this past year, but complete equipment commonality with the Active Component is years away. The Army National Guard boosts equipment readiness by redistributing assets throughout the states. New fieldings, displaced equipment and repair programs are vital to Army National Guard modernization. Even with these programs, there remains a modernization gap between the active Army and the Army National Guard. Service life extension programs will be critical necessities for the Army National Guard as the Army moves toward the Objective Force.

Logistics Support of the Training Strategy

The Army National Guard logistics community is a critical player in maintaining the training strategy by ensuring equipment readiness. Equipment readiness is supported with Operational Tempo (OPTEMPO) funding. The Army National Guard goal is to resource all combat units at the platoon level and other units to the level

organized. The fiscal year 2002 funding provides for platoon training (176 miles) of enhanced separate brigades and individual/crew/squad (ICS—100 miles) of Army National Guard divisions. OPTEMPO provides the resources for soldier training support, repair parts, fuel, and organizational clothing and individual equipment—all of which are critical elements of the Army National Guard training plan. OPTEMPO funding must keep pace with the increasing requirements of maintaining the legacy equipment that continues to reside in the Army National Guard. These older systems drive up operating costs as they move beyond the end of their programmed life. The Army National Guard has established the Advanced Turbine Engine Army Maintenance (ATEAM) program that overhauls AGT 1500 tank engines to approved depot level standards. This program will continue to produce tank engines in fiscal year 2003 to support Army National Guard CTC rotations and reduce maintenance downtime for the M1 Abrams tank fleet.

Depot Maintenance

The depot maintenance program continues to be an integral part of Army National Guard sustainment. Equipment qualifying for depot repair increases by 24 percent during fiscal year 2003 and is attributable primarily to an increase in Army National Guard aviation modernization programs and rebuild of the Army National Guard's aged tactical wheeled vehicle fleet. The fiscal year 2003 program will allow the Army National Guard to execute depot maintenance on the following key programs by quantity: six M88A1 tank recovery vehicles, 24 AVLB Combat Bridging Systems through the Anniston Army Depot, 56 HEMTT Series of Vehicles, nine M198 155 mm Towed Howitzers, and one M102 105 mm Towed Howitzers.

The Army National Guard's five Readiness Sustainment Maintenance Sites (RSMS) will continue to be leveraged to repair trucks, trailers, and electronic equipment. Four of the sites specialize in refurbishing HMMWVs, five-ton cargo trucks, tractors, wreckers, HEMTTs, 10-ton tractors, trailers that are pulled by a fifth wheel, and bulldozers. The fifth site repairs night vision devices and generators.

The RSMS sites are located in Kansas, Mississippi, Texas, Maine, and Oregon. All five sites performed work for the Army National Guard before being selected as an RSMS.

Single Stock Fund (SSF) Initiative

The Army National Guard is participating in the Single Stock Fund (SSF) initiative. This is a Department of the Army business process engineering change to improve and streamline the Army's logistics and financial processes for primarily Class IX repair parts. The implementation of SSF has progressed through Milestones 1 and 2. Milestone 3, which will capitalize the unit authorized stockage list (ASL) into the Army Working Capital Fund, is scheduled for completion in June 2003.

Implementing SSF, will be a major cultural and operational change for the Army National Guard. It will generate numerous procedural and systemic changes. Some of the Army National Guard processes currently under revision to accomplish SSF transition include fielding a software program to support control of direct funding at unit level and credit management assistance to support increased unit buying power. The Army National Guard directorate staff continues to work closely with Department of the Army, Army Materiel Command, other Major Area Commands, and the states to facilitate a smooth transition to SSF.

Soldier Support

The ARNG continues to struggle to provide adequate protective clothing to our soldiers in all modes of operations. Many National Guard soldiers have been activated since September 11 and are standing duty in places not imagined in the recent past. Soldiers are guarding places such as bridges, nuclear power plants, and other sensitive assets in the United States. They are also protecting our borders through enhanced security at checkpoints. Soldiers serving in lower priority units who have not been fielded with cold weather clothing perform much of this duty. Since much of the duty is performed in inclement zones, such equipment has become essential. Much has been accomplished to meet the challenge, but far more remains to be done.

Army National Guard Safety Program

The foundation of the Army National Guard's Safety Program can be found in the four pillars of safety—leadership, discipline, standards and risk management.

Risk Management

Every day, the Army National Guard responds to the nation's needs. Applying solid risk management principles is critical to protecting our soldiers as they accomplish their missions. All Army National Guard personnel must be trained in the risk

management process and use it as a primary tool in all mission planning. Formalized in Army doctrine, integrated in the safety program, risk management is the principal accident prevention process.

Safety Training

Effective training is key to the prevention of accidents and injuries. In fiscal year 2001, the Army National Guard provided more than 500 interactive Explosive Safety training packets (CD-ROMs) to state safety offices. Safety training videos for Hazard Communication, Fall Protection, and Blood-borne Pathogens are available to Army National Guard units through their respective State Safety and Occupational Health Offices. The use of distance learning and automated technology formats are being analyzed and proposed as viable training to support requirements at the local level.

Ground Accidents

The Army National Guard experienced 20 Class A, and four Class B ground accidents in fiscal year 2001. This is an increase of three Class A accidents and a decrease of one Class B accident compared to fiscal year 2000. These accidents resulted in the deaths of 18 Army National Guard soldiers and two civilians. Fourteen deaths occurred in Privately Owned Vehicle accidents, and two in Army Motor Vehicle accidents. Four deaths resulted from personal injuries. Excessive speed, fatigue, failure to wear seatbelts and failure to follow procedures all contributed to these accidents in some manner. The Army National Guard will continue to promote education, awareness and countermeasures to combat future accidents.

Aviation Safety

Aviation accident prevention is the priority in the Army National Guard Aviation and Safety Division. Every aviation maintenance action and operational program pivots on safe flying. Army National Guard Aviation Safety provides proactive advisement by applying knowledge from lessons learned, tracking trends, providing training, and most importantly by visiting units, facilities and operations. Combining these methods with proven Risk Management Processes provides for a successful countermeasure program.

Each commander and unit safety personnel have been given a standardized assessment tool called the Aviation Support Activity Accident Prevention Survey (ASAAPS). The ASAAPS is a survey tool that can help prevent accidents and the repeating accidents that others in the military and the private sector have experienced.

TRAINING THE ARMY NATIONAL GUARD

The Army National Guard's fully integrated strategy for training individuals, leaders and units in live, virtual and constructive environments ensures we are prepared to meet wartime deployment readiness requirements and Homeland Security missions.

Training Sites and Centers

Combat Training Centers

The Army National Guard participates in all of the Army's Combat Training Centers (CTC); the National Training Center (NTC), Fort Irwin, California; the Joint Readiness Training Center (JRTC), Fort Polk, Louisiana; the Combat Maneuver Training Center (CMTC), Hohenfels, Germany; and the Battle Command Training Program (BCTP), Fort Leavenworth, Kansas. The Brigade Command and Battle Staff Training (BCBST) Program is a subset of BCTP.

The Army CTC Program is divided into live simulation (NTC, JRTC, and CMTC) and constructive simulation (BCTP and BCBST). The Army National Guard CTC Program involves the scheduling of Army National Guard units to conduct training at the CTCs in the following capacities: Blue (Friendly) Force (BLUFOR) rotational units, Opposing Forces (OPFOR) augmentation units, and other types of support based on the needs of the CTCs.

National Training Center (NTC)

The OPFOR at the NTC has changed over the years to reflect the opposition U.S. Forces may encounter when forward deployed. Opposing forces may be encountered throughout the entire area of operations of the NTC. This includes the Aerial Port of Debarkation (APOD) at Southern California Logistics Airport, the railhead at Yermo, Fort Irwin Military City and any area between. Units encounter Civilians on the Battlefield (COB), media role players, and organized OPFOR up to regi-

mental sized. A high level of rigor is achieved at the NTC through the capabilities of the OPFOR and provides U.S. forces with the toughest training available.

The 11th Armored Cavalry Regiment (ACR) provides soldiers and equipment for the NTC OPFOR. Army National Guard units from Arizona, Nevada and Montana are assigned to the regiment to augment these active duty soldiers. The Army National Guard combat arms units that conduct OPFOR augmentation rotations at NTC benefit from the high OPTEMPO of the 11th ACR and receive excellent force-on-force training during the rotation.

Joint Readiness Training Center (JRTC)

The Joint Readiness Training Center (JRTC) located at Fort Polk, Louisiana, hosts light infantry and special operations forces from all components of the armed forces. The Army National Guard receives one brigade size rotation each year. These rotations are all allocated to the seven light infantry enhanced Separate Brigades (eSBs). The 45th eSB (Oklahoma) is scheduled to attend in fiscal year 2002 and the 53rd eSB (Florida) is scheduled to participate in fiscal year 2003. The Army National Guard receives and allocates two rotations annually. These rotations are allocated to the eSBs based on the unit's relative calendar proximity to scheduled JRTC rotations. Training opportunities exist for Combat Arms and Combat Service and Support units to augment BLUFOR and OPFOR units.

Army National Guard soldiers from New York, Connecticut, Massachusetts, South Dakota, Texas and Alabama combined to form Aviation Task Force Liberty Bell. These Army National Guard aircrews, support personnel and Air Traffic Service personnel completed the Army National Guard fiscal year 2001 rotation at the Joint Readiness Training Center (JRTC) in Fort Polk, Louisiana. The Task Force deployed with 26 helicopters, including UH-60s and CH-47s, plus ground support equipment.

Battle Command Training Program (BCTP)

The BCTP is the Army's capstone Combat Training Center. It provides command and battle staff training for brigade, division and corps commanders, their staffs, major subordinate commanders and staffs, and supporting special operating forces. All National Guard brigades and divisions will participate in BCTP or BCBST rotations both as stand-alone exercises and in support of Active Component divisions and Corps.

During fiscal year 2001 the Army National Guard executed three stand alone BCTPs, 12 BCBSTs and supported eight Active Component exercises with Field Artillery, Combat Support and Combat Service Support brigades, battalions and companies.

During fiscal year 2002, 14 Army National Guard brigades will conduct BCBST rotations. Two Army National Guard divisions will conduct BCTP rotations, ten Field Artillery brigades and many CSS units will also participate in Active Component, BCTP rotations.

National Guard Professional Education Center

The LaVern E. Weber National Guard Professional Education Center (PEC) is the power projection platform for training the National Guard's full-time support force. Lieutenant General LaVern E. Weber's vision was to create a facility to train the full-time support force of the National Guard. To accomplish that vision, PEC is home to 5 separate training centers, which include the Human Resource and Readiness Training Center, the Quality Training Center, the Logistics Training Center, the Strength Maintenance Training Center, and the Marksmanship Training Center.

During fiscal year 2001, these 5 training centers trained nearly 8,000 personnel through residence courses, distributed learning, and mobile training teams. The Professional Education Center will establish an Information Technology Training Center in fiscal year 2002 to keep pace with the ever changing and increasing technological needs of the National Guard.

Distributed Learning

Making training locally available generates more training opportunities. It reduces the time a soldier is away from his home station, eliminates excess travel time and per diem costs, and is accomplished in less time. However, traditional resident training will remain the appropriate method for many types of training, including initial entry, initial OES/NCOES leadership and equipment-intensive training.

The goal of Distributed Learning (DL) in the Army National Guard is to improve readiness by providing local access to training and education—anytime, anywhere. Supporting this goal, the Distributed Training Technologies Project (DTTP) was formed to meet three missions: (1) Improve readiness, (2) Improve command, control

and communications, and (3) Explore the concept of shared use; making the classrooms available on a space available—reimbursable basis.

The strategy to achieve these missions is based on developing and synchronizing five essential components: hardware (network and classrooms), courseware, staff and faculty training, support services, and business operations.

Courseware

To meet the Army and ARNG's Military Occupational Skill Qualification (MOSQ) needs, the Army Training and Doctrine Command (TRADOC) is redesigning 525 MOSQ courses over a 12-year period ending in fiscal year 2010. The ARNG Professional Education Center is redesigning 70 ARNG functional courses and National Guard unique courseware to improve individual sustainment and collective task training.

Hardware (Network and Classrooms)

Critical to the success of Distributed Learning is GUARDNET XXI, a robust and dynamic telecommunication infrastructure that combines voice, video, and data requirements. GUARDNET XXI connects the National Guard Bureau with the state and territorial State Area Commands (STARCs). Using this infrastructure, the National Guard Distributive Training Technology Project (DTTP) expands training access through the installation of DL-capable classrooms at Army National Guard training sites, armories, and surrounding communities. To date, 291 classrooms of a planned 481 have been installed nationwide.

Business Operations

Because many DL classroom facilities, and in particular, the DTTP classrooms, are designed for multi-use operations, the overall management and administration of the venues is particularly important.

Guidance is being provided to the state's senior leadership to assist them in fostering teaming relationships with other public/private/state/federal agencies aimed at leveraging resources, information, and strategic partnerships. DTTP's shared use initiative promises significant collaboration between government and non-governmental organizations, and uses financial, contractual, marketing, and consultative support resources. Appropriate business practices associated with classroom use by non-military organizations and individuals will become standard across the DTTP system.

The Army School System (TASS) Transition

The Army School System (TASS) is a multi-component organization of TRADOC, the Army National Guard, and the U.S. Army Reserve schools organized to deliver Military Occupation Skills Qualification (MOSQ) Reclassification, Noncommissioned Officer Education System, Officer Education System, and functional courses. TRADOC, Army National Guard, and USAR have separate areas of responsibility for specific TASS missions. However, the Army National Guard contributes facilities, equipment, and instructors to support courses conducted by the other components under Cross Component Resource (CCR) memorandums of agreement.

The future success of TASS will depend heavily upon the implementation of DL products, refinement and development of new innovative programs of instruction, and a multi-component schoolhouse that supports the TRADOC Transformation. Army National Guard and USAR instructional, training development and budget management staffs are combining efforts to build a future TRADOC that delivers seamless training to standard for institutional training to the Army.

Funding of New AND Displaced Equipment Training in Fiscal Year 2001

A total of \$7.656 million was funded and distributed to the Army National Guard to support new and displaced equipment. These funds supported a total of 27 system fieldings for six major Combat Systems, six major Combat Support/Service Support Systems and 15 other systems.

In fiscal year 2002, validated new equipment training and displaced equipment training funding requirements totaled \$10.8 million. However, only \$2.1 million of \$8.4 million in critical requirements are funded, leaving a \$6.3 million Unfunded Requirement (UFR) as validated by the Department of the Army.

The UFR will adversely affect preparation for the First Digitized Corps (FDC) exercise and the ability of the Army National Guard to demonstrate digitization capability. Without adequate funding for required new equipment training and displaced equipment training, many states will not be able to receive critical equipment.

Army National Guard Distributed Battle Simulation Program

The Army National Guard has a congressional mandate to expand the use of simulations, simulators and advanced training technologies in order to increase training opportunities for members and units and establish a program to minimize post-mobilization training time required for combat units. The challenges for the Army National Guard are to develop mechanisms and processes that efficiently and effectively integrate and synchronize individual and collective training requirements; provide infrastructure and expertise to plan and execute home station training; provide methodologies to incorporate Training Aids, Devices, Simulators, and Simulations (TADSS) into live, virtual, and constructive training environments; and contribute to improved readiness.

To satisfy these requirements and address readiness and training gaps, the Army National Guard has developed the Distributed Battle Simulation Program (DBSP). The DBSP mirrors the Active Component Battle Simulation program for conditions of Army National Guard training environments by providing training infrastructure and TADSS integration. The Army National Guard intent is to continue the internally funded managed growth of the program in fiscal year 2002 and fiscal year 2003 and to work to gain additional Army resources in the out years.

Army National Guard Aviation Training Sites (AATS)

The Army National Guard's 4 Aviation Training Sites are designated as national training assets for the Army. The Eastern Army National Guard Aviation Training Site (EAATS) is located at Fort Indiantown Gap, Pennsylvania. The Western Army National Guard Aviation Training Site (WAATS) is located at Silver Bell Army Helipoint in Marana, Arizona. The High Altitude Aviation Training Site (HAATS) is located in Gypsum, Colorado. Both the EAATS and WAATS are regional simulation sites, offering simulation support to the Army in UH-1H, UH-60, CH-47D, and AH-64 helicopters.

Aviation Combined Arms Tactical Trainer

The Army National Guard has developed an Aviation Reconfigurable Manned Simulator (ARMS) as a cost-effective solution to enhance flying safety and readiness. This system was developed with the mutual cooperation and support of the U.S. Army Aviation Center (USAAVNC) and the Army's Simulation, Training and Instrumentation Command (STRICOM). It can be quickly reconfigured to each of the rotary wing airframes flown in the Army. The device is a collective training simulator that provides for a 360-degree virtual environment, a helmet mounted display system, accurate cockpit housing, realistic controls and essential panels, and tactile-interactive cockpit panels. Each ARMS provides training in individual and crew tasks, and focuses on collective, combined arms and joint service operations.

Accelerated Officer Candidate School (OCS) Program

The Army National Guard initiated a very successful accelerated Officer Candidate School (OCS) Program in 1996. This accelerated program cuts 11 months off the traditional OCS course duration—eight weeks full-time versus 13 months part-time. This is particularly beneficial to states experiencing large company-grade officer vacancies.

The NGB has been programming about 80 students per year for the last five years. The class size increased to 200 students in fiscal year 2001 due to forecasted training requirements submitted by the states, and has been increased to 400 students per year for fiscal year 2002 and beyond.

The shortage of company grade officers continues to be a challenge across The Army. In an attempt to decrease company grade officer losses, the Army National Guard submitted proposed legislation to the Assistant Secretary of the Army for Manpower and Reserve Affairs (ASA M&RA) under the Unified Legislation and Budgeting (ULB) process in April 2000 that will offer a student loan repayment program incentive for company grade officers. The Army National Guard is also exploring the feasibility of submitting legislation to offer bonuses for company grade officers that agree to extend their service commitment.

The Army National Guard supports the Deputy Chief of Staff for Personnel's (DCSPER's) initiative for Selective Retention Boards that will allow selected captains and majors to be retained so that they may reach 20 years of active service. The Army National Guard also supports the DCSPER's initiative to select captains for promotion who do not possess a baccalaureate degree or military education certification. The actual promotion to the next higher grade will become effective once the individual completes the required civilian or military education.

Antiterrorism/Force Protection (AT/FP) Training

The Army National Guard Antiterrorism/Force Protection (AT/FP) Program enters its third year. At least five soldiers from every battalion in the ARNG received training in AT/FP measures.

The ARNG Directorate provided training on how to write and formalize state level AT/FP plans and has been able to validate requirements in the Program Objective Memorandum (POM). Additionally, the ARNG has been instrumental in the rewrite of Army Regulation 525-13, the Army's AT/FP guide.

The ARNG has coordinated with the Department of the Army in identifying installations that require separate AT/FP plans and are developing a timeline for providing assistance to the states and installations.

QUALITY INSTALLATIONS

The Army National Guard is unmistakably a community-based organization that has more the 3,000 Army National Guard Readiness Centers in some 2,700 communities within the 50 states, three territories and the District of Columbia. We also give federal support to the operations and maintenance of over 27,000 training, aviation and logistical facilities throughout the nation. The citizens of each community are the same guardsmen that protect us. With the quality of many of our facilities rated C-4, (mission performance is significantly impaired), it makes the Army National Guard's mission in global security, emergency response and giving local support to the communities more of a challenge each year.

Facilities Overview and management

The current projection for fiscal year 2003 in Real Property Maintenance funding, just to sustain our facilities, will be in the neighborhood of \$350 million. Military construction (MILCON) funding is estimated to only recapitalize National Guard facilities on a 341-year cycle. This is far short of the Army's 67-year goal. The Army National Guard's cost to improve all of its existing facilities to C-1 is \$9 billion.

The Army National Guard's budget request was \$59 million for military construction in fiscal year 2001. Congress appropriated \$285 million, which increased our construction program in fiscal year 2001 from 28 to 50 projects. These funds included construction in support of the Weapons of Mass Destruction/Civil Support Teams; 14 projects for Phase I of the Army National Division Redesign Study (ADRS); and 32 other projects in support of the Army Facility Strategy.

The Army National Guard Military Construction budget request for fiscal year 2003 outlines \$100.7 million for 11 major construction projects, planning and design, and unspecified minor construction. The required increase in the budget request is due to the support of the Army National Guard Division Redesign Study.

Although the Army National Guard received a proportional share of Army's military construction dollars, the Army National Guard still has an unfinanced requirement of \$580 million for fiscal year 2003. If our unfinanced requirements were equal to our budget request, we would be able to fund over 50 additional construction projects.

As part of the post-Cold War strategy of making the service "light" enough to move thousands of troops anywhere in the world in a matter of days, the Chief of Staff of the Army directed that the Army reorganize a medium force between the existing "light" divisions, and "heavy" division. Called the Interim Brigade Combat Team (IBCT), it is programmed as an Army National Guard Brigade currently scheduled for stationing in Pennsylvania. About \$100 million of military construction is currently programmed to support the reorganization of the Pennsylvania Army National Guard.

The IBCT is an example of how we are working with the Army to reshape the way we do business. The Army National Guard continues to work toward revamping facilities to meet the needs of evolving missions such as Weapons of Mass Destruction/Civil Support Teams, the Army National Guard Division Redesign and the Interim Brigade Combat Team. Additionally, we are actively engaged in providing anti-terrorism force protection for all of our citizen soldiers. To fully implement all of these changes the Army National Guard's construction focus in fiscal year 2003 will be adapting and building facilities to meet these new requirements.

The Real Property Development Plan (RPDP)

The Real Property Development Plan (RPDP) Initiative gives the Department of the Army a more accurate view of the quality and quantity of facilities the Army National Guard needs to successfully complete its missions.

A Planning Resource for Infrastructure Development Evaluation (PRIDE)

PRIDE, a data base management tool, has been implemented by all 50 states and three territories. This tool provides the states and the NGB with excellent data management and analysis for decision support in the infrastructure community.

Installations Status Report—Infrastructure (ISR I) Program

Installations Status Report (Infrastructure) Program (ISR I) provides conditions and costs associated with the Army National Guard infrastructure. It gives the Army National Guard concrete justification to explain current funding levels for sustainment, repair, maintenance requirements, predict future major construction funding requirements and provides Congress information to justify increasing appropriations.

In fiscal year 2001, the results of the Installation Status Report measured a new military construction requirement of \$10.8 billion for the Army National Guard. In addition, a \$9 billion repair backlog resulting from years of under-funding was also substantiated. Facilities sustainment for fiscal year 2001 was funded at about \$224.4 million. ISR shows that the true requirement is \$810 million, which means facilities continue to deteriorate and the repair backlog continues to increase.

Significant Real Estate Acquisitions

The constrained MILCON environment also makes it imperative that the Army National Guard use all resources available to seek out, plan for, and design facilities with our future missions in mind.

Barbers Point, Hawaii

The Army acquired a portion of the former Navy Barbers Point, Hawaii. This has proved a tremendous factor in resolving shortfalls in the stationing of units and equipment in the Hawaii Army National Guard. This 150-acre acquisition allows the Hawaii Army National Guard to consolidate four dislocated 29th Infantry Brigade units and a maintenance operation. The new location will reduce soldier travel time and provide facilities to conduct mission essential operations.

Ravenna, Ohio

Acquisition of a portion of the former Ravenna Army Ammunition Plant by the Ohio Army National Guard has greatly resolved shortfalls in maneuver training area to battalion level. This 16,164-acre acquisition will facilitate Armor, Mechanized Infantry and Engineer unit training

Minden, Louisiana

The Louisiana Army National Guard's acquisition of a portion of the former Louisiana Army Ammunition Plant has greatly resolved shortfalls in training area availability. This 12,896-acre acquisition will facilitate Transportation, Dismounted Infantry and Engineer unit training.

Twin Cities, Minnesota

An acquisition that will facilitate Mechanized Infantry Battalion, Signal Corps and Military Police unit training, is the purchase of 1,245-acres of the former Twin Cities Army Ammunition Plant. The Minnesota Army National Guard's move has greatly resolved shortfalls in training area and travel time to existing training areas.

The Army National Guard Environmental Program

The Army National Guard Environmental Program is a critical support piece of our Quality Installations. Supporting the readiness of Army National Guard soldiers and units, the program obtains and provides resources, guidance and policies that emphasize responsible stewardship of the land and facilities to the states and territories who then assure compliance with federal, state and local environmental laws. This is accomplished by promoting the Army's environmental goals in compliance, conservation and restoration efforts nationwide.

Energy Conservation Investment Program (ECIP) Environmental Program

The Energy Conservation Investment Program (ECIP) provides MILCON funding for energy and renewable energy projects greater than \$500,000, which can show significant energy savings. The Army National Guard awarded its first ECIP project at the Arkansas Army National Guard headquarters in Little Rock for \$790,000 in energy upgrades. Two additional ECIP projects—a wind turbine project at Camp Williams, Utah, and energy improvements at Gowen Field, Idaho—are waiting funding.

The Army National Guard Energy Working Group has been selected as a team winner in the 2001—23d Annual Secretary of the Army Energy and Water Manage-

ment Awards and as a team winner in the 2001 Federal Energy and Water Management Awards.

Compliance

The Army National Guard continues to improve guidance and policy on a myriad of complex regulatory challenges to ensure compliance in an efficient, consistent and cost-effective manner. We are committed to meeting the Department of Army goal of having no new enforcement actions. It is likely, however, that the Army National Guard will continue to receive enforcement actions due to the aging infrastructure combined with inadequate Sustainment, Restoration and Modernization funding.

In fiscal year 2001 the Army National Guard developed a strategy to support the use of mobility refueling vehicles. The Army National Guard supports a large fleet of these vehicles, which are used to transport bulk amounts of oil on public highways. These vehicles must abide by federal regulations determined by the Environmental Protection Agency as well as the Department of Transportation. This strategy provides guidance to the states and territories on a Fuel Management Plan, which stresses safe environmental practices. With proper implementation, this strategy has the potential to reduce our regulatory oversight and save more than \$100 million in cost avoidance to construct permanent secondary containment structures.

The Army National Guard has continued with the transition of environmental responsibilities at sites closed by the Base Realignment and Closure (BRAC) process. The Army National Guard has been involved in ensuring that properties are in compliance with environmental regulations and that the Army National Guard is not responsible for managing funding for the clean-up of the previous owners/operators' actions.

One concern is the uncertainty surrounding the regulatory framework for range compliance and increasing awareness of potential contamination or releases associated with range activities. An increased compliance requirement could affect current environmental budgets and have a significant negative impact on mission readiness if ranges cannot be operated due to environmental constraints.

Conservation

The Army National Guard Conservation objectives include improving the National Environmental Policy Act (NEPA) processes for various Army National Guard stationing and training support activities. Specific areas that the Army National Guard will address are the Fort Indiantown Gap Environmental Impact Statement, enhanced AH-64 training at the Western Army National Guard Aviation Training Site and the programmatic environmental documentation of transformation equipment fielding. The Army National Guard will also formalize agreements to address the more than 5,000 Army National Guard buildings that will reach the 50-year-old mark in the next three years and potentially be eligible for historic structure designation.

In fiscal year 2001 the Army National Guard completed 90 Integrated Natural Resource Management Plans (INRPs) for training sites across the nation. Each INRP meets a statutory requirement, SIKES Act 1997, and provides benchmark and goals to sustain training on Army National Guard properties while being stewards of the environment.

Restoration

The National Guard Bureau (NGB) is tasked to execute the Army's Installation Restoration Program (IRP) for federally owned Army National Guard facilities. In addition, state owned facilities are encouraged to evaluate their facilities for past environmental contamination. The restoration program is also responsible for the inventory and data collection for all closed and transferred military ranges within the Army National Guard.

During fiscal year 2001, the Army National Guard completed 18 Preliminary Assessments; another 30 are currently ongoing. Twelve Army National Guard Site Inspections were completed and seven additional inspections have been initiated. Investigations continue at three BRAC sites: Fort Chaffee (Arkansas), Fort Indiantown Gap (Pennsylvania) and Fort Pickett, (Virginia).

The Army National Guard Restoration Program is actively working at several locations to investigate and determine remediation requirements at contaminated sites. These locations include: Camp Crowder (Missouri), Camp Navajo (Arizona), Camp Roberts (California), the Los Alamos Joint Forces Training Base (California), Safford Range (Arizona), Rehoboth NIKE Site (Massachusetts), and Farmingdale (New York). The Army National Guard achieved several successes this year with environmental actions. One is the Massachusetts Military Reservation, where the EPA accepted two decision documents for no further action at clean up sites.

The Restoration program further supported coordination efforts with the Navy Base Closure Office at Barber's Point in Hawaii and with Army Materiel Command for the Ravenna Army Ammunition Plant, Ohio to help with land transfers to the Hawaii and Ohio Army National Guard.

NGB is concerned about funding for investigation and remediation at state owned ranges that have been closed and transferred. The Army has placed this part of the range program under the Environmental Restoration, Army account, which precludes the use of the funding at non-federally owned facilities.

MISSIONING THE ARMY NATIONAL GUARD

Over the past 20 months, Headquarters, Department of the Army, the Army National Guard (ARNG), and Forces Command used a deliberate planning process to mission ARNG combat structure. ARNG missions are derived from a variety of requirement documents in the Joint Strategic Planning System (JSPS). Through the Joint Strategic Capabilities Plan (JSCP), CINC Integrated Priority List (IPL), Functional Plans, CINC Theater Security Cooperation Plans (TSCP), and other cyclic JSPS products, all Army requirements are identified.

The Army is transforming itself to remain the dominant land force in the 21st Century while continuing to meet CINC requirements in support of the National Military Strategy (NMS) and the National Security Strategy (NSS). The ARNG is an essential component of the Army's ability to satisfy these requirements. The ARNG missioning effort was included in the Army's submission to the JSCP 1998, change 1, which was signed by the Chairman, Joint Chiefs of Staff in July 2001. Included in the apportionment tables in this document are six of the eight ARNG divisions. The two remaining divisions perform a force generation mission not reflected in the JSCP. Additionally, the 15 enhanced Separate Brigades (eSBs) and the two Special Forces Groups have been apportioned in the JSCP.

Of the six ARNG Divisions, four are apportioned to CINC's of Major Combat Operations (MCO), formally called Major Theater of War (MTW). Two more divisions are apportioned to CINC's that are non-MTW, for regional contingency planning. These six divisions and the 15 enhanced Separate Brigades (eSBs) have single theater focus based on their apportionment. This focus allows for streamlining the training development process. The divisions and eSBs receive Mission Planning Guidance (MPG) from their higher wartime headquarters, develop their Mission Essential Task List (METL) and submit it to their higher wartime headquarters for approval.

The next step in the process is for the CINC's to designate ARNG combat units for specific missions in their war plans based on the new defense strategy and its planning requirements. Work continues between the CINC's Staff, the Joint Staff and the Army on this effort. Over the next 12 months CINC planning staffs will build their war plans. The Army will work closely with the CINC's to ensure Reserve Component capabilities are appropriately integrated in these plans.

The next effort is to apportion the divisions in the upcoming JSCP 2002. The eight divisions will be missioned to support MCO, regional CINC requirements, and the Generating Force. The JSCP will reflect the MCO and regional CINC apportionment. To provide a Generating Force, two divisions would be given this mission and document this in the Army Mobilization and Operations Planning and Execution System (AMOPES). All divisions still have the on-call missions to reinforce Europe, rotate for Small Scale Contingencies (SSCs) in Bosnia, Kosovo, Southwest Asia, etc. Another step in the ongoing process is apportioning forces in accordance with the different requirements for the new defense strategy, particularly in the mission area of Homeland Security.

Corps Packaging

At the 122nd National Guard Association of the United States (NGAUS) convention in September 2000, the Chief of Staff of the Army (CSA) announced some of the results of the Army's deliberate planning process related to ARNG division missioning. The CSA announced the alignment of the eight ARNG divisions with the four Army corps. 40th Infantry Division (ID) (California) is aligned with I Corps at Fort Lewis, Washington. 34th ID (Minnesota), 38th ID (Indiana), and 49th Armored Division (Texas) are aligned with III Corps at Fort Hood, Texas. 28th ID (Pennsylvania), 29th ID (Virginia), and 42nd ID (New York) are aligned with XVIII Corps at Fort Bragg, North Carolina. 35th ID (Kansas) is aligned with V Corps in Heidelberg, Germany.

By assuming the mission orientation of the aligned corps, corps packaging enhances the training readiness of the ARNG combat formations. The ARNG divisions achieve greater training and geographic theater focus. The association and teaming benefits with counterpart active divisions is an important element of the alignment. Corps Packaging does not however replace the higher wartime headquarters in the

Mission Essential Task List (METL) approval process. The divisions receive Mission Planning Guidance (MPG) from their higher wartime headquarters, develop their METL, and submit their METL to their higher wartime headquarters for approval. Corps Packaging is used in the absence of a higher wartime headquarters. Under Corps Packaging, eSBs are also aligned under one of the Active Component Corps, providing it with the same benefits as the ARNG divisions. The figure below provides Corps Packaging in its entirety.

THE ARMY NATIONAL GUARD KNOWLEDGE INFRASTRUCTURE

Our nation is in a unique period in history where there is a great deal of change and opportunity. The Department of Defense is moving to take advantage of these changes and capitalize on the opportunities as they are presented. The Department of Defense knows that it must transform its business processes and infrastructure to enhance capabilities and free up resources to support war fighting and the transformation of military capabilities. To accomplish this, the Department of Defense's Quadrennial Defense Review Report states, "organizational structure will be streamlined and flattened to take advantage of the opportunities that the rapid flow of data and information present."

At the nucleus of this effort for Department of Defense is the opportunity to exploit knowledge management. The Army National Guard readily embraces the opportunities associated with knowledge management by building a robust knowledge infrastructure (KI). Our KI supports all missions to include the National Guard's traditional mission of Homeland Security.

For the Army National Guard to meet the needs of this century, we are using the technologies that facilitate our connection to all concerned activities. Embracing the central role of information technology through knowledge infrastructure efforts, the Army National Guard is fully committed to taking advantage of opportunities provided by information age concepts and technologies.

The Army National Guard has devoted considerable effort in the past two years to increase high-speed Internet access. Recently, the Army National Guard significantly increased the available bandwidth, or allowable data flow, to the non-classified internet protocol router network (NIPRNET). Three of the seven Army National Guard Network (GuardNet) centralized distribution points or hub sites now have more than triple the amount of previously allowable data flow. The remaining four hub sites will be connected to the NIPRNET by March 30, 2002, thus resulting in improved Internet access.

High-speed information access will make significant contributions to such areas as Distributed Learning (DL), electronic publications and forms, training simulation and World Wide Web technology applications. In addition, the ARNG is in the process of coordinating the installation of a dedicated secret internet protocol router network (SIPRNET) connection at each of the 54 STARCs in order to enhance the ARNG's classified communications capabilities.

The ARNG leadership is committed to sustaining the KI that exists in the ARNG today. The ARNG, using data collection via the Headquarters, Department of the Army information technology metrics submission process, will focus scarce information technology resources to areas that are critical to both mission accomplishment and knowledge management.

Security

Last year, Army National Guard embarked upon a four-phased approach to firewall implementation. Phase I involved purchasing and physically deploying two firewalls for each state. The second phase was to fully configure the firewalls at GuardNet's Defense Information Systems Agency (DISA) connection and Phase III involved configuring the state's connection to GuardNet, also called the "front door" firewall. Both phases II and III are complete.

The final phase of this deployment is configuring the state's connections to external networks, also called the "back door". By the end of fiscal year 2002, the Army National Guard commits to accomplishing this final phase of extending the GuardNet perimeter to those back doors and meeting DISA security standards for all connections to GuardNet.

Video Services

The Video Operations Center continues to improve the technology of the Army National Guard's video teleconferencing (VTC) systems. When time and distance are roadblocks to communication and productivity, video conferencing is an excellent tool for bringing people together with a visual message.

The Army National Guard decentralized video teleconferencing to the state level in January 2001 by installing equipment that will allow states to have local control

over their video teleconferencing. Video teleconferencing is currently centralized at the national level in Arlington, Virginia. States must work through the Video Operations Center at the Army National Guard Readiness Center to plan and conduct their local events. One other significant upgrade to the Army National Guard's knowledge infrastructure includes the addition of a Storage Area Network Solution, which provides a robust, flexible and scalable option for back up and continuity of operations. Constant mirroring of data provides a means to rapidly regain full capability in the event of a major system failure.

Today, there are over 330 VTC centers throughout 50 states and three territories that aid in facilitating a wide range of state and national missions including training and family support. There are 257 Army National Guard distributed learning centers to facilitate training soldiers, educating university students, and supporting government/civilian business conferences.

The Army National Guard plans to establish clear, reliable video teleconference on desktop computers and secure VTC to all states and territories by October 1, 2002. Costs for these projects are expected to run at about \$4 million for the secure VTC and \$500,000 for the desktop VTC. Army National Guard leaders are committed to providing soldiers and employees with the state-of-the-art information technology (IT). The future of IT is here and the Army National Guard continues to be a leader in establishing the cutting edge of IT. The goal is to position GuardNet as the premier network security model for the Army, which is being considered as the network to support the Homeland Security mission.

Logistics Automation Systems

Army National Guard Logistics Automation and Logistics Standard Army Management Information Systems (STAMIS) are essential to force sustainment and readiness. These systems provide requisition financial data, equipment readiness reporting, OPTEMPO mile execution, asset visibility, resource stewardship, property accountability, centralized clothing records, and maintenance execution information.

Fiscal year 2002 will mark a very busy year in Army National Guard logistics systems, building on the successes of fiscal year 2001. In fiscal year 2001 the Army National Guard successfully consolidated 54 Army National Guard Corps/Theater Automated Data Processing Service Center (CTASC) sites to 4 regional sites and successfully completed systems acceptance testing of the Integrated Materiel Automations Program (IMAP).

The Program Manager STAMIS and the Army National Guard will begin fielding Global Combat Service Support-Army/Tactical System (GCSS-A/T) to the 50 states and 4 territories in fiscal year 2002. This will be a landmark fielding. The Army National Guard will field a new Army STAMIS at the same time as the Active Component, bringing forth the vision of "An Army of One."

This fielding of GCSS-A/T includes the Integrated Logistics Analysis Program and Property Book Module (SPR). The Integrated Logistics Analysis Program brings a very powerful analysis tool to the Army National Guard. Additionally, the Army National Guard is changing the way it is doing business in the management of Organizational Clothing and Individual Equipment with the implementation of the Central Issue Facilities.

Reserve Component Automation System (RCAS)

The Reserve Component Automation System (RCAS) infrastructure fielding was completed ahead of schedule, providing a wide area network that links National Guard and Reserve units in all 50 states, three territories and the District of Columbia. The latest software increment added force authorization and modernization, training, human resources functionality, and introduced mobilization planning. Increments 6, 7, and 8 will be fielded by fiscal year 2003 when the project transitions to Post Deployment Life Cycle Support.

Personnel Information Transformation

The Army National Guard's (ARNG) active participation in the joint service initiative Defense Integrated Military Human Resources System (DIMHRS), the Army initiative Integrated Total Army Personnel Data Base (ITAPDB), the Personnel Electronic Record Management System (PERMS), and the disaster recovery and Continuous Ongoing Operations Plans (COOP) development ensures seamless operation of personnel actions affecting ARNG soldiers.

The development of ITAPDB, a cross-component personnel database, will be used by the ARNG, the Active Army and the Army Reserve to migrate like-type and cleansed data to DIMHRS. This migration strategy ensures the transference of quality data into DIMHRS, enabling the Army to deploy a joint-service personnel/pay module consisting of integrated data and functionality.

Additionally, efforts are underway to capture current detailed metadata information at the Department of the Army level that will link to a metadata repository at the Department of Defense (DOD). These repositories will provide the Services comprehensive and detailed information of all legacy data definitions, architecture, application processes, site capabilities and locations. This information will be required when developing disaster recovery plans and establishing joint-service COOP sites, as well as serving as historical documentation.

Several near-term objectives will be accomplished by leveraging recent IT initiatives. Army Knowledge Online (AKO) provides a secure portal to access electronically stored images of soldier personnel records. With funding of the state-level PERMS project and state-level processing of ARNG enlisted records, every soldier in the Army will be able to view his or her Official Military Personnel File (OMPF) online via their secure AKO account.

AR-PERSCOM, PERSCOM, EREC, and NGB (officers only) will provide OMPF online this fiscal year. Activation of other applications is within easy reach; Army Selection Board System (ASBS), field to file, and eFile. These PERMS-based initiatives give the components the ability to electronically transmit individual documents and entire OMPFs via secure internet from the soldier in the field to higher headquarters and DA levels.

SUMMARY

The morning of September 11, 2001 changed every American's world. For those who lost loved ones we can only imagine the pain and sorrow. While the Army National Guard cannot alter the course of history, we can continue to help heal those who are suffering and ensure we are prepared to respond to the changing demands of our world.

The Army National Guard continues to provide mission ready units to the governors and to the President to fight our nation's wars. Our dual status has proven to be an enduring principle as we find Guardsmen on duty here at home as well as overseas in Kosovo, Afghanistan and other locations. We must guard against further attacks at home, while we prepare for a campaign abroad.

That is precisely the role of today's Army National Guard. For almost 365 years, the citizen-soldiers of the Army National Guard have been the solid shield that has defended America at home, and the sword of power that America has wielded overseas in support of all her wars. Today is no different.

THE AIR NATIONAL GUARD DIRECTOR'S OVERVIEW

This is a critical time in our nation's history—a time of war. This is also a time when we must transcend trivial differences and diversified positions to prosecute and prevail against a vicious, irrational and unprincipled enemy.

This is a time when we must focus all our leadership, energy, character and resources to bring and sustain the best-trained and equipped Air National Guard (ANG) men and women to America's defense at home and effective operations abroad.

This is a time when we all must stand together—united, prepared, persistent and undeniably patriotic—as “one Nation under God, indivisible”—at all costs, under any conditions.

It was September 11th that marked time for these and all subsequent generations of Americans. On 11 September 2001, the world stood still—but not the Air National Guard—nor our brothers and sisters in the Army National Guard and the countless thousands of other citizens who immediately responded to deter an unseen enemy from further assaults and destruction. As the events of September 11th unfolded, the Air National Guard, through years of preparation, training and commitment launched to our nation's emergency and desperate call for help. These Air Guard men and women brought with them the character and core values of generations of citizen soldiers and airmen. The volunteer spirit that answered the emergency bell to fire the first “shots heard around the world” on Lexington Commons in April 1775—rapidly responded to the “shock heard round the world” on 11 September during the brutal attacks in New York, Washington, DC, and Pennsylvania. While life changed forever on that tragic day, our Air National Guard volunteerism remains steadfast and reliable—even after nearly 5 months in 24/7 operations.

The patriotic Air Guard spirit was seen in the cockpits of fighter, tanker and airlift crews within hours of the attacks—operated by both full-time and traditional guard men and women. The Air Guard spirit was seen out the cockpit and passenger windows of Air Force One as the 147th Fighter Wing rejoined to provide critical protection and escort our Commander-in-Chief.

That same undaunting spirit is flying and fighting in distant lands; operating in dangerous, deplorable conditions; following the enemy deep into their own territory to stop the reigns of terrorism at its very core—guarding America from abroad in Operation Enduring Freedom. For those critics who have held the position that Air National Guard forces aren't available or responsive enough, they need only talk to the 193rd Special Operations Group from Harrisburg, Pennsylvania. These men and women who operate a High Demand Low Density weapon system, deployed just days after the attack to operations in these regions where they remain today—fighting the information and psychological war over enemy airspace.

In addition, our Air Guard tankers are the critical enablers of the tactical fighter and bomber sorties that have forced the Taliban and its supporters to retreat from major strongholds in Afghanistan. The air war over Afghanistan is directly impacted by the efforts of our dedicated Air Refueling units.

We will see greater participation of our Air Guard fighters in operations that take the fight against terrorism to places far from our shores—while protecting our homeland as part of a combined Total Force response.

On 11 September, prior to the attacks, the Air National Guard was already committed dramatically to critical and ongoing Aerospace Expeditionary Force (AEF) operations in Operation Northern Watch, Southern Watch, the Balkans, and continuing to fight the war on drugs. The Air National Guard was already fighting fires raging in our states and supporting National Science Foundation missions in sub-arctic conditions. We had already contributed extensively to increasing requirements—all with meager 1984 endstrength numbers. We will continue these contributions—“Always ready—Always there.”

On 11 September, the Air National Guard—became dual-missioned—fighting a war on three fronts. With growing mobilization authority, the Air National Guard provides more than 25,000 men and women to Operation Noble Eagle, Enduring Freedom and AEF. Today those numbers include nearly 10,000 volunteers, 10,000 mobilized men and women, and sustained 1,300 AEF participants—many under partial mobilization and volunteerism.

In Desert Storm we activated nearly 16,000 proud Air Guard men and women. In Bosnia, our contribution was close to 8,000 and Kosovo—4,000. We have—in 5 short months—already nearly doubled our Desert Storm peak and tripled or better the other remaining major conflicts or wars of the last decade alone. The nature and timing of this war puts the Air National Guard in a very unique and positive leadership position. We will leverage and exercise this position. It is our destiny. It is our heritage. We have become a leader in this new world—during a decidedly new American experience.

Today, our nation contemplates fundamental changes or shifts in the way we continue to “ensure domestic tranquility” and “provide for the common defense.” The hand we've been dealt for our future security environment cries out for greater involvement of our Air National Guard units. This new security environment demands a strong focus on Homeland Security issues, expeditionary operations and increased reliance on the citizen-warrior to support a dramatically downsized active component and a world characterized by multiple small-scale contingencies, transnational threats, terrorism, and humanitarian operations.

The Air National Guard is represented in all 54 states and territories by 88 Flying Wings and 579 Mission Support Units, with over 108,000 proud and skilled people—68 percent of whom are Traditional National Guard members—flying nearly 1,200 aircraft. We are significantly represented in nearly all Air Force mission areas contributing over 34 percent of the Air Force operational mission for as little as 7.2 percent of the “blue” budget and 1.8 percent of the Department of Defense budget.

Over the last decade, the Air National Guard has significantly changed in both relevance and accessibility. Since 1990, the Air National Guard contributions to sustained Total Force operations have increased 1,000 percent with over 85 percent of all activity in support of CINC or service requirements. We are no longer a “force in reserve”, but are around the world partnering with our Active and Reserve components as the finest example of Total Force integration. Air National Guard support to all United States Air Force operations over the last decade has increased from 24 to 34 percent of the Total Force aircraft employed. Contingency support has dramatically increased from 8 percent in 1993 to nearly 22 percent today. Prior to September 11th, the number of Active Duty days per ANG member (above the 39-day obligation) had increased on the average by 12 more—all based on the volunteerism of our dedicated citizen airmen. Today, that number of days has grown as our men and women clamor to respond to our nation's call to the war on terrorism.

During this year's critical call by our nation, the Air National Guard became increasingly important and forever relevant. We have all felt the sting of these events,

and none of us should ever forget the lesson. We must be properly resourced. We must be modernized. We must be appropriately trained. We must continue to be ready while we always retain our citizen airman heritage.

DAVID A. BRUBAKER,
Brigadier General, Deputy Director, Air National Guard.

THE AIR NATIONAL GUARD TODAY

The Expeditionary Aerospace Force Given the demand for aerospace forces over the past 10 years, the Expeditionary Aerospace Force (EAF) was designed as a flexible force structure to ensure that on-call, rotational forces can effectively meet both our steady state and “pop-up” commitments, while giving our people more predictability and stability in their deployment schedules.

The EAF includes both deployable and non-deployable war fighting and support forces. The associated 10 Aerospace Expeditionary Forces (AEF) are deployable packages of aerospace power. The Air National Guard was critical to the concept from the beginning.

In Cycle One of the AEF, the Air National Guard deployed 25,000 of its people—nearly 24 percent—almost 2,500 per AEF. We contributed almost 20 percent of the Total Force aviation package and 7 percent of the Expeditionary Combat Support or ECS requirements. The Air National Guard contributed 46 percent of the C-130 intra-theatre lift and 35 percent of the KC-135 steady state air refueling AEF requirement. Of the Air Guard’s 37 combat-coded fighter units, all six A-10 units, all six F-15 units, all four F-16 Block 40 units, the one F-16 Block 50 unit, and 17 of 21 general purpose F-16 units were aligned during Cycle 1 rotations.

Air National Guard contributions to the Total Force have been even more robust in EAF Cycle 2—especially with the advent of the War on Terrorism—when every combat-coded Air National Guard fighter unit was aligned to participate, including eight Air Guard Precision Guided Munitions (PGM) equipped units. In Cycle 2, a total of 22 ANG F-15 and F-16 units were prepared and scheduled to fly the air superiority mission until the events of September 11th. In addition, during Cycle 2, as a result of the War on Terrorism, the Air National Guard will fill many Active Duty shortfalls. The events of 11 September have, for the short term, adjusted the AEF rotations and the ANG contributions in both numbers and duration. We expect to return to the AEF construct during AEF 3 or 4 this year.

The Air National Guard conducts AEF rotations using a unique “rainbow” concept that moves people through rotations while leaving aircraft and equipment in place. This effort reduces the TEMPO strains on citizen airmen, their families and employers while streamlining the logistics requirements.

In Cycle 1 of the AEF, Air National Guard contributions across all operational mission requirements ensured a significant reduction in Active Duty TEMPO. For example, with a four-fold increased contribution of Air National Guard Precision Guided Munitions capability, the Air National Guard decreased the Active Duty TEMPO by 18 percent. With an Air National Guard contribution increase in eight of nine mission areas, the Active Duty TEMPO was reduced in seven of nine areas. The only area where both Active and the Air Guard experienced an increase in TEMPO was intra-theatre lift.

The Air National Guard is busy. Our people are volunteering above Desert Storm peak levels with nearly 75 percent of our total workdays supporting Commanders in Chief (CINC) and service requirements around the world. Our men and women are proud of their contributions. We support “real world” missions that reduce the TEMPO requirements on our active component by at least 10–15 percent in almost every major mission area. Since September 11th, 2001, the Air National Guard has become even more critical to the execution of the full spectrum of Air Force missions. Tulsa’s 138th Fighter Wing has been deployed to fly missions over Iraq five times since 1996. The 138th’s most recent mission was in the Summer of 2001. South Carolina’s 169th Fighter Wing is currently deployed in support of Operation Enduring Freedom.

With the fielding of the Air National Guard’s number one Combat Air Force modernization priority—Precision Guided Munitions (PGM) capability with the LITENING II Targeting Pods and Situational Data Link (SADL) capabilities—the ANG was able to provide 100 percent of the strike and air superiority fighters in AEF 9. We are more relevant to the fight than ever before in our history. Our transformational systems and processes to find and acquire effective capability proved invaluable in Post September 11th Combat Air Patrols as well as combat operations in Afghanistan.

Additionally, our KC-135 fleet is tasked for the sole support of Airborne Warning and Control System (AWACS) aircraft at NATO Air Base Geilenkirchen. This en-

tails an annual 850 flying hours and offloading over 6 million pounds of fuel during a 44-week year. Air National Guard units deploy two aircraft with sufficient flight, maintenance, and support personnel and equipment to sustain these operations.

The bottom line is that in 30 months—or two complete cycles of the AEF—nearly half the Air National Guard knows first hand what it means to be an Expeditionary Aerospace Force concurrent with our role as guardians of our sovereign airspace. These same warriors will take this experience and knowledge back to their communities, families, employers and local and state political leaders. They will help the Air Force and the nation immeasurably in building understanding and support for a strong and ready Aerospace Force. The Air National Guard is picking up more and more regular Air Force missions.

The War on Terrorism

Homeland Security entails the protection and defense of our territory, population, institutions, and infrastructure from external attacks and intrusions. Rapidly advancing technological capabilities will give large and small nation states the ability to threaten or directly attack the United States with asymmetric means such as weapons of mass destruction, cyber weapons and terrorism. Traditional means of defense often fail against these unconventional threats. Homeland Security will require us to engage, support and cooperate with all levels of government and the private sector in new and innovative ways.

On the 11th of September 2001 the Air National Guard proved its capability to be dual-missioned, protecting America on three fronts. At 0830 on September 11, 2001, the Air National Guard was actively serving abroad with over 4,000 people already deployed during the first two weeks of September in support of CINC or service requirements. We had 1,204 people deployed on an AEF—representing 59 different Wings across six different weapon systems for a total of 158 aircraft. At 0845, with the launch of two Air National Guard units, the Air National Guard became dual-missioned. Within minutes of the Hijack notification, two Air National Guard F-15/F-16 units launched from alert status, one Air National Guard F-16 unit launched from a training sortie.

The Air National Guard contribution did not stop there. Within minutes, intense coordination occurred between the Air National Guard, the Active Component Air Force and the Federal Aviation Administration. The 1st Air Force Operations Center staff increased from 38 to 153 personnel. The Air National Guard Crisis Action Team acted as a coordinating force at Andrews Air Force Base.

At the urgent request of the National Command Authority, the first aircraft scrambled in the skies above the National Capitol were Air National Guard F-16 Block 30s returning from an AEF training mission. Within hours, 18 Air National Guard Tanker Wings, were generated; 34 Fighter Wings were ready with 15 already flying, and 179 missions were flown in the first day. The Air National Guard is still there side-by-side with the Active Duty Air Force, Air Force Reserve, Marines, Navy Reserve and others.

We continued to be a vital asset as Air National Guard units transported critical federal emergency personnel, civil support teams, blood, human organs, chaplains, communication equipment, civil engineers, and medical teams. Seventy aero-medical crews were alerted some responded to New York, the District of Columbia and Pennsylvania. Still other Air National Guard personnel were sent to operate air traffic control towers, provide heavy equipment or work in more than 88 command and control centers across the United States of America.

By the end of November 2001, Air National Guard Fighters on all three fronts logged nearly 16,000 flying hours in almost 4,500 sorties with a daily average of 84 hours a day. Our tankers flew over 5,000 hours in almost 1,000 sorties for an average of 75 hours a day. Almost 25,000 Air Guard warriors met this “dual-mission” tasking—nearly double our Desert Storm Contributions and six times our Kosovo commitment. At first, Air National Guard fighters covered nearly 90 percent of the Operation Noble Eagle tasking, but this is expected to normalize to 50–60 percent with the addition of increases in Active Duty Air Force participation along with other service support. Twenty-four hour Combat Air Patrols and Alerts stress Air National Guard fighters, personnel and training requirements. As such, we need to examine alternative sharing relationships with others equally capable of filling this role.

In addition to our Noble Eagle participation, Air National Guard EC-130s provide the nation’s Commando Solo support in Operation Enduring Freedom. Other critical Air National Guard forces are currently employed in these operations against the war on Terrorism. Over 4,200 of our 5,300 Security Forces were mobilized with an additional 800 on Military Personnel Appropriation days. All four Air National

Guard intelligence Squadrons were mobilized early along with Ground Theater Air Control Systems and Air Operations Groups.

In practical terms this has proven that the Air National Guard is an essential element of the Total Force charged with protecting and defending America at home in addition to their primary role in forward deployed combat and combat support operations.

THE AIR NATIONAL GUARD PREPARING FOR THE FUTURE

These unprecedented contributions by your Air National Guard all have occurred at a time when we have reduced our endstrength numbers to 1984 levels. Over the last two years we've taken some major steps to "fix" ourselves and build an organization that meets the demands of that period's strategic environment and the growing expeditionary requirements. That was, however, before September 11, 2001. We will need to re-examine our structure again—this time to see if we have enough for all the taskings we are expected to fulfill. We have already seen a growing requirement of nearly 7,350 full-time and endstrength increases to sustain Force Protection and Homeland Security requirements.

Interestingly, we were better positioned for our response on September 11th because of our Quadrennial Defense Review deliberations last winter and spring. Our objectives then proved accurate in September. Air National Guard Homeland Security capability is derived from our wartime taskings, training, skills and equipment. Combine this with our position and experience within the local communities to provide the "dual-missioned" role that brings a powerful weapon in America's arsenal. The Air Guard leadership also recognized the critical link between our State Adjutants General in the effectiveness of militarily support to civil authorities. However we need to be mindful that all additional responsibilities in this area of Homeland Security need to be accompanied by appropriate additional resources as we retain—and always must—our federal war fighting role.

Space, Intelligence and Information Operations

The Air National Guard mission in Space and Information Warfare mission areas is growing. Air National Guard Space Squadrons currently operate or support critical elements of the nation's Integrated Threat Warning/Attack Assessment mission, satellite operations, and command and control structure. A fledgling Information Warfare capability is taking shape as new initiatives in cyber warfare are being developed and will take advantage of Air National Guard capability in over 20 states. Four Air National Guard Intelligence Squadrons currently provide essential Signals and Imagery intelligence capability to Major Commands and our war fighting CINCS.

As the Air National modernizes to support current mission requirements, the environment for training must keep pace. The increased use of Precision Guided and Stand Off weapons will drive changes in the airspace and range requirements to properly and safely train. The greater emphasis and capability for night operations and use of Night Vision Goggles, for example, will create a need to fly in special use airspace with "light's out" creating unique challenges for operating in the National Airspace System. The potential contentiousness and length of time it can take to establish new, or modification to existing airspace makes it essential to identify requirements as early as possible. For example, the Colorado Airspace Initiative came to a successful conclusion only after seven years of development and negotiations. The Air National Guard remains committed to provide the training environment necessary to maintain the readiness of our force; and to balance those needs against public concerns through the process that seeks continued public involvement.

Recruiting and Retention

During fiscal year 2001, the Air National Guard was faced with many of the same recruiting challenges that have confronted all the other service components over the last few years—a robust economy and a low unemployment rate. For the period of fiscal year 1997 through fiscal year 2000, the ANG met or exceeded its recruiting goal two out of four years—especially in fiscal year 2000, where increased and well-placed recruiting assets helped the ANG exceed its goal by 3.5 percent. Due to highly effective new bonus, grade, and incentive initiatives, the ANG experienced outstanding retention success in fiscal year 2001. As a result, the ANG had to adjust our recruiting efforts in July 2001 in order to stay within allowable tolerances of top-line end-strength.

Our programmed end strength for fiscal year 2001 was 108,022. In July 2001, our assigned strength was approximately 108,419—already 100.3 percent of our end strength. The Air National Guard Recruiting and Retention Team had exceeded all

expectations in just 10 months of fiscal year 2001. This success was achieved despite the fact that the ANG's fiscal year 2001 end strength objective was increased over 1,300 new positions from fiscal year 2000. The Air National Guard finished fiscal year 2001 at 108,486 assigned strength attaining 100.4 percent end strength. Starting in fiscal year 2002, the Air National Guard's programmed end strength has continued its growth reaching 108,400. As of 31 October 2001, the Air National Guard has attained 109,121 assigned members.

To continue to remain competitive in today's recruiting environment—especially due to extensive ANG requirements and contributions to the war on terrorism, the Recruiting staff has taken steps to project funds in fiscal year 2004 for two new initiatives: 100 new recruiter authorizations for use as Air National Guard In-Service Recruiters (ISRs) and Military Entrance Processing Station (MEPS) Liaisons, and an increase of \$13.7 million to the Air National Guard advertising budget in order to continue our National Target Campaign.

For fiscal year 2001, the Air National Guard had the best retention rate among all components, all services. Our Retention Rate since fiscal year 1997 has averaged 89.4 percent. At the conclusion of fiscal year 2001, the Air National Guard's retention rate stood at 91.3 percent, retaining more than 1,900 members over the last period last year.

We have placed recruiting and retention emphasis on Air Force specialties where shortages exist, such as aircraft maintenance career fields, by offering enlistment and reenlistment bonuses, Student Loan Repayment Program, and the Montgomery GI Bill Kicker Program. As a result, in many of our critical maintenance Air Force Safety Centers, we have seen real strength growth from 2–6 percent over the last two fiscal years. These incentives have contributed greatly toward enticing and retaining the right talent for the right job.

With regard to airmen career assistance services, the Air National Guard has a long established retention program which centers around our Retention Office Managers (ROM). Retention Office Managers are assigned to each Air National Guard wing and are responsible to the wing commanders for providing usable information concerning the health of their organization and deal with any and all retention issues and concerns. Through the Air National Guard Career Motivation Program, ROMs ensure all airmen are provided annual career interviews conducted by the members' supervisors and unit commanders. We have found this opens the communication channels and provides a platform to address issues or problems that, if left unattended, could result in the loss of valuable members.

Quality of Life Improvements

During the past year the Air National Guard continued to see an increase in Aviator Continuation Pay (ACP) take rates. Currently 450 out of 483 eligible Active Guard Reserve pilots have signed up for the bonus. That equates to a 93 percent take rate. Aviator Continuation Pay has accomplished its goal by retaining qualified instructor pilots to train and sustain our combat force. Our greatest challenge will be pursuing legislation to eliminate the 1/30th rule as it applies to Aviation Career Incentive Pay (ACIP) and Career Enlisted Flight Incentive Pay (CEFIP). This initiative, which effects over 13,343 officers and enlisted crew members in the National Guard and Reserve, is aimed at providing an incentive to our traditional aviators who do not qualify for the ACP for Active Guard Reserves and the Special Salary Rate for Technicians. Additionally our number one priority is to increase our traditional pilot force, which has maintained a steady state of 90 percent. We are also implementing recruiting procedures to expediently identify eligible prior-service military pilots that may be interested in a career with the Air National Guard.

The past year has also seen a sustained unprecedented reliance on the Air National Guard since Operation Desert Shield/Storm (i.e. Expeditionary Aerospace Force, Homeland Security, Counterdrug, and Community Missions). The President and Congress both recognize that the requirements of Air National Guard membership in the new world order far exceed those during Cold War. As such, many new incentives and quality of life program enhancements have become law in a comprehensive effort to maintain the best retention in the face of the increased individual burden borne by our members.

Each of these enhancements represents a significant accomplishment in making Air National Guard membership more attractive, one of our biggest priorities. Our first priority is the recent increase in the maximum coverage under the Servicemen's Group Life Insurance (SGLI) program to \$250,000. On the heels of that improvement, SGLI was expanded to include families. The SGLI and Family SGLI programs provide our members a single comprehensive source of affordable life insurance.

The recent creation of the Uniformed Services Thrift Savings Plan (UNISERV TSP), is another equally impressive example of far reaching quality of life initiatives. Under this program, all members of the Uniformed Services, to include Air National Guard members, are now eligible to supplement their retirement by participating in this program using pre-tax dollars, providing yet another incentive to continue to serve. The Personnel Policy Staff had the opportunity to represent the Air National Guard in the implementation of the program. We worked closely with our counterparts in Headquarters, United States Air Force and the Air Force Reserve Command to ensure a Total Force implementation occurred.

The Career Status Bonus was also implemented allowing those entering the service after 31 July 1986, eligible for the least generous military retirement, to now have a chance to convert their retirement (Active, Guard and Reserve only) to the High Three retirement plan, or remain in their current plan by accepting a \$30,000 lump sum payment.

Lastly, the TRICARE For Life legislation is an important enhancement that encourages our members to serve to retirement. By doing so, retired members who become eligible for Medicare at 65 are also eligible to have TRICARE as a supplement to Medicare, saving them significant amounts of money in their retired years. Recent improvements for TRICARE of mobilized Guard members will reduce the burdens on their families.

This era of dramatic improvements directly translates to increased retention, further enhancing our ability to fulfill our federal and state missions while also participating in programs that add value to America. Building upon these successes, the National Guard Bureau welcomes recent congressional interest to extend TRICARE eligibility to Traditional National Guard members.

The Year of Diversity—2002

Our Human Resources Enhancement programs, in particular our Diversity effort has increased mission readiness in the Air National Guard by focusing on workforce diversity and assuring fair and equitable participation for all. In view of demographic changes in our heterogeneous society, we have embraced diversity as a mission readiness, bottom-line business issue. Since our traditional sources for recruitment will not satisfy our needs for ensuring the diversity of thought, numbers of recruits, and a balanced workforce, we are recruiting, retaining and promoting men and women from every heritage, racial, and ethnic group.

Despite a 7.8 percent reduction in force between 1989 and 2001, the Air National Guard has continued to become more diverse, and during the same period of time there has been a consistent growth in the recruitment and retention of women. The Air National Guard diversity strategy is built on a foundation of leadership commitment to create an environment that fosters diversity. The focus of planning is on establishing organizational structures, education and training, and establishing measures of success. Leadership's continuous emphasis on Equal Opportunity and diversity ideals and issues is necessary to maintain momentum and ensure training and program implementation. In addition, declines in prior service accessions require increased emphasis on training and mentoring programs. The Defense Advisory Committee on Women in the Services (DACOWITS) recommended the Air National Guard Diversity Initiative as the "Benchmark for all the Services and Reserve Components."

Our division's future initiatives in the areas of career development include the implementation of an Air National Guard formal mentoring process and the development of automated tools to track progress towards increasing opportunities for women and minorities. In the area of education and training we plan to develop and execute an innovative Prejudice Paradigm and Gender Relations training modules. Also, as part of our minority recruiting and retention efforts, we will sponsor an initiative to evaluate the retention rates of women in the Air National Guard to determine factors contributing to the attrition rate.

Employer Support of the Guard and Reserve (ESGR)

The success of the nation's defense is dependent on the availability of highly trained members of the "Total Force". The Air National Guard's mission in conjunction with Employer Support of the Guard and Reserve is to obtain employer and community backing to ensure the availability and readiness of Air National Guard forces.

We've made participation for today's employers easier by our Aerospace Expeditionary Force (AEF) predictability and stability. We've ensured a dedicated rotator to get our men and women to and from an AEF location. We've identified employer support in our Strategic Plan. We've taken the lead to establish a Reserve Component Airline Symposium where we meet with the nation's airline industry's chief pi-

lots. We established several goals in our “Year of the Employer 2001” efforts—including an employer database that not only captures vital information on our Traditional National Guard employers to improve communication, but also the added advantage of capturing critical “civilian” skills that can be leveraged for military experience. These are but a few of the initiatives taking hold as we focus on the “silent partner” behind all of our men and women.

Family Readiness and Support

The Air National Guard has identified the importance of family readiness. As a major partner in the Total Force Aerospace Expeditionary Force (AEF) deployments, the Air National Guard contributes 25,000 men and women towards the Total Force requirement every 15 months. Since 11 September, the Air National Guard has nearly doubled this sustained contribution in support of Operations Noble Eagle and Enduring Freedom—concurrently with sustained AEF rotations. This means today, nearly 50,000 Air National Guard member families are in immediate need of dedicated full-time family readiness and support services—specifically information referral support and improved communications and education capabilities. Until this year, Air National Guard Wing/Combat Readiness Training Center (CRTC) family readiness and support was run entirely by volunteers on a mere average annual budget of \$3,000–\$4,000.

The Air National Guard has developed a program solution in fiscal year 2001 to fund a full-time contracted family readiness program at each Wing and CRTC. While funding for fiscal year 2002 has been added in the fiscal year 2002 Supplemental Appropriations, there is no sustained funding. Properly funded and resourced, the Air National Guard family readiness program will significantly enhance mission capabilities by reducing pressures on Air National Guard personnel and their families as well as improve their quality of life.

The Air National Guard has also identified a need for childcare alternatives. With increasing demands from Air National Guard Commanders and family members, the Air National Guard formed a Childcare Integrated Process Team (IPT) to study innovative childcare options for the National Guard to include drill-weekend childcare access. Quality, affordable and accessible childcare for Guard and Reserve members is an important “quality of life” issue, especially for single and dual-working spouses, just as it is for our active duty counterparts. The Air National Guard has proposed a pilot program in fourteen locations nationwide to provide a low-cost, simple approach to providing quality, childcare access to National Guard and Reserve members. At completion, an assessment of the pilot program will be reviewed and any necessary guidance with projected costs will be validated. Our Active Duty Child Development Centers (CDC) have recently opened their doors for National Guard and Reserve childcare use on a space available basis at each of their sites. However, with only 14 of 88 Air National Guard Wings on an Active Duty Base where many of the CDC’s are already operating at capacity, this will probably provide limited opportunity for many.

Personnel Management

Our innovative personnel management programs, in support of the enlisted men and women of the Air National Guard were a total success during the last year. Due to recently implemented initiatives, we were able to promote 78 members to the grade of Chief Master Sergeant and 62 to the grade of Senior Master Sergeant through the Temporary Floating Chiefs (T-Float) and Exceptional Performance Promotion (EPP) programs. Without these special promotion programs these individuals would not have been able to achieve these deserving promotions. Additionally, we have processed well over 1,000 waivers, which covered such areas as enlistment, overgrade/excess assignments, and military classification actions. The approval of these waivers aided immeasurably in the Air National Guard meeting its end strength for fiscal year 2001. The Enlisted Grades Program was another success for fiscal year 2001. This program has added additional 88 Senior Master Sergeant authorizations to the Military Personnel Flights, which has provided enlisted career progression within the personnel career field.

In fiscal year 2001, the Air Force deployed a modernized Military Personnel Data System. This total Air Force system [Military Personnel Data System (MilPDS)] is more technologically advanced, however there is still work to be done to bring the system to where all the Air Force components want it to be. Functionality that was put on hold during the six years of development needs to be added, and some processes need to be streamlined. The conversion of the system from client-server to web-based is pending, and the expansion of the member self-servicing “module” is on the high priority list.

The Virtual Military Personnel Flight is the member self-servicing “module” of the MilPDS and is available to service members from their homes, deployed locations, or everyday places of business. Deployed in January 2000, it gave members on-line access to review their personal information; duty history and awards and decorations information; get retirement credit summaries; do their own proof of service letters; as well as, access “fact sheets” on many personnel programs. When it is complete, members will be able to update selected personnel data on themselves, start numerous paper processes systematically, and find “fact sheet” information on just about any personnel program in existence.

The training portion of the MilPDS, named Oracle Training Application (OTA), falls short of the Air National Guard’s required/desired business practice. In an effort to make the Air National Guard training request process easier and available to a larger body of people, the Air National Guard has a development effort underway to provide this functionality outside the currently used OTA. The Training & Education Application Management System (TEAMS) is expected to deploy in February 2002. It will be web-based and initially have a manual interface with the OTA, but the end goal is to incorporate the TEAMS functionality into OTA and eventually retire TEAMS.

The Department of Defense has a goal to deploy integrated personnel and pay systems that will support all the Services and their components. Previous and on-going efforts laboriously moved us toward that goal, but the program is gaining momentum. Expectations are to start development at the end of fiscal year 2002 and deploy service-by-service with the Air Force being last in April 2006. This system, Defense Integrated Military Human Resources System, will replace MilPDS and portions of our Air National Guard-owned pay/orders/workday systems. This system will also include member self service, chartered with ease of use, it will help make some high visibility problems smoother; i.e., common reporting across services, cross servicing of members, status changes, and total military history availability.

Distributed Learning

The Air National Guard has firmly established Advanced Distributed Learning (ADL) as a primary training vehicle for our members. The Air National Guard also uplinks training from our three studios in Knoxville (Tennessee), Panama City (Florida) and Andrews Air Force Base (Maryland). As a forerunner in this dynamic medium, the satellite-based Air National Guard Warrior Network has (since 1995) transported training and information to our members at 203 downlink sites at our bases throughout the nation. In addition to training delivery and production, these studios also serve as full communicative links to the states and territories in times of national and local contingencies. From the Andrews’ studio, we provided timely updates to the field in support of Noble Eagle. From the Training and Education Center in Knoxville, Tennessee we transported critical information for the F-16 community concerning their new wheel and brake assembly. This training saved over \$120,000 in costs associated with travel of a mobile team. We also continue to enjoy good working relations with the Federal Judiciary Training Network, uplinking training to all their federal courts.

Many state Guard units are developing cooperative agreements with local industry and academia to share development of ADL products and reinforce community relations. Project Alert (one such agreement) completed the conversion of twenty-one modules of training to CD-ROM and Web-based training for the Defense Equal Opportunity Management Institute, Patrick Air Force Base, Florida and for the Army National Guard during the past calendar year.

We continue to work with the Department of Defense and all federal training communities in developing and delivering expedient learning pieces. The net result of these actions is helping to increase unit and member readiness. The challenge is funding for the future. The Air National Guard needs to be positioned to compensate learners, to assist with computer acquisition (or accessibility), Internet access, and to pay for conversion of courses into a deliverable format.

EQUIPPING THE AIR NATIONAL GUARD

For the world’s most effective, engaged, and employed reserve component, our Air National Guard capability in the future hinges on effective weapon system modernization and recapitalization—along side our Active Component. We need to ensure that our people are armed with the best and safest equipment our active component operates. Of the seven major weapon systems the Air Force operates, the Air National Guard has—on average—the oldest systems in every one—except the C-130. Our readiness continues to be strained due in large part to aging aircraft, lack of spare parts, and increasing workloads associated with both.

Our Air National Guard modernization efforts and roadmaps continue to push the envelope for all airframes. We are still focused on our Combat Quadrangle and AEF support with priorities given to precision strike, information dominance and battlespace awareness through Data Link/combat Identification, 24-hour operations and enhanced survivability. Our “medium look”—extended to 2010—focuses on structural integrity and engines and keeping our airframes lethal. Our “long look”—out to 2015—projects the future missions and their impact on an expected decreasing force structure with a focus on seamless forces and capabilities across the Total Force and our Air National Guard preparations for this future.

F-16 Fighting Falcon

To stay current and relevant in our Combat Quadrangle, we continue to press in all four areas—especially our Targeting Pods. We have a plan to have the entire Air National Guard F-16 community armed with this precision strike capability by fiscal year 2006. After 11 September, as we saw the benefit of these Pods for Visual Identification, we recognized a critical need to push these schedules up significantly. Support and funding have enabled us to make some major in-roads this year and set the foundation for continued improvements.

Our F-16, pre-block 40 fleet, becomes more interoperable and lethal everyday, now possessing full front line combat capability. However, we still need to tell that capability story better. We continually find others who don’t understand our enhanced capabilities. They assume our F-16 pre-block 40’s are only “near Precision Guided Munitions (PGM)” capable and as a result, they inaccurately place limitations on their use. These assumptions are quite simply dead wrong. Continued support is vital to our efforts to continue this critical program and remain a fully relevant Total Force partner. Our Block 25/30/32 jets are capable of employing Precision Guided Munitions by means of a self-designated laser-targeting pod. Our last group of pods started delivery in March 2001 continuing through the February 2002 time frame. Combined with prior purchases, this will give us a total of 64 pods in our fleet. We still need 96 more pods to fill our one-for-one requirement.

We are hopeful this year’s funding will allow us to put a significant dent in this outstanding requirement. Until then, with “rainbow” sharing of existing pods, the Air Guard will have nearly all our pilots, weapons loaders, and maintenance crews fully trained to deliver—full, not near—PGM capability. In other words, Air National Guard Block 25/30/32 F-16’s will have the same capability as the Air Force F-16 workhorse—the Block 40/42.

When we add a new capability—the Theater Airborne Reconnaissance System or TARS these F-16’s will become increasingly viable as both a weapons delivery system as well as an information exploitation platform.

TARS will return the manned tactical reconnaissance mission to the Air Force. In keeping with the modern battlefield’s need for a responsive kill-chain, TARS improves the Air Force’s ability to find, identify, and engage mobile/relocatable targets.

Our current capability includes two electro-optical sensors for day, under the weather reconnaissance. We are working closely with our industry partners on an improvement package to add synthetic aperture radar (SAR), a data link, and the high bandwidth necessary to make this system an all-weather, day or night sensor. We demonstrated the ability to gather and relay critical information through the data link to the Air Operations Center (AOC). The result will be bombs on target within single digit minutes.

All of our Block 25/30/32 jets are wired for the Global Positioning System (GPS) giving us precise navigation and target acquisition capability. At the same time our Night Vision Imaging System (NVIS) is completely installed on our F-16’s giving us 24-hour combat capability. Combined with installation of the Situational Awareness Data Link (SADL) we have significantly improved our F-16 Fleet. To meet our Combat identification requirements we need to give our Block 25/30/32 aircraft an ability to identify both allies and adversaries. A procurement of an Advanced Identification Friend or Foe system will go a long way to enhancing the F-16’s combat identification capability. We now need full support for “Falcon Star”—a structure modification program that significantly extends the service life of this airplane and critical now more than ever since the events of September 11th.

With a focus on Precision Guided Munitions capability, combined with Falcon Star engine and structure modifications and TARS, the Air National Guard F-16 block 25/30/32 community will provide the bridge to the next generation of power-projection precision combat systems.

KC-135 Stratotankers

But our fighters don’t get to the fight or get home safely without the efforts of our stalwart Tanker fleet. Increasingly, our Air Guard modernization focus has

shifted to necessary improvements in our KC-135 fleet. With congressional authorization to lease up to 100 wide body tankers in the fiscal year 2002 budget, we now have the additional possibility of replacing our aging E-models with either flow down KC-135Rs from the active duty fleet or new tankers for selected units.

Bottom line—we need to continue the modernization of our tanker fleet. Replacing the E-models with either active duty R-models or KC-X wide body tankers is the best solution. However, if the KC-X version does not work out, then it is critical we upgrade from the aging and operationally unsuitable E-models as soon as possible. We have a consolidated plan in place that includes the purchase of 100 R-conversion kits at a rate of 16 per year. This would fix two full squadrons a year over the next six years at a cost of \$352 million per.

With the Pacer Crag upgrade complete this summer and the Global Air Traffic Management (GATM) kits buy beginning, we are well on our way to serious improvements in our Air Guard tanker assets.

With our anticipated addition of Situation Awareness Data Link (SADL), the Air National Guard once again leads the way for issues that directly affect future expeditionary operations. With nearly half the entire air-refueling mission, the Air National Guard must not let tanker modernization issues be ignored.

C-130 Hercules

Another concern that has surfaced in light of changing strategy requirements is whether or not we truly have 100 too many C-130's in service. Homeland Security and increasing Quick Reaction Forces requirements may alter force structure with a 3-front war (AEF, Noble Eagle, and Enduring Freedom).

With increasing reliance on our Tactical Airlift workhorse, the C-130, we are still pushing to fully fund the cockpit armor requirements necessary to operate in hostile conditions. This armor upgrade, mandated by United States Central Command, will make significant improvements in the survivability of our fleet while supporting AEF taskings. We need defensive countermeasures systems and battlespace situational awareness capabilities that allow us to operate in hostile conditions and to counter the prolific infrared threats.

We continue our work to bring the full complement of C-130J aircraft to Air National Guard units in Maryland, Pennsylvania, Rhode Island, and California.

In addition, our Air National Guard unit in Harrisburg, Pennsylvania is converting from their EC-130Es to the EC-130Js cross-decking the special mission equipment that makes this one-of-a-kind psychological warfare mission possible. Even as this modernization program continues, Air National Guard Commando Solo aircraft and crews are conducting operations over Afghanistan. By converting to the EC-130Js, we will be progressing in this "revolutionary" program working with all stakeholders to iron out the bugs that come with any new weapon systems. We continue to complete our C-130J conversions as aircraft are fielded. This program will modify the C-130 fleet through 2013 making it viable well into this century.

Our biggest Total Force issue remains the C-130 Avionics Modernization Program (AMP) development. With the award of the AMP contract to Boeing, the Air National Guard is fully supporting the System Program Office. The Air National Guard is providing the first aircraft, a C-130H2, to the Air Force Flight Test Center and Boeing for AMP flight-testing.

The Mobility Requirement Study, Homeland Security transportation needs, and the Army Transformation all point to increasing reliance on this highly reliable mobility asset.

C-5 Galaxy

The Air National Guard will take all the C-5B's Galaxies that the Active Component Air Force wants to give us, and we'll get them and keep them in top shape.

The C-5 Avionics Modernization Program (AMP) is the first of a two-phased comprehensive modernization for the C-5. This program redesigns the architecture of the avionics system, installs All-Weather Flight Control System (AWFCS), Traffic Alert and Collision Avoidance System (TCAS), Terrain Awareness and Warning System (TAWS) and makes the C-5 Global Air Traffic Management (GATM) compliant. The AWFCS replaces low reliability Line Replaceable Units (LRUs) in the automatic flight control system and replaces aging mechanical instruments in the engine and flight systems. A GATM capability, which encompasses communications, navigation, and surveillance (CNS) requirements, will be concurrently incorporated into the aircraft to maintain worldwide airspace access well into the 21st Century.

The Reliability Enhancement and Re-engining Program is the second of the two-phased modernization of the C-5 that improves reliability, maintainability and availability. This effort centers on replacing TF39 engines with more reliable, commercial off the shelf turbofan engine. This program also upgrades numerous other

systems including: flight controls, electronics, hydraulics, landing gear, fuel system, airframe, fire suppression system, and pressurization/air conditioning system.

It's critical to the national lift requirements that the C-5 systems are modernized under the Reliability Enhancement and Re-engining Program and used to fill the near 55 million ton mile per day lift requirements for a moderate-risk capability to support the National Military Strategy.

C-17 Transport

As we contemplate an increase of C-5 Galaxies, the Air National Guard also needs more C-17's. With the current focus on strategic airlift shortfalls, many hope for an increase in C-17 fleet-wide numbers. As a result, we support additional C-17's for both the Air Force and the Air National Guard to adequately meet the full range of strategic lift requirements.

The Air National Guard is striving to move the C-17 conversion forward at Jackson, Mississippi—replacing aging and retiring C-141s. We are laying the groundwork for the necessary infrastructure and support requirements, however we harbor serious concerns regarding the associated funding. We continue to work for the bed down in fiscal year 2004.

Not only do we need to continue the conversion efforts in Jackson, the Air National Guard advocates far more C-17's in the Air Guard with Active Associate attached units to facilitate the crew ratio requirements to keep this airplane fully utilized.

Congress and the United States Air Force are reviewing the Alaska and Hawaii C-17 stationing options, as well as studying other "hubs" among the mid-western states.

F-15 Eagle/F-22 Raptor

The U.S. House of Representatives defense appropriations subcommittee on May 11 endorsed spending almost \$4 billion in 2001 for continued development of the F-22 Raptor. The \$3.96 billion allotment would pay for ten initial production planes and advance funding on 16 more of the next-generation air superiority fighters.

The F-22 Raptor, developed at Aeronautical Systems Center, Wright-Patterson Air Force Base, Ohio, is the replacement for the F-15 Eagle air-superiority fighter and will become operational early in this century. It combines stealth design with the supersonic, highly maneuverable, dual-engine, and long-range requirements of an air-to-air fighter. It also will have an inherent air-to-ground capability, if needed. The F-22's integrated avionics gives it first-look, first-shot, first-kill capability that will guarantee U.S. air dominance for the next three decades.

Even once the F-22 becomes operational, F-15s will remain a critical warfighter. Air National Guard F-15s led the Air Superiority role in AEF 9 in Southwest Asia while continuing their air sovereignty alert requirements at home. This valuable weapon system struggles to remain viable versus ever more capable threats. The \$26.4 million added for the Bolt-On-Launcher (BOL) for advanced infrared countermeasures and the \$17.5 million added to complete installation of the Fighter Data Link (FDL) ensures the National Guard F-15s are able to face the threats being faced during their AEF rotations.

Future critical F-15 upgrades include the Joint Helmet Mounted Cueing System, Advanced Identification Friend or Foe system upgrade to enhance combat identification, Airborne Video Recording System to capture crucial Fighter Data Link information for quality mission debriefing employment training, engine upgrade for sustainability issues, and Tactical Electronic Warfare System upgrade to survive current and future emerging threats.

We are still concerned with the long-term reliability and sustainability issues associated with this aging aircraft. In order to maintain our ability to provide a reliable combat ready force, the ANG F-15's will need to upgrade its current engines. With \$40 million in engine funding already secured, we must stay engaged to continue this critical modernization strategy. With the changing demands of today, we need to study the future of this community and consider the implications of Air Force F-22 Raptor purchases.

Our current plan is to realize the benefits of Air Force F-15 flow-downs. The current Air Force F-22 program anticipates the Air National Guard in only an associate role. We feel that in order to meet the challenges of tomorrow, the Total Force F-22 program must expand in the future to include an Air National Guard presence in a unit equipped role.

HH-60G Pave Hawk Helicopter

The primary mission of the HH-60G Pave Hawk helicopter is to conduct day or night operations into hostile environments to recover downed aircrew or other isolated personnel during war. Because of its versatility, the HH-60G is also tasked

to perform military operations other than war. These tasks include civil search and rescue, emergency aeromedical evacuation (MEDEVAC), disaster relief, international aid, counterdrug activities and National Aeronautics and Space Administration (NASA) space shuttle support.

The Pave Hawk is a highly modified version of the Army Black Hawk helicopter which features an upgraded communications and navigation suite that includes an integrated inertial navigation/global positioning/Doppler navigation systems, satellite communications, secure voice, and Have Quick communications.

The Air National Guard has 18 HH-60Gs at units in New York, California and Alaska. All aircraft now have 701c engines, Forward Looking Infrared Radar (FLIR), and operating 7.62 mm self-protection weapons.

The self-protection system has AAR-47 Missile Warning System and ALE-47 Counter Measures Dispenser System to protect against Infrared Surface to Air Missiles. Three Air National Guard HH-60s have been modified. Five more are scheduled in fiscal year 2002. The Air National Guard is at the forefront of fielding Situation Awareness Data Link on the HH-60. The Situation Awareness Data Link will integrate the HH-60 into the Combat Search and Rescue Task Force with F-16s and A/OA-10s. The program is scheduled to begin in fiscal year 2002 and will outfit all ANG. Other requirements are not funded but are validated. Funding can be executed immediately for near-term capability.

A-10 Thunderbolt II

The A/OA-10 Thunderbolt II is the first Air Force aircraft specially designed for close air support of ground forces. They are simple, effective and survivable twin-engine jet aircraft that can be used against all ground targets, including tanks and other armored vehicles.

Basically the A-10 has a three-part requirements "triad." First, the focus over the last year for our A-10's has been to ensure precision engagement capability that includes SADL, Targeting Pod integration, DC power, digital stores management system, and a 1760 bus. These modifications will modernize the A-10 cockpit and allow the aircraft to drop precision munitions. Secondly, the "Hog-Up" is a funded Air Force Material Command initiative that is fully funded and will primarily replace wing spars. Lastly, current engines lack sufficient thrust in the medium altitude regime. With new engines the A-10 will be able to perform all missions with better survivability. The Air National Guard will complete writing the operational requirements for the new engine in 2002. An engine competition will occur after those requirements are approved.

With all three programs, the A-10 will be able to increase its service life from the projected 2014 to 2028. However, in some circles, the A-10 is still perceived as a "cash cow" and reprogramming could jeopardize our initiatives to upgrade these systems. We are looking at more commercial off-the-shelf (COTS) engine solutions to save money and still improve the capabilities of this first-called, most-used "hog." Eventually the Joint Strike Fighter will replace the A-10.

Low Altitude Navigation and Targeting Infrared for Night (LANTIRN)

The ingenuity of Air National Guard transformation initiatives has made positive, mission impacting strides for our total force. Recently, our unit in Tulsa, Oklahoma conceptualized, assisted in the development and testing, and fielded a down-sized Low Altitude Navigation and Targeting Infrared for Night (LANTIRN) pod test station.

The previous legacy test station used in the Air Force, LANTIRN Mobile Support Shelter (LMSS), is currently considered too large to be moved effectively to support contingencies due to the airlift it consumes. The new downsized test station fielded by the Air National Guard gives the Air Force an optimum deployment LANTIRN support capability that is otherwise not available.

Supporting Congress

The 201st Airlift Squadron, District of Columbia Air National Guard, provides worldwide air transportation for Congressional Members/Delegations (CODEL), the Executive Branch, Department of Defense officials, high-ranking U.S. and foreign dignitaries, and Headquarters U.S. Air Force inspection team travel.

The 201st currently uses three C-22B aircraft to meet team travel and CODEL missions. The C-22Bs are 1964 model Boeing 727-100 aircraft, which are scheduled for retirement due to age and upgrade costs. The first aircraft has already retired and the remaining two are scheduled for retirement in November of 2002 and 2003. Congress recognized the need for replacement aircraft and provided funding in the fiscal year 2001 budget to purchase the first C-40. The identification of "C-40" is the military designation for Boeing 737s. In the fiscal year 2002 budget Congress authorized the lease of four additional 737s. Negotiations are in process with the

Air Force to determine the disposition of those aircraft. The unit has an existing requirement for four medium-capacity aircraft, and depending on the disposition of the leased aircraft, funding may be required to purchase additional aircraft to meet the unit's requirement.

Summary

This is where our Air National Guard Force is headed. This is where we need to go with them. The readiness levels of the Air National Guard depend on modern equipment availability. Adequate funding levels for Air Guard equipment are becoming increasingly critical.

We are being called on to perform a greater share of day-to-day missions, as well as to relieve the high operational tempo for active duty forces. We can no longer wait until new weapon systems are totally fielded in the active component first. Compatible equipment is essential to reduced logistics costs and to enable Active, Guard and Reserve units to train and fight together.

Our Air Guard warriors—the men and women who patrol the skies of Northern and Southern Iraq as part of the Aerospace Expeditionary Forces or AEFs, and flying critical Combat Air Patrols (CAP) sorties over our American cities deserve comparable equipment for committed and sustained contributions.

THE AIR NATIONAL GUARD INFRASTRUCTURE

Air National Guard Civil Engineering

Air National Guard infrastructure provides the Department of Defense enhanced operational capacity with its presence at 180 locations throughout the country. In fiscal year 2001, the Air National Guard executed 96 percent of the Military Construction program that was available for execution; 100 percent of its Environmental program, 97 percent of its Real Property Service program; and 108 percent of its Real Property Maintenance program. The challenges in fiscal year 2003 will be extensively connected to the War on Terrorism—as seen by the recently identified facilities requirements for Anti-Terrorism/Force Protection and iterim alert bed-down. Funding will also be necessary to meet equipment shortfalls for both the EOD and Fire Vehicles Program.

While over 25 major USAF facilities and bases in the Continental United States were closed during the 1990s, the number of Air National Guard facilities remained relatively constant—recognized for their efficiencies and operations only focus. As a result, in many U.S. communities today, a National Guard member and the local National Guard base, installation, facility or office they serve at is the only connection for many Americans to the U.S. military. Maintaining this connection to local communities is more important now than any other time in America's history in light of the terror attacks of September 2001 and as the percentage of Americans who have served or have a family member who served in the military continues to shrink.

Due to the nature of Air National Guard installations, Air National Guard members are more visible in the community than their active duty counterparts. Air National Guard installations do not have the extensive support facilities typically present on active bases such as dormitories, golf courses, family housing, hospitals, child-care facilities, schools, youth centers, commissaries or main exchanges. Instead, Air National Guard personnel rely on the community for this support. The corollary gain is that the community interacts with and sees men and women in uniform regularly. This connection is a key underpinning of the public's understanding concerning the gravity of the use of military force: it's not just a force from a remote and disconnected location but someone they see and may know on a daily basis.

Another advantage of Air National Guard installations in the community is the ability to attract and leverage the capability of aviation, information technology (IT), space, engineering and other technical (and non-technical) personnel who are employed by these industries in their civilian career. They learn and develop skills in the civilian world and apply these skills to Department of Defense requirements. And as part-time employees, they do it at a fraction of the cost of their active duty counterparts. Additionally, installation presence in the community allows the Air National Guard to attract and retain prior-service personnel. This is particularly important for the Air Force—a service that spends more resources and time training its enlisted and officer corps than the other services. Rather than completely losing highly trained and skilled professionals to the private sector, the number and range of Air National Guard facilities across the country provides both full-time and part-time opportunities for those who want to return home but continue to serve. Addi-

tionally, Air National Guard community presence also provides an opportunity to recruit personnel to active duty.

Air National Guard infrastructure offers strategic advantages by being geographically distributed throughout the country. For example, when Pease AFB, New Hampshire closed in 1991, the Air National Guard took over some of the facilities and now operates in partnership with the local community. Pease International Tradeport (Air National Guard Station) is important. Along with other Air National Guard bases such as Bangor International Airport (Maine), and Otis Air National Guard Base (Massachusetts), Pease has not only provided continued Air Force presence in the Northeast United States, but also provides the staging point for the Northeast Tanker Task Force operation to help shuttle Air Force aircraft and forces across the Atlantic.

Air National Guard infrastructure co-located on civilian airports saves considerably on overhead because the airport or the Federal Aviation Administration is responsible for many of the support costs such as maintaining runways and operating the control tower. Additionally, there is no military housing on Air National Guard bases and minimal community support facilities requiring construction or maintenance. The typical Air National Guard installation, with only 350,000 square feet of facility space on 150 acres of leased property with a shared runway, provides the American taxpayer with a very efficient basing structure. Furthermore, a contract and state employee workforce supervised and monitored by a small (7–10 person) federal workforce executes most facility operations and maintenance. This “business plan” of a small footprint operated by a largely contract and state workforce frees up limited resources for other priorities. Furthermore, innovative organizational concepts, such as “active-associate” units allow for additional leveraging of Air National Guard infrastructure.

Because of its ties to the state, the National Guard has a unique tradition of support to U.S. communities during environmental and man-made disasters and crises. As the attacks on New York and Washington have shown, Air National Guard support of Homeland Security missions and responses will increase. Homeland Security includes combat air patrol; aircraft on alert; National Missile Defense; border security; counterdrug operations; chemical biological, radiological and nuclear response; environmental security; and information security. The Department of Defense and Air Force play emergency response roles in these missions, but the Air National Guard geographic presence across the nation can enhance response times and serve as staging or operating locations for impacted or at-risk communities. The Air National Guard community presence also provides day-to-day working relationships with first responders, with state authorities and with local communities prior to any potential attacks.

The Air National Guard Civil Engineer and Services force structure offers ideal skills for application to emergency Homeland Security mission requirements. Disaster preparedness, fire protection, engineering planning, construction craftsmen, and force bed down capability is embedded at each flying wing. Additionally, a few units possess limited explosive ordnance disposal (EOD) capability. These skills can be leveraged with local community and state emergency response capabilities to provide expanded options to state and federal command structures.

Shortly after the 11 September attacks, Air National Guard Civil Engineer units responded to numerous requests to support the requirements of the two major operations being conducted inside and outside the continental United States. Considerable assets have been provided in the readiness career field, along with power production, EOD, and fire protection services. To date thousands of individuals have been called to serve, with much more providing support through volunteer status. Service squadrons have been tasked to support home station alert missions being conducted for Operation Noble Eagle, to include billeting services, and food service requirements. All of these accomplishments are being conducted without any negative impact on steady state Aerospace Expeditionary Force (AEF) commitments, and day-to-day operations of our home installations.

To support on-going Combat Air Patrol (CAP) and alert requirements, the Air National Guard has identified (and constructed) critical alert bed down needs at an interim cost of \$21.3 million. Another \$4.8 million of interim facility requirements remains unfunded. Correspondingly, necessary operations and maintenance AT/FP installation upgrades have been identified at a cost of \$104.9 million.

Additionally, the Air National Guard is well positioned to accept missions transferred from the active duty. Not only do Air National Guard installations attract personnel separating from active duty with specific weapons system skills, Air National Guard installations have proven they can manage change by economically bedding down numerous missions as they are transferred from the Air Force.

Air National Guard Environmental Program

Supporting Air National Guard infrastructure and operations is the Air National Guard environmental program consisting of four pillars: environmental compliance, pollution prevention, conservation resources, and environmental restoration. The environmental compliance program ensures we comply with applicable federal, state, and local regulations and standards, including Department of Defense and Air Force environmental policies. The pollution prevention program allows us to reduce or eliminate undesirable impacts on human health and the environment by enacting change in the processes, practices, or products we use to conduct our mission. The conservation resources program ensures we protect natural and cultural resources. The environmental restoration program is designed to protect human health and the environment from past contamination and achieve closeout of its cleanup sites. A true success, the Air National Guard has completed its third year with zero Environmental Notifications of Violation (NOV).

Air National Guard Military Construction

Future challenges include sustaining, restoring and modernizing the facility plant. Defense facilities are durable capital assets, which if properly built and sustained, have life cycles ranging to 50 years and beyond. However, in the absence of proper sustainment, these facilities perform poorly and decay prematurely, and without modernization, they become obsolete. If properly sustained, we could expect an average total life expectancy of 67 years—however with current funding, the Air National Guard will not be able to sustain the facilities and will recapitalize them on a 122—not 67-year cycle. Past under-funding has led to the present situation where Air National Guard installations report C-3 (significant deficiencies preventing some mission performance) or C-4 (major deficiencies precluding satisfactory mission accomplishment) for almost all facility classes defined by the Installation Readiness Report.

Many of the C-3 and C-4 ratings can only be solved through replacement of antiquated facilities. The current backlog of MILCON requirements is \$2.2 billion and growing. Annual funding from Air Force is generally in the range of \$50–\$60 million which means it would take over 36 years to buy out just the requirements on the books today. In addition to these current mission requirements, there are urgent funding requirements to bed down new missions such as new weapons systems (C-17) and convert existing missions to new roles (F-16 to KC-135 conversions). The pending MILCON bill for these new mission requirements is in excess of \$525 million and has the potential to grow even larger as a result of the Homeland Security missions in the post September 11 environment. Congressional help with this backlog of current mission and new mission requirements has been invaluable. Nearly 70 percent of the funding received by the Air National Guard in the last 10 years has come through Congressional inserts. Without these inserts, the Air National Guard would not be able to support our flying missions.

Recent decisions to increase the fiscal year 2003 budget for Air National Guard installations represent a commitment to do better, but the cumulative deterioration occurred over the past decade, so it is not reasonable to expect a one-year budget increase to fix the problem.

With the recent attacks on the homeland, Air National Guard installations are now recognized not only as platforms from which to generate force structure for overseas missions, but also as bases needed to protect the homeland. To successfully fulfill these rolls, upgrades are needed for the new Homeland Security missions as well as to reduce terrorist risk to the installations. New facilities to support alert aircraft as well as antiterrorist/force protection related construction requirements are needed for this new role. The Air National Guard has identified antiterrorist requirements such as upgrading/replacing perimeter fencing, relocating entry gates, constructing security walls, and replacing security forces facilities.

Knowledge Network

The Air National Guard provides a secure network environment that meets the information weapon systems needs of the its citizen airmen. We play a dual role of providing both network development and network operation. We design and implement the Air National Guard network infrastructure that complies with all Air Force and Department of Defense standards. We provide unit communication commanders and their personnel with quality and timely information to exercise control over their respective networks and mission systems.

First, we design a secure, interoperable network that is capable of meeting the application system needs of the Air National Guard. Second, we protect and monitor the network and then respond to network attacks to ensure the availability of network systems.

Our first and foremost priority is to ensure the integrity and availability of the network to our Air National Guard customers. Additionally, we ensure that our network is compliant with Department of Defense standards and interoperable. Further, we assist our base network control centers in securing, monitoring, and troubleshooting their local networks.

In the near future, we expect to evolve our network into a more robust, secure, and interoperable environment. We will work hand-in-hand with the Air Force in developing a virtual private network (VPN) that provides encrypted, thus secure, information flow across the enterprise. We also seek to partner with the Army National Guard to develop crosscutting network architectures that reduce redundancy, enhance capabilities and provide cost savings.

TRAINING THE AIR NATIONAL GUARD

In the last year, the Air National Guard filled more than just “positions.” We brought skills, experience and training to the theater that exponentially increased Air Force AEF war fighting capability.

In AEF 9, Air National Guard pilots averaged over 2,000 hours flying the F-16 versus 100 for their young active duty counterparts. Ninety-seven percent of our Air Guard pilots have more than 500 hours experience in their jets compared to thirty-five percent of their Active Duty counterparts.

As the Aerospace mission becomes more sophisticated, our Air National Guard experience and maturity provides more solutions to a growing total force problem especially for our 5 and 7 level requirements. Air Force leadership recognizes the talent we have and the capabilities we bring. We get the opportunity to teach and shape future Air Force leaders on the value of the citizen airman and the unique requirements of our predominantly traditional force.

Major General Dave Deptula, former Commander at Incirlik, said it best: “Forty-nine percent of the units that participated in Operation Northern Watch were Guard or Reserve, and you couldn’t tell the difference between the Guard or Reserve fighter pilot on his first day in theater, and the active duty fighter pilot in his 90th day there.”

We can train others well because we are trained well ourselves. Its new mission areas like Tyndall’s Associate Unit where the Florida Air National Guard trains the Total Force pilot to fly the F-15. Using a mix of 18 Traditional National Guard and 16 full-time instructor pilots, we provide what Colonel Charlie Campbell, the Squadron Commander, called a “stabilized, highly proficient instructor cadre with great continuity and leadership.” His perspective was backed by the former 325th Fighter Wing Commander, Brigadier General Buchanan, who stated, “Our partnership with the National Guard is a good way to strike a balance that allows us to take advantage of the Air National Guard’s resident F-15 experience while trying to bridge our current pilot gap.”

Training Requirements

The Trained Personnel Requirement (TPR) is the process by which 3 and 7 level Formal Training requirements are forecasted and received by the Air Force and its components. This process is the validation factor for hiring and training of instructors and the obtainment of classrooms and equipment. In turn, it also determines the ability to increase training allocations in the out years. The Air National Guard Personnel Force Development Division revamped the entire Air National Guard’s formal TPR program two years ago while working in tandem with the Active Component, Future Force and the Readiness Team. This rejuvenated effort resulted in garnering 1,756 additional training allocations in fiscal year 2002 and 2,100 additional seats in fiscal year 2003. A byproduct of this renewed emphasis, over previous years, was an increased utilization rate from 66 percent in fiscal year 1999 to 84 percent in 2001. This exceeded the Air National Guard goal by 4 percent, as set by the Air Force. Additionally, in just two short years the Formal Training Branch has increased Air National Guard Formal Training allocations by 48 percent through this enhanced TPR process, thereby fast-forwarding our get well process by a full 18 months. This Herculean effort resulted in a total of 11,813 training authorizations for fiscal year 2003.

Training Slots

The Air National Guard received 186 undergraduate pilot training slots in fiscal year 2001, up 13 from the previous year. The projected pilot shortage for most of the next decade makes it imperative to increase the pipeline flow to help sustain the National Guard’s combat readiness—especially as we assimilate more non-prior service individuals as a function of our overall recruiting effort.

Training Bases

We continue to pursue efforts to establish follow-on training bases for the KC-135E and C-130 pilots to offset training capacity shortfalls. Additional Air National Guard F-16 pilot training units are being established at Kelly AFB, Texas, and Springfield, Ohio. The recently converted F-15 school at Kingsley Field, Oregon is still expanding student production. The Air Control Squadron in Phoenix, Arizona is converting to a schoolhouse unit to train National Guard and Active Duty personnel.

Air Traffic Control

From 14 control towers and 11 air traffic control radar facilities around the country, our air traffic control personnel controlled over 1 million aircraft, placing the Air National Guard as the third busiest of the nine Major Commands in the Air Force and ensuring our ability to train and remain combat ready to perform this function during any contingency.

Ancillary Training

Ancillary training requirements have been competing with our capability to prepare for and deliver our combat mission. We canvassed our units to identify the pressure points and just released a new requirement list that significantly reduces the numbers considered absolutely essential to our Expeditionary Aerospace Force culture. This has resulted in a reduction from 530 previous requirements to 69 current ones—of which 53 apply to the Air National Guard. This gives our men and women more effective time to focus on mission and weapon system specific training.

THE AIR NATIONAL GUARD SAFETY PROGRAM

Your Air National Guard warriors are doing the jobs they've trained a lifetime to do, and they are doing them with great attention to safety. Command emphasis and leadership has made the difference. Over the last decade, the Air National Guard has become the model for safety. We are starting the new millennium on a very positive note for flight, ground, and weapons safety programs. The following is a short list of this and past year's successes:

- As an organization we, sustained or improved both Flight and Ground Safety during an increase in operations.
- Fiscal year 1998 was the first year there were only 3 Class A Flight mishaps. It was also the lowest Class A Flight mishap rate in Air National Guard history. The Air National Guard Aircraft Maintenance Team was winner of the Air Force Association (AFA) 1998 Major General Earl T. Ricks Memorial Trophy. Strict compliance with safety and technical directives equals zero mishaps. The Air National Guard had the lowest flight mishap rate due to maintenance practices in Air Force History: 0.83 percent for fiscal year 1998, best performance in combat aviation history.
- Fiscal year 2000 was the second year the Air National Guard only had 3 Class A Flight mishaps. It was the second lowest rate ever in Air National Guard history and the second year with a mishap rate below one.
- A full 68 percent reduction in flight mishaps over the last 4 years. Fiscal year 2001 was our best flying safety year ever in the Air National Guard at 0.59 percent and no fatalities due to aircraft accidents.

Despite our increased operational and personnel TEMPO and the first and second cycle of the Expeditionary Air Force, we have accomplished another outstanding safety year.

Summary

The Air National Guard is one of the most relevant, ready, responsive, and accessible reserve component assets in the Department of Defense today that operate on 7.1 percent of the Air Force budget.

We in the Air National Guard are proud to serve this great nation as citizen-airmen. Building the strongest possible Air National Guard to meet the needs of the National Command Authority, CINCs and our Air Force partners is our most important objective. Our people, readiness modernization programs and infrastructure supported through congressional actions are necessary to achieve this vital objective.

Since the end of the Cold War, Air National Guard forces have been increasingly deployed in support of the full range of operations. We've proven ourselves accessible, capable and relevant over the last decade culminating in the responsiveness on September 11, 2001. We have consistently proven our capability to train and deliver full spectrum air and space power across a wide requirement. We were ready to fight and win our nation's wars. We were always there to support ongoing contingency operations. We are fighting a war on terrorism. We continue to shape the en-

vironment through state-to-state partnerships and exercises. We will always and respond in a moment's notice as we did on 11 September, to domestic emergencies and Homeland Security. The Air National Guard continues to expand how we see our future missions and ourselves.

We count on the support of the Citizens of the United States of America to continue meeting our mission requirements. We are confident that the men and women of the Air National Guard will meet the challenges set before us. We will remain an indelible part of American military character as an expeditionary force, domestic guardian and caring neighbor.

CHIEF, NATIONAL GUARD BUREAU CLOSING THOUGHTS

As you can see from this posture statement, the citizen-soldiers and airmen of the National Guard provide the nation with a tremendous asset. They form units trained and ready to conduct or support combat operations. At the same time, their dedication, military skills and equipment are available to governors for the protection of the lives and property of our citizens on our own soil. We are America's hometown military presence and are committed to the welfare and freedom of our communities.

The National Guard's unique dual status gives America's leaders a spectrum of options with which to provide for the security of our nation. Hopefully, this publication has been helpful to you in better understanding some of the complex ways in which that occurs.

If, however, you have any further questions about the National Guard, who we are, how we operate or what we can do, I hope that you will feel free to raise them with those of us at the National Guard Bureau.

Senator INOUE. Thank you very much, General. Before proceeding with my questions, I would like to note that General Davis has served this Nation in the military for over 43 years and I gather that this may very well be your last time you will be testifying here. If that is so, on behalf of the committee and for that matter on behalf of the United States Senate, I thank you very much for the service you have rendered to our Nation, for your leadership, your courage and valor. We will always treasure them, sir.

General DAVIS. Thank you very much, Mr. Chairman.

Senator INOUE. General Davis, the supplemental bill that we have before us calls for the mobilization of 8,000 Reserve and National Guard, which would require the services to demobilize about 21,000. How do you plan to reach these levels when you have all these new assignments that you have been provided?

General DAVIS. Sir, what we have done initially is look again at the units that have been alerted for mobilization and this hundred-plus thousand includes soldiers and airmen at least in the Guard and other services who have been alerted, and they have scrubbed that again and decreased some of that so we have not alerted them.

We have also followed through in both the Army Guard and the Air Guard to scrub all the people who are on active duty in a mobilized status to see if some of them are being utilized as well as they need to be or could be and if we really have a requirement for 80 people and maybe we have 100 mobilized to make sure that we can take care of folks when we have difficulty during winter months because of people having colds and are not able to report to duty. So we are scrubbing those numbers to try to get them down. We will do that with some difficulty but I think we will be able to achieve the objectives.

If we have continued requirements, though, it's going to be very difficult for us to do that. What we have tried to do and thus far been able to accomplish is make sure that if we demobilize somebody, we are demobilizing him because we no longer require their

services, giving them ample opportunity and notification they will be demobilized. We have to be sensitive to the fact that many of them will be returning to their jobs. They have to give notification to the jobs before they return, and certainly we want to make certain as they reintegrate with their families, particularly those who have been deployed away from home, we want to make sure we give them adequate notification and preparation time for both the member as well as his or her family.

Senator INOUE. In other words, demobilization will take some time.

General DAVIS. Yes, sir, it will take some time. Initially, we have taken some of the units that were alerted for mobilization and withdrawn the notification, and looking at and working with the active component, both Army and Air, to see if we can utilize any different capacity or a different way the active component soldiers or airman can fulfill some of these requirements, sir.

DOMESTIC AIR COMBAT PATROLS

Senator INOUE. The Air National Guard has been tasked with domestic air combat patrols and I guess that has also been called upon for demobilization. What sort of air combat patrols are you carrying out in this war?

General DAVIS. I'll hand that one to General Brubaker.

General BRUBAKER. We are continuing our air combat patrols over the United States. We are downgrading to a lesser amount of those patrols. That has freed up folks that can be demobilized and we're doing what we call strip alerts now at several sites.

Senator INOUE. Will that be enough to carry out the mission?

General BRUBAKER. Yes, sir, it will.

General DAVIS. Sir, we've done much of that with volunteers, and in the early part it was done all with volunteers, people who were able to come out and fly for 2 or 3 days and then go back to their regular jobs. Many of the folks like myself would do it on the weekends and evenings, so we stood the 24-hour alerts and 24-hour combat air patrols, and we were able to do it with volunteers. At some point we had to mobilize some of the folks to do it. As we decrease that, we think we can sustain much of it now with volunteers or people doing their regular duty. It is not as heavy a requirement as we had had in the past, I think.

Senator INOUE. As we note the number of troops in the Balkans and also in Afghanistan, some of us have been concerned that the forces are being overused, overtaxed. Is that a real concern?

General DAVIS. As General Schultz said and I will defer to him shortly, we pay a lot of attention to that, sir. We look at home soldiers in each State, how many soldiers in each skill are being tasked for the missions in Afghanistan and in Bosnia, and much of that is Army Guard, the bulk of that is Army Guard, sir. As we look at that, we don't see any real strains.

Now we do have some issues in some of our high-demand low-density MOSs, as well as the FACs and the rescue business in the Air Guard. As we look at those, we see some potential there for it, and so we're looking to see what we can do to accommodate it.

General SCHULTZ. Senator, one example is, Bosnia's Stabilization Force mission, we discussed the 29th Division perhaps staying in

country longer than the originally planned 6 months and we said no. We have an obligation to the members, to the soldiers and their employers that once the mission was over, they would return rather than just extending in theater. And so I think as long as we use a rotational policy that has a sense of discipline to it, we're going to be okay, which means sharing or balancing the work load literally across all the units, and I think that's the way to work through this question.

Senator INOUE. Soon after September 11th when we began our war on terrorism, employers throughout the land were very helpful and cooperative. Is this support still standing, is it staying?

General DAVIS. Yes, sir, we think it is. As we talk to our members, and we're going to continue to do surveying of them to assure ourselves where we are. The National Committee for the Guard and Reserve has a new very energetic leader and he has come on board and moved out very rapidly. So we are doing a large number of events with employers.

An example of the kinds of things we were doing before the 29th Division deployed overseas, they had an employer support event in Maryland, one in Virginia, one up in Massachusetts and Connecticut, and that is where the soldiers who were part of that deployment were. Down in Mississippi where they had the 155th Army Brigade, we had some events down there to let employers know what the soldiers are doing, or what the airmen are doing in the case of the Air Guard. So we have been very aggressive.

A number of us in the senior leadership have been involved in those signing ceremonies. I was out at Xerox Document Center here about 2 months ago at one of those events, and we've had our folks all over the Nation. We are concerned about it, but I think people understand today that this threat is still there, so we are trying to continue to educate employers about that, and we aren't aware of any major issues we have. We have an individual issue here and there and we work those pretty aggressively, but we are not aware of any major issues we have.

On a long time continuum, next 2 years or so, given the fact that it's a long protracted effort certainly to fight the terrorists, we could see some lessening of support. At this point we don't feel we are, and we have talked to the folks at the National Committee level as well as the individual State committees, and we're not seeing any lessening of it, sir.

ARMORED BRIGADE

Senator INOUE. Thank you. Senator Cochran.

Senator COCHRAN. Mr. Chairman, thank you very much. General Davis, we appreciate very much your mentioning of the good work, and General Schultz too, that the armored brigade from Mississippi has done in Bosnia, with the contribution you're making to maintain stability in that region of the world.

It's interesting for me to note, gentlemen, I went down to look at the training that was underway there in preparation for that mission, and this was really a lot different from what those soldiers normally do. In an armored brigade, you think of tanks and activities in the field, gunnery and the like, but they had recreated a village and a post where they would actually be living in Bosnia, so

they could get used to the environment and get accustomed to the challenges they would face in that environment.

To what extent do you think that might detract, if it does at all, from the regular responsibilities or the normal responsibilities that a unit like that would have, a combat unit being assigned a mission of stabilizing a region and inspecting trucks and personnel on the streets and that kind of thing?

General DAVIS. Sir, one of the things we pride ourselves is being part of the full spectrum military. We can go from one end, the high end acting aggressively, fighting, pursuing an enemy, to the other end doing such things as humanitarian, so we do that full spectrum.

In the case of the 155th, that mission is what we call a dismounted mission. They normally would be in tanks and in Bradleys as an armored unit would be. This is what we call a dismounted mission, they are not in those vehicles. So it's more of a mission that they can train to with special training. Prior to deploying, though, I would say that they did go back following this mission rehearsal exercise down at Fort Polk, they do go back home and they do go back and fire at the highest level, maneuver levels with their tanks and with their Bradleys. So they are fully qualified.

And these folks as it develops while they were in Bosnia, had an opportunity to go out and exercise some of the equipment that was in Bosnia, to actually go out and fire the equipment, and some of it hadn't been fired in over 1 year, as well as get their skills back up to speed.

One of the difficulties with peacekeeping, peacemaking missions, is that very quickly it can turn into a wartime situation. All we need is an attack, and that can happen, so they have to transition very rapidly. So they have got to keep those skills up.

During their off-duty time when they are not on duty in the rotation schedule they had where they would be on duty for a period and then they would be in a training day, and on those training days they went back to train on these same skills.

I would like to have General Schultz comment on it, because it has been one of those things which we were concerned about, how their skills would deteriorate. It will deteriorate, but I would suggest given the training methodologies we have, it will deteriorate at a much slower rate because of the kind of training.

General SCHULTZ. Senator Cochran, as you know, the 155th Armor Brigade is a first rate outfit. They have been to the National Training Center. The skills we apply in Bosnia are slightly different but they are not all lost in terms of the leadership requirements. Lots of skills will transfer and result in high payoff tasks from the day-to-day mission in Bosnia to the likes of a mission for the 155th to deploy somewhere else in a combat arms setting.

I would also say that if we think about that brigade just in this example, we expect that they would deploy a little later, should they be called on short notice to bring the brigade's full set of equipment to another theater. And so we change the plans in terms of our expectations just slightly so that we factor in, we know they're in Bosnia but they will deploy perhaps to another mission on a little later schedule than we had originally planned.

So we manage that from a national level about which brigades are in a rotation like Bosnia and which ones are expected to deploy very early for their combat mission.

Senator COCHRAN. I'm not sure the extent to which the National Guard is involved in this and so I'm asking this to just get information, but I know on the Mississippi Gulf Coast and in Alabama and Florida, we have had a combat identification evaluation exercise underway and various bases, even civilian airports are being used by military forces not only from the United States but observers from the United Kingdom are involved, defense industry people are there, and what they're doing is testing and evaluating new technologies and combat information and identification systems and procedures. The joint forces command has actually been responsible for this exercise. It ends tomorrow and I was wondering whether National Guard units were involved or if you were in any way involved in that activity.

General BRUBAKER. Sir, I have heard of the exercise and the evaluations going on. I believe our First Air Force and NORAD folks are involved, but beyond that I do not know. I am happy to report back.

C-17

Senator COCHRAN. The Reserve forces and the National Guard in particular are going to be undertaking more and more responsibilities for airlift. Can you talk about the C-17s, which are going to be based, I think the first Guard unit to have them will be in Jackson, Mississippi, and we are very proud of that and we are trying to be sure everything is done that needs to be done to get ready so that the timetable of 2004 that you mentioned can be met.

To your knowledge, is the budget request that's before the committee in this submission sufficient in regard to the infrastructure needs, the manpower needs, and the flying hour expenses that will be required in order to carry out the mission of accepting and keeping these airplanes flying and people up to speed so they may contribute as expected?

General BRUBAKER. Sir, we're working with the Air Force, we feel like more manpower and more flying hours is needed, and we are engaged with the Air Force to try to increase the funding to do that.

C-17 BASING IN JACKSON, MISSISSIPPI

Senator COCHRAN. I notice that you mentioned in your statement, I wrote down that you said that with respect to the C-17 basing in Jackson, Mississippi, that manpower and equipment shortages remain significant. I hope you can tell us if not right now, maybe for the record some specific needs that you see that ought to be met in this funding cycle in order to deal with those manpower and equipment shortages.

General BRUBAKER. Yes, sir, I would be happy to detail those for you.

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

[The information follows:]

C-17 BASING IN JACKSON, MISSISSIPPI

Plans and preparations for the conversion of the 172nd Airlift Wing's (AW) assigned aircraft from 8 C-141s to 6 C-17s continue to progress. With aircraft deliveries projected for fiscal year 2004, key facility construction, infrastructure upgrades, and equipment purchases have been accomplished to date. However, both near- and long-term funding shortfalls remain to be resolved.

Two equipment requirements could not be funded in the fiscal year 2003 President's Budget: maintenance training device support equipment (\$1.28 million) and composite shop equipment (\$250,000). Procuring these long-lead items in fiscal year 2003 is necessary to ensure equipment availability for 172nd AW personnel to train with and to properly maintain the new C-17 aircraft.

A larger funding issue involves manpower and flying hours in fiscal year 2004 and beyond. The funds programmed for the 172nd AW's C-17 mission are not much different than the currently authorized 1,175 military personnel (of whom 288 are full-time) and approximately 2,900 annual flying hours. These numbers do not reflect how the Air Force is operating the C-17. Active duty C-17s are programmed at approximately 1,400 annual hours per aircraft (vice the 480 hours per Air National Guard aircraft). In addition, the C-17 maintenance concept involves frequent home station inspections that require more manpower and 24-hour operations.

In order for the 172nd AW to meet the Air Force utilization rate for the C-17, additional manpower and approximately 9,000 annual flying hours would be required. The resulting annual bill for the 6 C-17 aircraft is estimated to be \$64 million. Air Force, Air Mobility Command, and Air National Guard officials are working to alleviate the shortfall, but the prospects are limited. In the absence of additional Air Force funding or manpower to support the 172nd AW flying at the Active Air Force utilization rate, the newly procured C-17 aircraft will not reach their full airlift potential nor will the 172nd AW be able to effectively contribute to worldwide airlift requirements that are increasing.

One point to clarify, the 6 aircraft to be delivered to the 172nd AW in fiscal year 2004 are part of the original 120-aircraft buy. Should procurement of 180 C-17s be realized, the Air Force plans to base a total of 8 aircraft at Jackson.

Senator INOUE. Senator Dorgan.

Senator DORGAN. I regret I was delayed for your testimony, but I have reviewed your testimony and let me thank you for your service and thank you for the service of the men and women who serve under you.

AIR NATIONAL GUARD IN FARGO, NORTH DAKOTA

I would like to ask a question of General Davis and General Brubaker about the issue of planes available for the Air National Guard. You're well familiar with what I'm going to ask you about, I'm sure. The Air Guard in Fargo, the Happy Hooligans, as you know, are one of the best in the world. They have won three William Tell events, two Hughes awards, they have flown more hours air cover in this country since 9/11. They are I think the best pilots, by having demonstrated that in three William Tell awards and they fly the oldest airplanes. We have been working with the Air Force for some time on the airplane issue, and we're about out of time on the current F-16s. We're scheduled to get some old Block 25s that I understand won't be maintained past the next several years, so it's a real problem that we have been working on. Can you tell me where we are on that issue?

General DAVIS. First off, we agree with you, the Happy Hooligans have done a great job and we are all very proud of their track record over the years. I date back to the mid-60s with my relationship with the 119th. As we are transitioning to the F-22 and to the joint strike fighter in the longer term, we're looking at which aircraft will be available and right now it looks as if some of the aircraft will be available when we start cascading or moving down-

stream with the F-22 coming on board and there will be some additional aircraft available. Right now, we just don't have the right mix of aircraft available for the National Guard.

F-15

We have looked at the Air Force, we are working very closely with them in providing more F-15s to the National Guard in the air defense mission as they become available. This would be contingent upon the rate at which we bring on board the F-22, sir, which is the replacement aircraft for the F-15 in the air superiority mission.

Senator INOUE. May I interrupt? There is a vote going on.

Senator DORGAN. Are we moving the F-15s at this point, do you know?

General DAVIS. We have moved some of our earlier A models which had not been modified, but I think now we are on hold, as best I am aware at this point.

General BRUBAKER. We have moved some A models, as General Davis points out. There will be some more movement and I would just like to say that we're going to examine opportunities to get some of those that are retiring and possibly transition some of the units sooner than what is currently planned. I think you will find we will be very aggressive about it, but I'm anxious to work with you on that.

GUARD AND RESERVE MODERNIZATION

Senator DORGAN. I think that every year this Committee has to add money for the Guard and Reserve modernization and operation, and we are happy to do that. I think as perhaps my colleagues have said, we get more bang for the buck in investment in the Guard and Reserve than anything else we do, in my judgment, and I am immensely proud, as are all Americans, of what the men and women in uniform have done for this country for many, many decades, but especially proud since 9/11. I have been around the country and seen the men and women at these bases with their eyes filled with pride for what they are doing to serve our country in the cause of freedom, and we thank you and ask you to thank them for us. Thank you very much.

General DAVIS. We thank the committee for the outstanding job that you all have done in allowing us to have additional funding to keep some of those older weapon systems up to speed. We have been able to maintain a large number of them with some capabilities which exceed the capabilities of the newer aircraft that they're flying in the active component, so thank you to your committee for that kind of support over the years. It has not been just 1 or 2 years, and certainly the IIF systems and all that were recently placed on our F-15s in the Air Guard and the pods we have, precision guided munitions, which have allowed us to remain in the fight and participate very actively alongside our active component as well as our Reserve partners in the military operations that we undertake so often. I wanted to make certain to thank you for that kind of support. It's that and the kind of support we get in the Army Guard which allow us to be up front full-time players in this business. Thank you very much, Senator.

Senator STEVENS [presiding]. Senator Kohl.

Senator KOHL. Thank you, Senator Stevens. I will be brief. I have a single question I would like to ask you, Mr. Davis.

CIVIL SUPPORT TEAM

We have learned that when it comes to reacting against terrorism, time is of the essence, and everybody feels, every State feels that we cannot wait. One area that I'm very concerned about is the State of Wisconsin's lack of a National Guard Civil Support Team. Thirty-two States across the country have civil support teams, including our neighboring States of Illinois, Minnesota and Michigan. I believe that Wisconsin, like these other many States including our neighboring States, deserves to have and needs to have a fully equipped team integrated into the State's emergency response system.

So my question of you, General, is when will Wisconsin get a National Guard Weapons of Mass Destruction Civil Support Team?

General DAVIS. Well, as you stated very amply, sir, we have 32 teams throughout the Nation and those teams, the initial 10 were done based on the Federal Emergency Management Agency (FEMA) regions and then an additional 17, and then 5 additional teams were just announced this past fall. Those teams and their locations and basing are designed to provide coverage for folks here in America, in the United States. At the current time the Department of Defense feels that those teams are adequate, 32 teams are adequate in terms of their ability to cover the population base here in the United States and provide the kinds of services they provide which are basically assessment, and they will help go out and find out what the problem is and then assist the folks in augmenting and bringing in additional help.

At this point, sir, as far as my knowledge is, they don't plan to have any additional teams. Those teams will be in place and as we speak now we have some 26 of them certified, 26 of the 27 teams certified, and the other 5 teams are in the process of moving along. So I don't think I'm able to answer your question specifically, sir, in terms of when, because the current plan by the Department of Defense is to have 32 teams. It is not a call we make. We staff the teams, we train the teams and we implement the program, but those selection sites and all are made at the Department of Defense level and as far as I am aware, there will be no more teams. I realize there is a bill introduced—

Senator KOHL. Clearly it's a disappointment for me to hear that from a State that doesn't have a team, so I would like the opportunity to perhaps follow up with you on that.

General DAVIS. We will be happy to, sir.

Senator KOHL. I thank you.

Senator STEVENS. General Davis, the department provided us little information about the tragic accident that ended in the death of four Canadians in Afghanistan. Could you give us any more information about that?

General DAVIS. No, sir, I don't think I'm able to. One of the things we have done with that, as we do with other accidents, Senator Stevens, is we do a full-blown investigation. This one is additionally complex, I guess, in the sense that the Canadians are con-

cerned about it and they also are doing their own independent investigation, so I wouldn't be able to comment beyond that, sir. I think it's premature to second-guess a lot of what went on beyond what's already been stated.

We are approaching this as we do with any tragic accident. We certainly feel very badly and want to express our sympathy to the Canadians for their loss and those who lost their lives, as well as those who were very seriously injured, but our process is to have a team appointed to investigate, as you are aware, and to await their results. If we try to comment on it, we would be doing it at best anecdotally, sir, so I think it is probably best that we wait until that investigation is done. I would hope that somewhere in the investigation process that the Department will be able to come back and provide you members of Congress with some additional information, sir.

Senator STEVENS. We will be very interested because of the fact that it was a National Guard F-16 as I understand it, and the people have raised some questions where it's concerned.

General Schultz, General Brubaker, we have a significant number of people now that have been mobilized and I am interested to know with this level of mobilization what is happening in terms of retention, recruiting, readiness and family problems. Can you give us a breakdown?

Let me start with you, General Schultz. What effects is it having on the Army Guard?

General SCHULTZ. As of today, Senator, we're exceeding our strength objectives, so in terms of both the enlistments and the retention our figures are up slightly from even those that we planned for. We deal, of course, with families on a volunteer basis, and while certainly across the country we're dealing with some family issues and some employer issues, but to date we have clearly had the support of everyone on the missions that we have been asked to be part of, which is a good news story.

Long term, what I'm seeing, it's probably a little early to anticipate that we have figured out all of the second and third order kinds of permutations here of sustained missions like we currently have. We are sending soldiers on duty just for the period that they're required and then return from a mobilization status to their normal traditional Guard status. And as long as we discipline that process, I think we will be all right.

MOBILIZATION

Senator STEVENS. We are having some questions from the private sector in terms of how long it's going to be. There is a time limit on this mobilization, isn't there?

General SCHULTZ. In the case of the partial mobilization, we have authority up to 2 years to call our members, and current Office of the Secretary of Defense (OSD) policy is we will call them for 12 months. And what we're saying is that even 12 months isn't long for certain missions, and then we ought to have something less than 12 months, and so some are 180 days, and we are even considering rotations shorter than that. But today we have a 6-month and a 12-month rotational policy in the Army.

Senator STEVENS. What's your situation, General Brubaker?

General BRUBAKER. Sir, I would echo General Schultz's comments. We're proud to serve, we have a lot of patriotism from our folks out there, they are happy to serve and be there, but when they are not being used, we need to get them home, and I think that's the primary issue.

Senator STEVENS. My staff tells me that the net result of these mobilizations will be that you have a shortfall of \$1.3 billion, assuming that the current level of manning is maintained. Are we prepared for that, or have you requested money to fund that shortfall and should we expect this to come down over the balance of this year or will it affect fiscal year 2003?

General DAVIS. Yes, sir. We had a discussion about this a bit earlier. One of the things we're doing in looking at some of the units we've alerted for mobilization, not actually calling them up, and looking at reexamining the possibility of using active components of soldiers, sailors, airmen and marines for those missions. And I think that we will continue to scrub all of the people we have on duty, and as General Brubaker and General Schultz said, when they have completed the mission that they are called for, release them and let them go home. If you need them in 5 months or 6 months, you can always call them back during that 2-year period, but if they are not actively performing the mission on a given day or the next couple weeks or so, we ought to really look at and consider that. So we are scrubbing all our folks who are on duty, and working with the Air Force and the Army to make sure that if we don't need them and are not going to use them for a while, then let them go back home.

Senator STEVENS. General, we have to stand in recess. They tell me I have just a few minutes to make the vote. Pardon us.

Senator INOUE [presiding]. I have been told that Senator Domenici has a few questions to ask. In the meantime, I want to ask some about health care. I have been told that some of the personnel are having problems with that. Is that so?

General DAVIS. Yes, sir, they are, particularly in remote areas, rural areas primarily. There are a number of healthcare providers who don't accept TRICARE, they won't participate in the program because of some of the historical things, not getting sufficient funding for it, paper work, and taking too long to recover their funding, so we have had some problems in that area.

One of the things the Department of Defense has done, though, as part of the mobilization, they have waived the \$300 per family, they have also allowed up to 15 percent above the normal funding or reimbursement that's allowed for a given medical procedure or a given hospital visitation or doctor's visitation.

So we have experienced some problems in that area, sir. They are being very aggressively looked at as we speak, and we have had significant improvement in that from where we were immediately following September 11, but there are some problems that still remain in that area, sir.

Senator INOUE. General, the Guard has faced considerable challenges in defining and coordinating this homeland defense and civil support missions. Since 9/11 and the subsequent creation of the Office of the Director of Homeland Security, has the Guard's role in civil support matters become more defined?

General DAVIS. Yes, sir, it is better defined and we are working very aggressively with that office. General Fred Reese, the vice chief, has had the rose pinned on him for that. These meetings continue with them. We have worked very closely with the Federal Aviation Administration (FAA) and now with the Transportation Security Agency as we work our way through a lot of those issues.

The standing up of the Northern Command, we have a cell of people who work that issue on a daily basis, and we have people who are meeting with them as they develop their manning documents and all. One of the difficulties in that arena is we don't have manning, additional manning for that command as we staff the command. I have asked both directors to scrub their documents and see if we can come up with some personnel for that and as General Schultz said, the additional AGRs and technicians for both the Army and Air have to be put at the unit level to improve readiness. That was our commitment to you all here that that was what we would do, and that is what we have done.

But as we get more involved in the homeland security mission, be it the national missile defense and we have a portion of the ground piece there, or some of these other missions, we don't have full-time manning for that, so we will probably have to come visit with staff and work our way through that.

But it is becoming better defined. We still have a long ways to go in that arena, sir. Historical things we have done in terms support to first responders, we're still doing an awful lot of that, still working with it and still doing some training. So it is much better defined than it was, but we still have a long ways to go, sir. And that to me, I think from my perspective, would be if something were to evolve over the next few years, I don't think we will be able to say that this is what it is and this is how it works. I think we will have a good handle on it, probably an 85 to 90 percent solution, but the rest of that is going to come in an evolving fashion.

MISSIONS

Senator INOUE. My final question is a repeat. Are you really confident that the Guard and Reserves will be able to carry out their missions with 80,000?

General DAVIS. Yes, sir. If we can't carry them out with 80,000 then the missions will go somewhere else. If we need more than 80,000, then the system I think will respond to that. It has historically. As you are aware, we have authorization to go up to 1 million personnel as far as partial mobilization, and I think the decisions will be made as appropriate there.

Right now we are being asked to do a number of missions, as an example some of the security missions, and one of the concerns we have is the op tempo of the active component also, not just the National Guard. So it is really a total Army solution or total Air Force solution, so we are concerned about how busy they are and how much activity they have as well as how much activity the Guard and the Reserve have.

And we may end up—as we have looked and reexamined the threat, at the force protection levels that are required, we have decreased those force protection levels significantly in my opinion, and as a result of that we don't require as many people to perform

those missions. Should there be another incident or an event, then that could change things dramatically, sir, and at that point we may well need more than 80,000.

Senator INOUE. Thank you, General, and may I now recognize Senator Domenici.

Senator DOMENICI. Thank you very much, Mr. Chairman, and thank you for holding this meeting, which is very apropos to what's going on in the world.

Generals, let me just open by saying that personally I wish I had a lot more time. We do have too many assignments and very seldom will anybody hit the issue that surrounds you all and that is, how are you going to change permanently because of the terror in the world? I would assume that we are going to be making, you are in your respective institutions going to be making some short-term changes which you have already made, but I would assume that somehow or another you are going to be part of a longer term change, which has the potential for changing very little in assigning you similar missions to what you have now, or changing a great deal and having very different missions than you have right now. Would either of you or all of you care to address that reality and just talk about it for a minute or 2?

General DAVIS. I think we will do some changing. I'm not really sure what direction it will take. There is a thought process among some folks that we should take the National Guard and give them the homeland security mission and be done with it. Many of us do not share that view, because we feel it's the Nation's job, not just the National Guard's. It's the Army's job, not just the National Guard component of the Army, and the same thing with the Air Force and the other services.

One of the difficulties we see when you give a mission which is just a plain domestic mission here, most of our soldiers as we talk to them, and mine is anecdotal as I go around in Bosnia as well as out in the several States and all, and talk to soldiers and airmen, they all joined the Guard but they want to be part of the Air Force, they want to be part of the Army. If part of the Army is to deploy, they want to deploy. They want to go do the missions in the Sinai, and go do those other missions. In many of those missions our young people are standing in line and ready to go as General Brubaker said, and General Schultz said.

So there's one thought process that they would give all of that to the Guard. I don't share that because I think it is the Nation's business and I think the nature of what we're doing has changed significantly and we are going to need to have the whole Nation participate in this, not just the military.

Senator DOMENICI. But you're going to have an assignment within that, General, you're going to be doing something within that American situation that you have just described, you will have a role.

General DAVIS. Absolutely we will have a role.

Senator DOMENICI. Let me put it another way. Is your role going to be primarily to match up with the military that are full-time military and their plans, is your principal job going to be to be adjunct to backing your three respective nodes, or are there going to be some different jobs than that?

General DAVIS. We may have some different jobs. As General Schultz talked to a little earlier—

Senator DOMENICI. I'm sorry if I missed it.

General DAVIS. No problem, sir. We are converting some units out there in our force structure as we try to redesign, but as we convert those, we can convert those to whatever it is that we need for specialized units. We think the bulk of the folks in both the Army Guard and Air Guard ought to be dedicated to what we call a dual mission, a mission to augment the active component and go overseas and do whatever we do as part of the active Army or part of the Air Force, as well as do missions back home.

We do that now in civil disturbance. Young people were out here on the streets earlier this year and were not required this time, but from the National Guard in D.C., they came and did that mission. There are also those same young people that are deployed overseas to do missions alongside the active component. We feel that the Guard can best be utilized by doing both of those missions, because our young people will join the Guard and we think they will stay in the Guard for a long-term career if we can give them those kinds of options. If we tell them they are going to go to do just strictly domestic missions and stay here, they will do that I think for a while, but long-term sustainment I don't think will be very rewarding.

General SCHULTZ. If I could, Senator, just do a brief recap from the Army Guard perspective. Today we are increasing military police units, chemical units, engineer units, aviation units in the Army Guard. We're looking—every State today has computer emergency response teams as an example, information operations teams. Just a few years ago they didn't even exist. We find tremendous skills across our formation in our units. Now, soldiers are coming to us with acquired skills perhaps in many respects, but we have a tremendous capacity in the Guard today to answer some of the information operations kind of departments, network defense and so on.

We are also looking at making some of our units lighter. Tanks and Bradleys will be less, perhaps wheeled vehicles will be more in some of our units. And as I talk with you about major change across the Army Guard, I am doing this in concert with the support of our adjutants general.

Senator DOMENICI. I know we are going to run out of time, I am and I have two or three more, but Brigadier General, did you want to comment?

General BRUBAKER. No, sir, I couldn't add more than what General Davis said.

FIRST RESPONDER

Senator DOMENICI. I have four New Mexico questions and I will submit them and you can answer them in due course, and I just want to ask two last questions.

Right now in the United States, about 120 cities, most of them would be identified as major cities but there are some medium sized ones, have gone through the first responder preparation. Are you aware of first responder preparation? It's sponsored and paid for by the Federal Government. Are you part of the first responder

team in any of these cities as they sat down over the last 2½ years? Are you there for a disaster that might be somebody polluting the city water, which would cause kind of a riotous situation in that town, and you have some of your people in that State? Could you share that with us?

General DAVIS. Yes, sir, the National Guard has been involved in those, the adjutants general, the commanders of the Guard, they have been involved in those as well as their emergency preparedness folks in the National Guard, they have been involved in many of the exercises, most of the exercises. They have gone through an iteration where they look at the Guard being called up to participate and do serve at specific tasks, be it isolating a given area where there is contamination and that kind of thing, or providing emergency services in conjunction with the local first responders. So we have been working with first responders in that regard.

Early on we did some training, and the decision was made to transfer that over to Justice, so the essence of some of that is between Justice and FEMA, they have conducted those, but yes, sir, we have been involved in those in the several States.

Senator DOMENICI. The military actually ran the first wave of first responder, and something happened to move it to Justice, I guess they changed the appropriation.

I want to say to the chairman and co-chairman on the record. One of the largest expenditures of money that comes out of a non-defense subcommittee has to do with first responder preparation in America and it might be as much as \$650 million, which goes to these cities when they prepare a game plan for an emergency. That takes into consideration the hospitals, the doctors in the community, the police and the firemen. And they put it together in such a way that if they had a problem, this is how we would respond.

I think it's very important that we inquire of the Defense Department how they see their mission with reference to first responder activities, because you already have a first responder being put together, you don't need to reinvent it, unless somebody challenges it as being inappropriate for that particular problem. And I think it would probably be important that wherever National Guard and Army can be part of it, just from the manpower and the helping with the kinds of things that are going to occur in these cities, it would be a rather good use and rather important, but I just give that to you.

Generals, let me say, on the 23rd day of April, the USA Today had an article that said, "the United States is all over the map on homeland defense." It describes a very uneven and sometimes inadequate response in different States to the problem of homeland security. Some States have no budget resources, some have no staffing, some have no expertise, and some have none of these. Does the National Guard and the infrastructure in each State provide an essential resource to lead the response of each State to provide homeland security, and why is the National Guard not being tasked with this mission in various States? At least we should be advised if you are not going to, because some States are not doing anything, they have no resources to become part of this.

Wrap-up question. Does the National Guard infrastructure in most States possess the human and material resources to lead that

effort and then, does the \$4.1 billion that the Secretary of Defense requested in 2002 emergency supplemental that we're going to be considering soon, does it adequately fund the National Guard's mobilization and homeland security requirements? So I'm finished. You can probably take a couple minutes.

General DAVIS. Where homeland security resides in a given State is that State's decision, sir; we don't participate in that. We have a very small office we've taken out of hide, I made a comment a bit earlier, that the additional full-time manning that we have gotten in the past 4 to 5 years, we have placed that, with the commitment to the committee, placed that at the unit level to improve and increase readiness.

As we stand up our homeland security operation at the National Guard bureau, we will need some additional full-time manning for that, we do not have it at this present date and don't have the funding for that. So as the States decide where homeland security resides, and many of them have given it to the National Guard, to the adjutant general to deal with, but many others have not. They have put it in emergency management, which does not reside, in those States where it does not reside with the adjutant general.

So that's, there is no consistency in how we are approaching this and that had been part of the problem. At the national level we don't have adequate resources to do that, to do the planning or to issue to them for the planning.

Senator DOMENICI. And there is none of that money in the \$4.1 billion?

General DAVIS. As far as I know, there is none in there, no, sir.

Senator DOMENICI. Thank you, Mr. Chairman.

Senator INOUE. Thank you. Senator Stevens.

EQUIPMENT SHORTAGES

Senator STEVENS. Generals, we got this report of, I think it was your report on equipment shortages for the Guard and Reserve. We were told that the Army Guard and the Army Reserve were in the worst position, shortfalls exceeding 20 percent, with the balance around 10.8 percent. With these mobilizations we have been talking about, how are we handling that? It almost seems to us like there is some units that are just totally left behind, they are short of equipment, they will never be mobilized if they are short of equipment. How are we treating this from a point of view of fairness in allocating the shortfalls? Has it been a factor in terms of your operation since 9/11, these shortfalls?

General SCHULTZ. Senator Stevens, it has, and to give you an example, radio gear that our units are currently not in receipt of, and so during the mobilization process, we bring those units up to speed on the latest radio equipment that they may use in theater, as one example.

So as I talked in the opening about compatibility of equipment, what we have are dated legacy force kind of equipment, older trucks, older generation systems. So during the mobilization process, if there is a major compatibility problem, then we bring them up to speed. It has been an issue, without a doubt.

Senator STEVENS. Are there some units that are just allocated shortages so they will never be called up?

General SCHULTZ. Not on our part at all, not intentional for sure. Of course we have some very, very dated vehicles, and we keep track of those systems, but that doesn't mean they won't deploy; it just means that they would operate with equipment that has many hours, many miles, and so forth.

Senator STEVENS. When you're that far behind in money, where do you get the money if you're \$1.3 billion behind already?

General SCHULTZ. We take what we have, Senator, and place those units on active duty. That's how the process works.

Senator STEVENS. How about you, General Brubaker?

General BRUBAKER. Sir, I believe our equipment shortfalls, although substantial, don't keep us from deploying any of our folks.

General DAVIS. We do some cross-matching as well.

Senator STEVENS. But if you look at the regular units, they go over there with the latest equipment. You can't disperse your people into places that are utilizing the latest equipment unless they too get it. How do you get it?

General DAVIS. In some instances we deploy, as an example at Prince Sultan, a lot of the equipment is already in place, vehicles and that kind of thing, so we essentially fall in on the equipment. Sometimes it's necessary for us to do some additional training after we get our folks in country, cross-trained on the equipment, and vehicles are an example. Sometimes we haven't operated those vehicles and they are a bit complex, so we will spend a day or so training on that, hopefully before we deploy, but if not, after we deploy and get in place, so we can operate.

Senator STEVENS. I didn't understand that. I understood that when units deploy, they took their equipment with them. General, your units take their planes with them, don't they?

General BRUBAKER. Yes, sir, we do, but we share equipment among our units, but our aircraft are kept and maintained well enough to deploy.

Senator STEVENS. Well, I'm a little worried about that report about shortfalls, and I don't know how we play catch-up with shortfalls when we have all these additional demands, and we are going to have to get some basic briefings on how the money that we have been asked for now, if the money we have been asked for now can't catch up the units that were on the shortfalls then we are not expanding out to the kind of full mobilization that we were led to believe you are going to do. And we're not going into the full-time manning that are your targets.

I don't really have a feeling for how you are handling the shortfalls and the full-time manning at the same time, it's the same money. Are you going to be able to do both, General Davis?

General DAVIS. Well, sir, it's going to be very difficult. One of the things we do when we deploy, opening new bases for example, we take equipment and we take it from all units, active, Guard and Reserve units, and we put it on the ground just to sustain the rotation of aircraft in and out of country. When we do that, yes, this is going to create some shortfalls, because there is not much spare equipment that we have. As a result of that, there will be shortfalls. As we get ready to deploy a unit, we will take equipment from other units, other Guard units typically and sometimes from active units, to give to them so they can go and have all the equip-

ment they need, primarily ground support equipment for aircraft, loaders and that kind of thing.

We try to leave a lot of that in country. As an example, we have a number of our security forces units in the Air Guard who have been called up. A lot of their night vision gear and a lot of their other high tech equipment is being left in place as they rotate back to the States, so they're going to have shortfalls there. It's a combination of those kinds of things, sir, that give us the shortfall. At some point we need to reconcile the books and get adequate equipment for that, but we have equipment to operate at home and there are some shortfalls there, so when we deploy we make them shorter, so I agree with your concern about the situation, and we can get back with you on that.

ADDITIONAL COMMITTEE QUESTIONS

Senator STEVENS. Thank you very much, Mr. Chairman. Gentlemen, I'm sorry the schedule caused me to be late.

General Davis, as I'm sure was expressed already by the chairman, I want to thank you for your service. You have been not only an excellent Chief of the Guard bureau, but you have developed into a good friend, and we wish you the best and hopefully we will see more of you along the way, but thank you very much. And I thank all of you for what you are doing for our Guard.

Senator INOUE. Thank you very much.

[The following questions were not asked at the hearing, but were submitted to the Department for response subsequent to the hearing:]

QUESTIONS SUBMITTED TO LIEUTENANT GENERAL RUSSELL C. DAVIS

QUESTIONS SUBMITTED BY SENATOR PETE V. DOMENICI

COUNTER DRUG OPERATIONS

Question. The New Mexico National Guard Counterdrug Support Taskforce makes a critical contribution to the narcotics interdiction effort along our border. It also works throughout the community to help "high risk" students through its Drug Demand Reduction Program. Local, state, and federal law enforcement officials have all testified to the positive and direct impact that the Task Force has had on their counterdrug efforts. Despite these proven results, I am concerned about the fluctuations that have occurred in the Counterdrug budget over the past few years.

As you may know, the New Mexico Counterdrug Taskforce is responsible for seizing millions of dollars in illegal narcotics and arresting hundreds involved in this illicit trade.

Given the increased homeland security demands being placed on the Guard, can New Mexicans expect the Taskforce to sustain or even improve these lofty statistics, and help keep drugs out of their communities?

Answer. Many of the homeland security missions proposed for the Guard have significant overlap with the Guard's well-established counterdrug program. These areas of overlap include arrival-zone denial operations (of unwanted cargo and individuals), aerial and ground reconnaissance and observation (primarily of border areas but also of urban or rural areas of interest), and case support/intelligence analysis. By virtue of its well-established working relationship with key law enforcement and first-responders at the local, state and federal level, the Guard's counterdrug program may be viewed as a model for proposed homeland security operations.

Increased homeland security demands will definitely not diminish the Guard's ability to assist law enforcement and community organizations to keep our citizens drug-free. In fact, the fundamental similarities shared by both counterdrug and homeland security requirements merit a closer look on how to better synchronize efforts between both missions to derive maximum value.

Question. How will the operations tempo of the Taskforce be affected by the additional homeland security operations of the Guard? Does the current budget allow you to maintain a strong counterdrug operation?

Answer. Budget fluctuations make it difficult for the New Mexico National Guard Counterdrug Support Taskforce (and similar task forces in all other states and territories) to sustain or improve support to law enforcement agencies and community based organizations working to disrupt the trafficking and use of illicit drugs. These budget fluctuations not only prohibit sustained and much-needed military support to civilian authorities, but also break faith with Guard members who are hired and dismissed in short order due to these funding swings.

The Deputy Assistant Secretary of Defense for Counternarcotics (DASD-CN) is the responsible agency for DOD Counternarcotics funding and policy oversight for the National Guard's Counterdrug efforts. DASD-CN's annual President's Budget (PB) submissions for National Guard Governor's State Plans for domestic support have been flat to negative in real dollar terms for the past several years. Although Congress added \$36-\$50 million annually in the appropriation process, the program lost over 1,200 personnel between fiscal year 1999 and fiscal year 2002 based on recent military pay and allowance increases outpacing annual congressional adjustments. The fiscal year 2002 Governor's State Plans program is currently budgeted at \$197.2 million including congressional and DOD adjustments. The DASD-CN fiscal year 2003 President's Budget request was submitted at \$162.3 million. To remain within budget an additional 335 soldiers and airmen must be terminated by October 1, 2002, for a total of over 1,535 personnel released from duty since September 30, 1999.

The level of support the National Guard can provide is limited by three primary factors: (1) The number of available and qualified soldiers and airmen; (2) The number of agencies each state determines it can effectively support; and (3) Available authorization and funding. A recent survey of state Counterdrug Coordinators found that approximately 4,850 personnel would be required to support current law enforcement and community-based organization requests for assistance. The fiscal year 2003 President's Budget request will support 2,265 personnel. Currently, 32 U.S.C., Sec. 112 that authorizes National Guard CD operations, caps the number of Governor's State Plans participating personnel at 4,000.

150TH FIGHTER WING

Question. The 150th Fighter Wing of the New Mexico Air National Guard at Kirtland Air Force Base plays a critical support role for the joint services in Defense System Evaluation (DSE). Because of its increased operations tempo due to the war in Afghanistan, the Air Force has taken away the Block-40 version F-16s from the 150th and replaced them with Block-30s. I am concerned about how this might impact the future of the important DSE mission of the 150th Fighter Wing.

It is very important that the joint services have a highly dependable testing asset for their aircraft. The Air National Guard has long provided this critical service. Will the National Guard be able to keep up its testing mission in the future after the F-16? How can we ensure this mission continues?

Answer. The 150th Fighter Wing's DSE program plays a valuable role in developmental testing of various air defense systems operating from the air, ground, and sea. A primary role of the air defense systems is to defend against fighter aircraft. Therefore, a major portion of the test regime at Kirtland is to validate performance against fighters which the 150 FW does extremely well. The characteristics of the F-16 Block 30 are virtually identical to the F-16 Block 40. The conversion will have no noticeable impact on the current DSE mission.

Today, and more so in the future, air defense systems need to be capable against a variety of threat platforms: short/medium/long-range missiles, cruise missiles, fighters, bombers, unmanned air vehicles, in stealth and non-stealth configurations. As the 150 FW aircraft mission evolves from F-16 Block 40 to F-16 Block 30 and on to the next generation fighter aircraft, like the F-35 (JSF), the DSE mission will be able to leverage that platform for its test support mission. The 150 FW will continue to be a viable Total Force partner in the air expeditionary force and will be able to provide the test support as required.

Question. How can we ensure that as the Air Force moves to the F-22 and the Joint Strike Fighter (JSF), that the Air National Guard will be able to provide the critical testing that will be needed?

Answer. The 150th Fighter Wing's DSE program plays a valuable role in developmental testing of various air defense systems operating from the air, ground, and sea. A primary role of the air defense systems is to defend against fighter aircraft. Therefore, a major portion of the test regime at Kirtland is to validate performance

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QUESTIONS SUBMITTED BY SENATOR CHRISTOPHER S. BOND

NORTHERN COMMAND

Question. Defense Secretary Donald Rumsfeld announced the creation of a new Northern Command charged with caring for direct defense of the United States, a decision that he called “the most significant reform of our nation’s military command structure” since World War II. Such a claim creates expectations in the public and amongst the military itself that the United States is indeed better protected against the threat of terrorism, and that “transformation” is afoot. Has the Department of Defense indicated what the role of the National Guard and Reserve will be in this new Command? Were you involved in the decision making process that led to this command?

Answer. The Department of Defense has given some limited indications what role the National Guard will fulfill at this time. The stand up of NORTHCOM is an ongoing issue and one that has yet to have SECDEF approval to include the National Guard role within the new command.

The National Guard through the National Guard Bureau Homeland Security Office (NGB-HS) detailed a handful of guardsmen to provide input for the Implementation Planning Team. Having said this the National Guard Bureau and National Guard is not in the decision making process; we provide technical advice as two of the seven reserve components.

NGB-HS has endeavored to articulate the role of the National Guard and to ensure that the NORTHCOM planning team understands that this is a primary mission accomplished by the National Guard.

CBRN

Question. In a recent GAO report (dated September 2001) it was reported that specialized National Guard teams, known as Weapons of Mass Destruction Civil Support Teams, have been developed to assist state and local authorities in responding to a terrorist incident involving weapons of mass destruction. However, there are numerous problems with readiness and deployability. According to the DOD Inspector General the Army’s process for certification lacks rigor; the program schedule has slipped; and there are no plans to arrange for dedicated aircraft to get the teams in position. Can you tell us what has happened since this GAO report was released? Are our troops adequately equipped to respond to Chemical, Biological, Radiological, and Nuclear (CBRN) attacks at home and abroad?

Answer. The problems cited in the GAO report, which was principally based on the earlier DOD Inspector General report, were being aggressively worked at the time of the report and have been largely resolved.

A rigorous formal certification process involving analysis of readiness factors by U.S. Army Forces Command, the National Guard Bureau (NGB), the Army Secretariat and Army Staff (HQDA), and reviewed by several staff elements of the Office of the Secretary of Defense (OSD) was used to certify the 27 WMD-CST authorized in fiscal year 1999 and fiscal year 2000. The first CST was certified by the Secretary of Defense in July 2001, and the last in April 2002. These teams have been extremely busy and effective in responding in U.S.C. Title 32 status since the terrorist attacks of September 11, 2001. As of today, teams have performed more than 400 missions in support of requests from state and local authorities. An additional 5 teams, authorized in fiscal year 2001, have begun their initial individual and unit training and are expected to be certified by the end of calendar year 2002.

By law, the WMD-CSTs may only operate in the United States, its territories and possessions, Puerto Rico and the District of Columbia. They are adequately equipped to respond to CBRN attacks. Not all certified WMD-CSTs have Mobile Analytical Laboratory System (MALS) yet due to an ongoing reassessment of the acqui-

sition strategy. In the interim, these teams have been equipped and trained in a technique referred to as the Dismounted Analytical Process (DAP). As technology in the area is rapidly changing, numerous improvements to WMD-CST equipment are being investigated and/or procured.

Concerning the airlift deployability issue, it is still true that no aircraft are "dedicated" to support the WMD-CST mission. A number of WMD-CST response actions in U.S.C. Title 32 status, which ordinarily would not meet requirements for operational lift with U.S.C. Title 10 assets, have been supported with airlift when that was necessary, but some issues in this area are still being worked. NGB, HQDA, the Joint Staff and U.S. Transportation Command (TRANSCOM) are defining a process and priority system to address the problem.

QUESTIONS SUBMITTED BY LIEUTENANT GENERAL ROGER C. SCHULTZ

QUESTIONS SUBMITTED BY SENATOR PETE V. DOMENICI

COUNTERDRUG OPERATIONS

Question. The New Mexico National Guard Counterdrug Support Taskforce makes a critical contribution to the narcotics interdiction effort along our border. It also works throughout the community to help "high risk" students through its Drug Demand Reduction Program. Local, state, and federal law enforcement officials have all testified to the positive and direct impact that the Taskforce has had on their counterdrug efforts. Despite these proven results, I am concerned about the fluctuations that have occurred in the Counterdrug budget over the past few years.

As you may know, the New Mexico Counterdrug Taskforce is responsible for seizing millions of dollars in illegal narcotics and arresting hundreds involved in this illicit trade.

In a recent GAO report (dated September 2001) it was reported that specialized National Guard teams, known as Weapons of Mass Destruction Civil Support Teams, have been developed to assist state and local authorities in responding to a terrorist incident involving weapons of mass destruction. However, there are numerous problems with readiness and deployability. According to the DOD Inspector General the Army's process for certification lacks rigor; the program schedule has slipped; and there are no plans to arrange for dedicated aircraft to get the teams in position. Can you tell us what has happened since this GAO report was released? Are our troops adequately equipped to respond to Chemical, Biological, Radiological, and Nuclear (CBRN) attacks at home and abroad?

Answer. Many of the homeland security missions proposed for the Guard have significant overlap with the Guard's well-established counterdrug program. These areas of overlap include arrival-zone denial operations (of unwanted cargo and individuals), aerial and ground reconnaissance and observation (primarily of border areas but also of urban or rural areas of interest), and case support/intelligence analysis. By virtue of its well-established working relationship with key law enforcement and first-responders at the local, state and federal level, the Guard's counterdrug program may be viewed as a model for proposed homeland security operations.

Increased homeland security demands will definitely not diminish the Guard's ability to assist law enforcement and community organizations to keep our citizens drug-free. In fact, the fundamental similarities shared by both counterdrug and homeland security requirements merit a closer look on how to better synchronize efforts between both missions to derive maximum value.

Question. How will the operations tempo of the Taskforce be affected by the additional homeland security operations of the Guard? Does the current budget allow you to maintain a strong counterdrug operation?

Answer. Budget fluctuations make it difficult for the New Mexico National Guard Counterdrug Support Taskforce (and similar task forces in all other states and territories) to sustain or improve support to law enforcement agencies and community based organizations working to disrupt the trafficking and use of illicit drugs. These budget fluctuations not only prohibit sustained and much-needed military support to civilian authorities, but also break faith with Guard members who are hired and dismissed in short order due to these funding swings.

The Deputy Assistant Secretary of Defense for Counternarcotics (DASD-CN) is the responsible agency for DOD Counternarcotics funding and policy oversight for the National Guard's Counterdrug efforts. DASD-CN's annual President's Budget (PB) submissions for National Guard Governor's State Plans for domestic support have been flat to negative in real dollar terms for the past several years. Although Con-

gress added \$36–\$50 million annually in the appropriation process, the program lost over 1,200 personnel between fiscal year 1999 and fiscal year 2002 based on recent military pay and allowance increases outpacing annual congressional adjustments. The fiscal year 2002 Governor's State Plans program is currently budgeted at \$197.2 million including congressional and DOD adjustments. The DASD-CN fiscal year 2003 President's Budget request was submitted at \$162.3 million. To remain within budget an additional 335 soldiers and airmen must be terminated by October 1, 2002, for a total of over 1,535 personnel released from duty since September 30, 1999.

The level of support the National Guard can provide is limited by three primary factors: (1) The number of available and qualified soldiers and airmen; (2) The number of agencies each state determines it can effectively support; and (3) Available authorization and funding. A recent survey of state Counterdrug Coordinators found that approximately 4,850 personnel would be required to support current law enforcement and community-based organization requests for assistance. The fiscal year 2003 President's Budget request will support 2,265 personnel. Currently, 32 U.S.C., Sec. 112 that authorizes National Guard CD operations, caps the number of Governor's State Plans participating personnel at 4,000.

ARNG PATRIOT BATTALION

Question. The 150th Fighter Wing of the New Mexico Air National Guard at Kirtland Air Force Base plays a critical support role for the joint services in Defense System Evaluation (DSE). Because of its increased operations tempo due to the war in Afghanistan, the Air Force has taken away the Block-40 version F-16s from the 150th and replaced them with Block-30s. I am concerned about how this might impact the future of the important DSE mission of the 150th Fighter Wing.

One of the issues that I have long been concerned about is underfunding for the New Mexico Army National Guard Patriot Battalion.

Can you give me an update on the readiness of the battalion?

Answer. The New Mexico ARNG Patriot battalion is in an unready status and has been for the past seven years.

ARNG Patriot battalions are required to have 15 launchers. The New Mexico battalion is authorized only five launchers and has only three "on-hand." This adversely impacts unit readiness as soldiers must have the necessary equipment to train to standard. There is no Army plan to field this unit with additional launchers above the five authorized. They are scheduled to receive two launchers that are currently on loan to Greece in 2004.

There is a shortage of assigned and qualified personnel. The battalion is authorized 413 soldiers and is currently at 46 percent strength with 32 percent of soldiers trained and qualified.

Question. Will the battalion be able to conduct its wartime mission and does it have the necessary repair parts to bring all of its necessary equipment to a working status?

Answer. The New Mexico ARNG Patriot battalion is not able to conduct its wartime mission under its current structure. The battalion was organized as a non-doctrinal battalion and is not structured to deploy with its equipment. Consequently, the unit has insufficient equipment "on-hand" to conduct its wartime mission. This also makes collective training at the unit level difficult. New Mexico will continue to report an unready status until additional resources are provided.

New Mexico does not have the required repair parts and appropriate funding to keep their equipment in a working status. Presently, there is a \$14 million unfinanced requirement for technical repair parts that allows for plug-and-play diagnostics of the launchers.

QUESTIONS SUBMITTED BY SENATOR CHRISTOPHER S. BOND

MISCONDUCT

Question. On December 21, 2001 USA TODAY documented that misconduct often goes unpunished under deficient state-by-state Guard disciplinary codes: Rosters are padded with "phantom" soldiers. Within individual National Guard units, as many as 20 percent of soldiers reported on the rolls are no longer with the service, meaning that if Guard units were called up, they might not be fit for duty. Is this true? Is the National Guard ready to put combat ready divisions into a major armed conflict?

Answer. This is not true. The USA TODAY article misrepresented strength reporting and accounting in the the Army National Guard. The widespread, system-

atic inflation of unit strengths by unit commanders for the purpose of misleading federal authorities is not evident from either the General Accounting Office (GAO) analysis of recent trends, inspector general reports over the last five years, or our own internal review and oversight.

In any large organization there are efficiencies to be garnered and we have taken the appropriate steps to ensure diligent oversight in this area. We have an internal reporting process to ensure that soldiers who are not participating, i.e. soldiers not getting paid, are systematically identified and action is taken to bring them back as a drilling member or separate them. Currently, this population represents less than three percent of the authorized endstrength of the ARNG. Inversely, this means that 97 percent of our soldiers are participating in some capacity.

Question. Additionally, serious misconduct by top officials is an issue. Guard generals have committed serious offenses at twice the rate of regular Army and Air Force generals during the past five years. In recent years, serious allegations have been confirmed against nine states' top officers as well as the general who oversees the Guard. These range from drunkenness and sexual misconduct to filing false paperwork and misusing government planes. How do you explain this?

Answer. The percentage of Army National Guard (ARNG) general officers (GO) who have allegations substantiated against them is virtually the same as it is for Active Component GOs for the most recent 2 years. During the past 3 years, less than 10 percent of the allegations against ARNG GOs were substantiated. Regarding the instances that have been reported recently in the newspapers, we have found the author's information on specific misconduct cases is factual, but outdated. Therefore, his conclusions are not relevant to our present situation. In the cases cited, every individual was held accountable. The federal recognition and confirmation process is similar to the selection and confirmation process used for active duty officers. While the State Governor has the option to retain an Adjutant General (AG) who is not federally recognized, none of the currently serving AGs are in a non-federally recognized status for misconduct. Given the current procedures that are in place, I am confident it is in a Governor's best interest to sustain the quality of AG's now serving.

RESERVES

**STATEMENT OF LIEUTENANT GENERAL THOMAS J. PLEWES, USAR,
CHIEF OF ARMY RESERVE**

ACCOMPANIED BY:

**VICE ADMIRAL JOHN TOTUSHEK, USNR, CHIEF OF NAVAL RE-
SERVE**

**LIEUTENANT GENERAL JAMES E. SHERRARD, USAFR, CHIEF OF
AIR FORCE RESERVE**

**LIEUTENANT GENERAL DENNIS M. McCARTHY, USMCR, COM-
MANDER, MARINE FORCES RESERVE**

Senator INOUE. Our second panel will consist of Lieutenant General Plewes of the Army Reserve, Vice Admiral Totushek of the Naval Reserve, Lieutenant General McCarthy of the Marine Corps Reserve, and Lieutenant General Sherrard of the Air Force Reserve. I would like to welcome all of you and look forward to your statements. Welcome, gentlemen.

The chair now recognizes Lieutenant General Plewes, for the Army.

General PLEWES. Thank you, Mr. Chairman, members of the subcommittee, and a good morning to you. Thank you for the opportunity to testify in behalf of the citizen soldiers of the Army Reserve who are successfully serving around the world in the ongoing war against terrorism thanks to your commitment to our men and women.

I would like to express our gratitude to you for your continuing support of our commitment to readiness. Our readiness was a direct factor in our ability to respond as quickly and ably as we did to the call to duty immediately after September 11 and with additional unit call-ups just days after the terrorist attacks. This commitment to readiness enabled us to cut down our mobilization preparation for our 470 activated units to a time frame of about 24 to 48 hours, as compared to about 20 days for Desert Storm.

Success in the Army Reserve on the war on terrorism continues to be possible because of that focus on readiness, a focus that you have enabled us to have. The 15,000 citizen soldiers that are currently mobilized were trained and ready when the call came.

The Army Reserve is playing a vital role in the war on terrorism and will continue to do so for as long as necessary for wherever it will take us. Our readiness levels remain high and these levels remain high with a continued focus on full-time support personnel, the full-time reservists and civilians whose mission it is to support our troop program units when attending drills. Thanks you this year for adding 298 full-time soldiers and 250 military technicians. Our challenge for the future is to continue hopefully to add to that number.

We mentioned equipment modernization and recapitalization and shortfalls earlier. This certainly remains a priority for the Army

Reserve. Filling the two Blackhawk units that we have established with Blackhawks and expanding into the Pacific where we have a clear requirement for Blackhawks is a priority. Adding to our biological detection systems for homeland security missions, Family of Medium Tactical Vehicles (FMTVs) and High Mobility Multipurpose Wheeled Vehicle (HMMWH) that carry our troops to the battlefield, and as already mentioned, radios, so that we can talk to our counterparts in the Guard and Active components.

In the past you have recognized the need for equity in equipment, and we are grateful for that support. Our core capabilities, combat support and combat service support, are equipment dependent, and this emphasis on equipment allows us to focus our role in the Army's transformation as being part of the Army worldwide.

We willingly accept and face the challenges now confronting us as they will present themselves in the future and the key to our success continues to be a high state of readiness, which is directly affected by everything we do. Thank you for the opportunity to appear before you and I look forward to answering any questions you may have.

[The statement follows:]

PREPARED STATEMENT OF LIEUTENANT GENERAL THOMAS J. PLEWES

INTRODUCTION

Mr. Chairman, members of this subcommittee, thank you for the opportunity to testify on behalf of the nearly 360,000 men and women serving in Army Reserve units and as individual mobilization assets—all soldiers of The Army.

As I appear before you today, there are Army Reserve citizen-soldiers on duty, on all fronts of the global war against terrorism—defending our homeland and our fellow citizens, supporting the battle against the terrorists wherever they may hide, and bringing assistance to those who have long suffered from their oppression. We have been in this war since it was brought upon our Nation. We will be there when we finish it—an indispensable and strategically responsive force, an essential component of The Army.

Before I continue, I wish to convey my sincere appreciation to this subcommittee for its sustained, consistent, and strong support of citizen-soldiers. By asking me to discuss the challenges we face, you clearly demonstrate your concern for our Reserve forces and how well they can fulfill the missions assigned to them.

The opportunity to testify before this subcommittee comes at a time when the challenges we faced before September 11 have increased in number and complexity. Not only must we wage and win this war but we must concurrently transform our Army while we wage war. Yes, the challenges that The Army faces are great. Do we shy from them? Never. To back away is not something done by American soldiers. The men and women of the Army Reserve exemplify this spirit, the spirit of Hometown U.S.A. That unstoppable spirit can be found throughout the Army Reserve today.

When last I addressed this subcommittee, I discussed with you how the Army Reserve, the Army National Guard and the Active Army were full and equal partners in the fully focused American Force that is the most responsive ground combat force in the world. I told you that wherever the Army has gone, so, too, has gone the Army Reserve, and that wherever the Army is today, so are we. I also told you that the U.S. Army today cannot perform its missions or meet its mission goals without the Army Reserve, that we were being utilized more frequently than ever before as an indispensable Army partner—one increasingly committed to our national defense in several important ways.

The events of September 11, now seven and a half months ago, have dramatically proved all that I said last year.

As unimaginable horror came to our country, Americans rose to the occasion. Among the great heroes of that day were many Army Reservists. They displayed the highest qualities of courage and selflessness, whether that meant rushing into the Twin Towers, helping injured comrades out of the burning Pentagon or orga-

nizing rescue and recovery activities regardless of personal safety concerns. Some lost their lives in the performance of their duty.

While flames and smoke still rose from the Pentagon and the World Trade Center, thousands began to come forward. They had not been called up yet. They just knew their country needed them: they did not wait to be asked to serve.

Behind these citizen-soldiers came thousands more Army Reserve men and women under the partial mobilization ordered by President Bush on September 14. They responded with remarkable speed, faster than previous planning had envisioned. And as General Tommy Franks, Commander-in-Chief of U.S. Central Command, said of them, "they came trained and ready to do the work."

Yes, Army Reservists have been on the frontlines of this war since it began. We continue to be decisively engaged in the global war against terrorism, every place that the war is being waged.

Seven and a half months after the attacks, there are some 474 Army Reserve units and about 15,000 Army Reserve soldiers on duty, doing what needs to be done. They are accomplishing our core competency missions, as well as other assignments. They are part of the more than 81,000 members of the nation's combined reserve components on duty today, critically engaged in defending the homeland. All of them put aside their own lives and concerns for the good of the nation. No acts of terror could ever deter patriots like these. As Winston Churchill said of Reservists, they truly are "twice the citizen," prepared to serve and defend at personal sacrifice for themselves, their families, their employers and their communities for the good of the Nation. Their spirit and resolve remains undaunted.

The bulk of those called up are in support of Operation Noble Eagle, helping with the recovery from the attacks or engaged in the defense of our homeland. The missions being performed include: force protection and security at installations and facilities, intelligence and investigation support, training and training validation, headquarters augmentation, garrison support and legal support, communications, postal and personnel support, engineer support, historical documentation, logistics and transportation operations.

The Army Reserve also has units and soldiers in support of Operation Enduring Freedom, the operation taking the war to the terrorists and bringing assistance to the long-oppressed people of Afghanistan. These mobilized forces include public affairs, military intelligence, civil affairs, medical and other combat support and combat service support specialties. We also continue to fill headquarters and agency-level requests for Individual Ready Reserve and Individual Mobilization Augmentee soldiers to support current operations.

The men and women on duty today and those who may be called forward tomorrow understand the task that lies before them, how difficult it is and how long the struggle ahead may be.

Along with their own abilities and dedication, the citizen-soldiers of the Army Reserve went into this fight from a position of strength. Recurring deployments since the Gulf War have given our units a great deal of experience in being able to mobilize quickly and effectively. A decade earlier, we learned the importance of family support and employer support programs. These programs were in place when this new conflict began and have been an absolutely essential part of our activities today. Because of our integral involvement in Army Transformation, we have become accustomed to innovative thinking and this has facilitated our finding solutions to ever-changing situations.

It has been often said that everything changed on September 11, but much remains the same. What was important for an Army Reserve in transformation is also important for an Army Reserve in transformation while at war. The transformation we were undergoing before September 11 was to prepare for the sort of uncertainty and evolving world that we now have.

Our priorities before the attacks remain our priorities today: sustaining and improving our already high level of readiness; obtaining more full-time support, which is essential for readiness; improving our infrastructure so that our outstanding soldiers work and train in the modern facilities they deserve; acquiring modern equipment so that we can not only support Army Transformation but also support the Army warfight; and building on successes in recruiting and retention to ensure we have the force necessary to do what our nation requires of us.

I like to use the five R's when I discuss our priorities: Recruiting, Retention, Readiness, Relevance and Resources. Because of all that the men and women of the Army Reserve have accomplished in the last decade and certainly as of result of all we have done for the Army and the Nation since September 11, I believe there is now a sixth R: Respect. Today's Army Reserve and today's Army Reservists have gained the respect of both those they serve alongside and those they serve. Respect

is hard to earn and can be easy to lose. The citizen-soldiers of the Army Reserve have no intention of losing what they worked on so long and so well to earn.

RECRUITING AND RETENTION

Recruiting and retention is an area of highest importance to the Army Reserve. The Army Reserve is a major participant in supporting and training a 21st century Army. This requires the best soldiers America can provide. In this regard, we are most appreciative of the help this subcommittee has provided us. We certainly would be remiss if we did not thank this subcommittee for the attention you have paid to our recruiting needs in recent legislation. With your help we were, for the first time in several years, able to meet our recruiting mission in fiscal year 2000. We met our mission before the end of fiscal year 2001, before September 11. We are going to make mission again in fiscal year 2002.

Although successful in overall mission numbers, we continue to experience difficulty in attracting and retaining qualified individuals in certain critical wartime specialties, particularly within the Army Medical Department. Your continued support on behalf of recruiting and retention incentives, expanding the 90 day rotation policy to cover all but full mobilization, allowing for innovative readiness training and the funding of continuing educational opportunities will help make this success story complete.

The Army Reserve, in partnership with the United States Army Recruiting Command (USAREC), recently conducted a thorough review of Army Reserve recruiting. This review has helped us forge a stronger relationship with the Recruiting Command and has streamlined our processes to support the symbiotic relationship between recruiting and retention. To that end, we are taking the following measures:

- We are seeking to ensure that all Army Reserve soldiers are involved in recruiting and retention activities—we all are a part of the Army's recruiting efforts.
- We are removing mission distracters allowing the Recruiting Command to focus on their core competency of recruiting non-prior service applicants.
- We are focusing on life cycle personnel management for all categories of Army Reserve soldiers, troop unit members, and soldiers in the Individual Ready Reserve. Career counselors talk to Army Reservists about joining the Active Guard Reserve (AGR) program, training to become warrant or commissioned officers, and sharing other opportunities available in our troop units.
- Our retention program seeks to reduce attrition, thereby improving readiness and reducing recruiting missions.
- And we are jointly working with the Recruiting Command to ensure AGR personnel assigned to that command are given leadership and professional growth opportunities.

We recently initiated the first of these activities by transferring responsibility for the prior service mission from the Recruiting Command to the Army Reserve. This transition is a three-phased process that culminates in fiscal year 2003. Tenets of this transfer include: establishment of career crosswalk opportunities between recruiters and retention transition NCOs; localized recruiting, retention and transition support at Army Reserve units and increased commander awareness and involvement in recruiting and retention efforts.

We expect to reduce attrition and improve recruiting efforts by reducing no-shows to initial active duty training, highlighting all Army Reserve personnel lifecycle opportunities and improving delivery of recruiting promises. In Phase I of the prior service mission transition, we transferred 61 recruiters from USAREC and assigned them to Army Reserve Centers within the southeastern United States and Puerto Rico. The assignment of new Retention NCOs will allow the Army Reserve to: lower its attrition significantly, ensure prior service soldiers are provided opportunities in our units, and assist our commanders in delivering recruiting promises. Phase II, which began October 1, 2001, increased the total Army Reserve Retention and Transition Division (RTD) mission to 10,000 prior service transfers. We continue extensive collaboration with USAREC to ensure a smooth transition of these responsibilities.

To support these efforts, the Army Reserve uses non-prior service and prior service enlistment bonuses, the Montgomery GI Bill (MGIB) Kicker and the Student Loan Repayment Program in combinations to attract soldiers to fill critical MOS and priority unit shortages. Program funding must be sufficient to attract and retain both prior and non-prior service soldiers. The Army Reserve must be able to provide a variety of enlistment and retention incentives, for both officer and enlisted personnel, in order to attract and retain quality soldiers.

Our new retention program is a success. Faced with an enlisted attrition rate of 37.5 percent at the end of fiscal year 1997, we adopted a corporate approach to re-

taining quality soldiers. Retention management was a staff responsibility before fiscal year 1998. In a mostly mechanical approach to personnel management, strength managers simply calculated gains and losses and maintained volumes of statistical data. Unfortunately, this approach did nothing to focus commanders on their responsibility of retaining their most precious resource—our soldiers.

The Army Reserve developed the Commander's Retention Program to correct this shortcoming. A crucial tenet of this program places responsibility and accountability for retention with commanders at every level of the organization. Commanders now have a direct mission to retain their soldiers and must develop annual retention plans. Additionally, first line leaders must ensure all soldiers are sponsored, receive delivery on promises made to them, and are provided quality training. In this way, the Commander's Retention Program ensures accountability because it establishes methods and standards and provides a means to measure and evaluate every commander's performance. Since the introduction of the Commander's Retention Program, the Army Reserve has reduced enlisted Troop Program Unit attrition by nearly nine percentage points. The enlisted attrition rate in fiscal year 2001 was 28.8 percent.

The Army Reserve is also experiencing a 4,200 company grade officer shortfall. The active Army has a shortfall of these junior leaders, too. Retention goals focused commanders and first line leaders on junior officers, as well. Our retention program seeks to reduce attrition, thereby improving readiness and reducing recruiting missions.

The Army Reserve will successfully accomplish its 41,700 recruiting mission for fiscal year 2002 while achieving the Department of the Army and Department of Defense quality marks. Next year our enlisted recruiting mission will stabilize at about 42,000 due to the success of our retention efforts. The accomplishment of the recruiting mission will demand a large investment in time on the part of our commander's, our retention NCOs, and our recruiters as they are personally involved in attracting the young people in their communities to their units.

However, the same environmental pressures that make non-prior service recruiting and retention difficult affect prior service accessions. With the end of the defense drawdown we have seen a corresponding decrease in the available prior service market as reflected in the IRR. This has meant greater training costs, due to the increased reliance on the non-prior service market, and an overall loss of the knowledge and experience that comes when NCO leadership fails to transition to the Army Reserve. Consequently, the Army Reserve's future ability to recruit and retain quality soldiers will be critically dependent on maintaining competitive compensation and benefits.

Additionally, the young people of today need to be made aware of the unique opportunities available in the different military components. The best way to get this message out is to advertise through the mass media. Special attention needs to be placed on the recruiting budget, especially for advertising, to meet our requirements in the next several years. Funding our critical advertising needs is imperative if we are to be honestly expected to meet our recruiting goals. Your continued support of our efforts to recruit and retain quality soldiers remains essential if we are to be successful.

READINESS

Our readiness on September 10, 2001—the highest measured readiness in Army Reserve history—enabled us to respond in the decisive and rapid manner that we did on September 11 and in the days, weeks and months that followed.

The Army Reserve's readiness posture continues to improve. As of January 2002, 74 percent of our units meet deployment standards, a 6 percent increase over the previous two years. It is imperative that we preserve our readiness, personnel and equipment to continue to meet our operational requirements.

Our Force Support Package (FSP) units, those which are scheduled for early mobilization, average 85 percent deployable readiness. With your assistance, the Army Reserve continues to achieve a high number of units rated as deployable, despite having the lowest level of full-time support of any reserve component. Today's readiness levels are a testimony to the Army Reserve's ability to adapt and succeed in our assigned mission. Limited resources require the Army Reserve to manage risks in an attempt to achieve the proper balance between current and future readiness. In the past, the Army worked to protect near-term readiness at the cost of modernization and infrastructure. During the past couple of years, Army Transformation sought to leverage the benefits obtained through science and technology, recapitalization, and similar investment opportunities.

In regards to medical and dental readiness, the picture for the Army Reserve continues to improve. The Federal Strategic Health Alliance (FEDS-HEAL) program is filling in the gaps and allowing commanders to provide mandated medical and dental readiness services. The provider network continues to grow. A robust dental network of more than 15,000 was recently added to the provider panel and a further expansion with academic dental clinics (dental schools, hygienist schools) is pending. During Calendar Year 2001, more than 18,100 requests for services were submitted, most during the last quarter. Most were for physical examinations and other services (dental and immunizations). More than 1,100 were for dental screening and treatment. In January 2002, over 4,000 requests were submitted.

The 2001 Quadrennial Defense Review supports maintaining force structure while balancing competing requirements such as modernization, recapitalization, and operations and maintenance. Equipment readiness demands the right kinds of equipment, fully operational, properly maintained, mission capable, in the hands of the forces that will employ them. Commensurate with equipment readiness considerations is the Army Reserve's personnel readiness goal of improving Duty Military Occupational Skill Qualification (DMOSQ). The Army Chief of Staff set a goal for the Reserve Components to achieve and sustain an 85 percent DMOSQ and Professional Development Education (PDE) qualification level by fiscal year 2005. Recent increases in funding have raised both DMOSQ and PDE qualification rates by several percentage points. The Army Reserve is projecting that DMOSQ rates will climb to 85 percent by fiscal year 2005 and NCOES qualification rates will achieve 85 percent by fiscal year 2004 due to programmed increases to our funding level. We also continue to aggressively manage and monitor soldiers attending DMOSQ to achieve this goal. Your continued support of our mutual goal to have a trained and ready force remains essential to our success.

RELEVANCE

The relevance of the Army Reserve is unquestioned today. The capabilities that we possess are in great demand.

For example, we have about 120 Military Police units of various sizes and types, from Criminal Investigation Division detachments to Internment and Resettlement Brigades. We have now called up about half of these units. They are on duty now: serving in the Balkans, engaged in Homeland Defense missions and conducting operations in other parts of the world. There are more than 200 Army Reserve Military Police soldiers on duty at Camp X-Ray in Cuba or otherwise participating in the detainee operation. Those MP units not yet employed are leaning forward. Those units know how critical their capabilities are and expect they, too, will be called up.

Our other commitments did not cease when the war on terrorism began. We have nearly 800 Reserve soldiers supporting contingency operations in Operations Joint Forge and Joint Guardian (Bosnia and Kosovo) in the European Theater. Since 1995, more than 17,000 Army Reservists have participated in our operations in Bosnia and Kosovo or in support operations in neighboring countries.

In the last five years, we have had more than 27,400 Army Reservists supporting operations worldwide. Overall, in fiscal year 2001, the Army Reserve conducted more than 100,000 soldier deployments to 64 countries operationally and for exercises. We provided a total of 3.7 million man days in the United States and abroad. Our deployments abroad ranged from Central America and Southwest Asia to places like East Timor and now Afghanistan and Cuba.

Furthermore, the Army Reserve did this at the same time that it achieved its highest readiness status in history. Much of this achievement was the direct result of your support to improve our full-time manning and provide the funding required for our operating tempo and training requirements.

Worldwide deployments are nothing new for the soldiers of the Army Reserve. The Army's reliance on the Army Reserve's capabilities, especially in such areas as civil affairs, medical, engineering, logistics, transportation, military police, postal, public affairs and psychological operations, will ensure that wherever the Army deploys, so, too will the Army Reserve.

When not working alongside their active Army, Army National Guard and sister services, Army Reserve soldiers honed their always-in-demand skills on exercises.

Two examples of these were the annual TRANSLOTS exercise in June 2001 and ROVING SANDS 2001. In the first exercise, more than 2,200 soldiers from 27 units used landing craft to unload equipment and truck supplies to the "front lines." More than half of the units for TRANSLOTS came from the Army Reserve, to include the executive agent for the exercise, the 143rd Transportation Command from Orlando, Fla. More than 2,600 Army Reservists from 51 units were significantly involved in the joint theater air and missile defense exercise, ROVING SANDS.

The Army Reserve provides contributory support to the Army on a daily basis. This support reduces operational costs, increases efficiency and provides excellent production-based training opportunities. Our soldiers benefit from this contributory support by performing challenging, time-sensitive missions. Soldiers do not like make-work missions. They want to do something meaningful something which has a benefit and a purpose, something which offers a challenge. We have moved from a training model of "train, then do" to "train and do." Army Reserve soldiers rise to that challenge constantly.

Army Reserve Materiel Management Commands conduct year-round resupply operations for active Army units in Southwest Asia and the National Training Center in California. Army Reserve intelligence centers at Fort Gillem, GA, and Fort Sheridan, IL, provide strategic analysis for the Army on a full-time basis. This seamless support of real-world missions clearly demonstrates how effectively Army Reserve units integrate into the Army.

Contributory support helps the Army focus its active forces on their primary warfighting tasks. Another way is in the Army Reserve's core competency of training, enabling the Army to return soldiers to combat divisions. Army Reserve soldiers are fully integrated into every aspect of training, providing quality training to soldiers and units from all components.

Army Reserve Institutional Training Divisions provide skill, leadership, and professional development training. They also provide basic combat and one station unit training at Army Training Centers. Army Reserve Training Support Divisions provide collective lanes and simulation training to units of all three Army components.

The Army Reserve Readiness Training Center (ARRTC) at Fort McCoy, WI, which provides a myriad of training support to all components of The Army, is developing a well-earned reputation as a center of training innovation. Army Reserve, as well as Army National Guard and Active Component soldiers, can now graduate from a Military Occupational Skill (MOS) or a functional course by taking an interactive, distance-learning course, developed and taught by ARRTC.

The ARRTC has successfully piloted one distance-learning or DL course in the summer of 2000 which was broadcast to 12 locations, qualifying Army Reserve and Army National Guard soldiers in their MOS. I envision that in an age of evolving technology, we will soon have connectivity to all of our locations, thus enhancing the interoperability between active and reserve component units worldwide by reinforcing the premise that as we train together, we fight together, all as part of one Army team.

Your continued interest and support of the Army National Guard Distributed Learning project and its expansion to include the Army Reserve will greatly enhance the individual and collective training readiness of The Army.

The Army Reserve is well placed to benefit The Army in finding innovative ways to do business because of the civilian acquired skills of our soldiers. Our soldiers, many of whom are corporate and community leaders, bring their civilian acquired skills, talents and experience with them. This has been true from the beginning of the Army Reserve: the very first Reservists were civilian doctors who could be called up in time of emergency.

Civilian technological advances are taking place at a dramatic pace. Army Reserve soldiers who take part in these advances in their civilian jobs are ideally placed to bring them into the Army for its benefit.

To better capitalize on the "citizen" part of "citizen-soldier", the Army Reserve is collecting information on the civilian skills of its soldiers, skills acquired outside the Army and thus perhaps unknown to it.

Army Reservists can now input those skills into the Civilian Acquired Skills Database (CASDB) at the Army Reserve Personnel Command (AR-PERSCOM). By going to an AR-PERSCOM website, soldiers can enter those skills they obtained from civilian training or work experience. Soldiers who volunteer to register their civilian acquired skills are afforded the opportunity to serve in duties outside of their traditional branch or MOS. CASDB gives commanders at all levels the means to identify those soldiers with specific skills to meet special needs. Those skills and talents can then be used to benefit the Army Reserve, The Army and the nation.

Using our skills in the information area is one part of our strategy for assisting The Army to become a more strategically deployable and responsive force. By leveraging advanced communications and information technology, we can conduct split-based support operations. Army Reserve units can operate from home station to accomplish missions in forward locations utilizing this technology, thus reducing lift requirements. We are evolving our support organizations to build a reach-back capability for logistics, intelligence, and training support, thereby reducing the deployed logistical footprint.

We will also reduce lift requirements by strategically stationing Army Reserve equipment and forces, capitalizing on our forward-stationed Reserve units and soldiers, such as the 7th Army Reserve Command in Europe and the 9th Regional Support Command in the Pacific.

Since Army Reserve power projection units have key roles in moving the Army overseas and receiving deployed units once they arrive, it is vital we get our own equipment—that not already strategically positioned—overseas quickly.

The Strategic Storage Site (SSS) is such an initiative to better facilitate deployment response times. The program is designed to place select Army Reserve combat support/combat service support equipment into strategically located controlled humidity storage facilities within the continental United States and outside the continental United States. This program improves responsiveness and materiel readiness, and extends the life of the legacy equipment at reduced cost. About 37 percent of a typical Army Reserve unit's equipment that is not required for peacetime training can be positioned in strategic storage to be available for contingencies. The initial Strategic Storage Site is a 150,000 square foot facility at Gulfport, MS, which was resourced in the fiscal year 2002 appropriations bill. The Army Reserve is appreciative of this congressional support and is examining another six locations strategically located to support the Reserve units. Sites inside the continental United States will be established near large metropolitan areas with consideration to location and types of equipment, such as engineer, medical, signal and transportation, needed to support homeland defense and disaster relief.

Consequence Management

Our presence throughout America and our commitment to America, combined with the civilian-acquired skills of our soldiers and the capabilities of our units, are all key factors that enhance our abilities to manage the consequences of a domestic terrorist event. We have been preparing and training ourselves, our Army National Guard partners and other federal, state and local agencies to effectively respond to this mission long before September 11.

For example, four months before the terrorist attacks on America, Army Reserve units were key participants in two major back-to-back Weapons of Mass Destruction (WMD) response training exercises, Operation Dangerous Wind 2001 and Consequence Island 2001. The first exercise was held May 7–17 at the Regional Training Site—Medical at Fort Gordon, GA. Following immediately was Consequence Island 2001, held May 18–26 at the Euripedes Rubio Army Reserve Center in San Juan, Puerto Rico.

These exercises allowed federal, state and local agencies to hone the coordination and other skills necessary to respond to a WMD-related emergency. Although the Army Reserve is not a “first responder” in the case of a WMD incident or natural disaster, we know that our Combat Support and Combat Service Support capabilities are the very capabilities that are much in demand by both civil authorities and by The Army. A listing of the units that participated in these two exercises gives an indication of some—but not all—of the capabilities we have to provide: 883rd Medical Company (Combat Stress), Roslindale, MA, 1982nd Medical Detachment (Surgical), Niagara Falls, NY, 1883rd Medical Team (Infectious Disease), Chamblee, GA, 427th Medical Logistics Battalion, Forest Park, GA, 369th Combat Support Hospital, Puerto Nuevo, PR, 407th Medical Company (Ground Ambulance), Fort Buchanan, PR, 597th Quartermaster Company (Field Services), Bayamon, PR, 346th Transportation Battalion, Ceiba, PR, and the 311th Quartermaster Company (Mortuary Affairs), Aquadilla, PR.

The 311th Quartermaster Company that trained for a domestic terrorist event during Exercise Consequence Island 2001 in May was the same company that I discussed earlier, the one that deployed to the Pentagon as part of Operation Noble Eagle in September.

The Army Reserve is ideally placed for civil support. Our units are stationed in Hometown, U.S.A., with our soldiers located in 1,200 Army Reserve Centers in towns and cities all across America, putting the Army's footprint in every part of our country. They are part of America's communities because those communities are their communities. Our soldiers are the local doctors, nurses, teachers, lawyers, police officers, Little League coaches and soccer moms and dads, who enable the Army Reserve to respond with a multi-faceted capability. We provide key emergency preparedness leaders. Army Reserve Civil Affairs units contain 97 percent of the Army's expertise to rebuild shattered infrastructure—social, civil and physical. Military Police units can shelter up to 56,000 displaced persons.

The Army Reserve, ready to respond to a chemical incident, contains 63 percent of the Army's chemical capability. Today, the Army Reserve has the largest chemical decontamination capability within DOD. The Army Reserve is currently training

100 out of a total of 127 decontamination platoons and 9 of the 15 reconnaissance platoons called for in Defense Reform Initiative Directive 25. One of the Army's two Biological Integrated Detection System (BIDS) companies is in the Army Reserve. That unit, the 310th BIDS Company, has already been activated for participation in Operation Enduring Freedom. The requirement for increased biological detection capabilities has resulted in the proposal to create additional Army Reserve BIDS companies, which will stand up over the next several years. One of these, the 375th BIDS Company, is a high demand/low density unit that requires state-of-the-art BIDS equipment. This unit, which officially activates in September 2003, will be in strong demand for both defending the homeland and protecting U.S. forces against biological attacks in combat theaters.

Residing within the Army Reserve are 68 percent of the Army's medical assets. Our medical professionals are working closely in DOD and among the interagency community to leverage our capabilities in Weapons of Mass Destruction (WMD) Consequence Management. The Army Reserve contains 50 percent of resourced Mortuary Affairs units, as well as Aviation, Logistics, Engineer and Signal units, which are essential capabilities for WMD Consequence Management. The Army Reserve stands ready to support WMD Consequence Management operations in combat, in the homeland or overseas in support of our coalition partners.

The challenge of defending America's Homeland continues to grow. Although the Army Reserve is not a "first responder" organization, it is ready to provide assistance to support and sustain those organizations that do respond first. The Civil Support mission requires capabilities resident in the Army Reserve.

Civil Support and WMD operations are combat support and combat service support intensive. Army Reserve core capabilities enable the Army to provide rapid support that complements the Federal response that sustains local responders.

As a community-based force, the Army Reserve is—by definition—America's people. We are a reflection of the values and traditions embodied in our culture. Those values and traditions are what make the Army Reserve, the National Guard and the Army strong, able to meet the Nation's missions. The men and women of the Army Reserve, all of whom volunteered to be "twice the citizen", have taken on the sacrifices to serve the Nation. In their hands is the future of the Army Reserve.

Information Operations

Information Operations (IO) ensures that our leaders have the information they need, when they need it, in a form they can use to win the fight and protect America's vital interests. We use IO to defend our own information and information systems while disrupting those of the enemy.

These are not new concepts. The Army has long understood the importance of controlling the decision cycle. Units with IO capabilities that intercept or interrupt communications, that collect and analyze information about the battlefield and that influence the attitudes and will of the opposition, are a legacy in the Army Reserve structure. The Army Reserve provides a wide variety of experts who accomplish missions, such as Civil Affairs, Psychological Operations, Public Affairs, Military Intelligence and Signal. The Land Information Warfare Activity (LIWA), the National Ground Intelligence Center and the Joint Reserve Intelligence Program now are utilizing Army Reserve units, facilities and personnel to conduct Information Operations.

The Army Reserve is also building additional capability to reinforce Army information and LIWA operations. The Army Reserve Land Information Warfare Enhancement Center directly expands the scope and sophistication of LIWA information capabilities. When complete, one fourth of LIWA manpower will be Army Reserve soldiers. The Defense Information Systems Agency has created a 22-member Joint Web Risk Assessment Cell. This cell will monitor and evaluate Department of Defense web sites to ensure no one compromises national security by revealing sensitive defense information. Five members of this cell, whose civilian skills are particularly suited to this hard skill requirement, are Drilling Individual Mobilization Augmentees of the Army Reserve.

Further, the Army Reserve is actively carving out its niche in this evolving area of cyber warfare by creating the Reserve Information Operations Structure. This organization was activated on October 16, 2001, to provide contributory support to the Army's Computer Network Defense and information assurance efforts. Army Reserve Information Operation Centers (IOCs) identify and respond to viruses and intruders in Army computer networks. Currently, Army Reserve IOCs are located in the National Capital Region, Massachusetts, Pennsylvania, California, and Texas, and satellite units can be found in over a dozen large cities. Information Operations support The Army's portion of the Defense Information Infrastructure to ensure the availability, integrity and confidentiality of information systems.

Counter Drug Operations

The Army Reserve provides intelligence, linguistic, transportation, maintenance, and engineer support to drug law enforcement agencies and unified commanders-in-chief in an ongoing program in effect since 1989. The Army Reserve supports local, state and federal law enforcement agencies in operations designed to reduce the flow of illegal drugs both within and outside of American borders. Feedback from High Intensity Drug Trafficking Area directors was overwhelmingly positive. The Army Reserve also participates with the Drug Demand Reduction Program to help reduce the demand for illegal drugs and alcohol abuse through education and through deterrence by randomly testing our soldiers on a regular basis. We received a program funding increase to raise our testing level to more closely match the Active Component testing level. The increased funding also allows the retention of those civilians most critical to program administration.

RESOURCING

The Army Reserve greatly appreciates your support in providing resources to enhance our readiness and relevance; however, we still face several challenges. At the outset, I would like to emphasize that many of our resourcing challenges are a consequence of our being victims of our own achievement. Successfully executed operations lead to additional operations, thus increasing operating tempo and personnel tempo costs. This places stress on personnel, equipment and facilities with bills that ultimately must be paid. Both people and equipment wear out faster under frequent use. For example, units deployed in Somalia took 10 months to restore their equipment to predeployment levels. Multiple, concurrent and sequential commitments erode warfighting readiness.

Full-Time Support

An increase in Full-Time Support (FTS)—Active Guard/Reserve (AGR) and Military Technicians (MILTECHs)—is essential to improve Army Reserve readiness. Given the competition for resources, one of the greatest challenges facing the Army Reserve today is obtaining the FTS authorizations and funding to support over 2,300 Army Reserve units in day-to-day operations. FTS levels directly impact the readiness of Army Reserve units by providing the additional training, command and control, technical, functional, and military expertise required to transition from a peacetime to a wartime posture. The FTS staff performs all the day-to-day support functions for the unit. When FTS levels drop, this affects readiness levels.

The Army has identified critical thresholds for FTS, based on the minimum essential levels to prepare and maintain units to meet deployment standards identified in Defense Plans. The fiscal year 2002 transformation of The Army's go to war structure included eliminating approximately 234 Title XI Active Army authorizations from Army Reserve units. As a coordinated "Army" decision, the Army Reserve AGR end strength was increased by 182 in fiscal year 2003 to accommodate the loss of Title XI soldiers. The revised ramp end strength is 16,265. The goal is to restore the loss of Active Army end strength from Army Reserve units with AGRs while continuing to work towards improving the overall unit readiness with increased full-time support.

Current resource levels have allowed us to reduce past FTS shortfalls by almost a thousand, both AGRs and MILTECHs. The Army Reserve utilized the 300 additional AGRs authorized in fiscal year 2002 to restore Title XI soldiers that remained unfunded.

Recruiting and Retention Bonus Programs and Increased Army Reserve Advertising

Recruiting resources pay dividends beyond the year of execution. For example, Army Reserve advertising in fiscal year 2002 influences potential recruits making enlistment decisions in fiscal year 2003–2005. Thus, we must look at recruiting resources over time and not limit consideration to the current or next fiscal year.

Resourcing the Army Reserve sufficiently to achieve its average recruiting workload over the next several years enables the Army Reserve to achieve its end strength. A steady, even flow of resources ensures a better recruiting environment.

Media advertising costs continue to increase. Television is the most effective at targeting desired Army audiences because it dramatically illustrates the Army experience through sight, sound, and motion. Successfully meeting the recruiting mission, which we did in fiscal years 2000 and 2001, following several years of failure, comes from many complex and rapidly changing factors. The recruiting advertising program, however, is one of the few factors that we can control.

SUMMARY

As we approach the eight-month mark since September 11, the men and women of the Army Reserve are serving proudly and performing their duties in the manner expected, professionally and skillfully. They are fully backed by their families, by their employers, by their comrades at home and by a united nation. They have leaders who understand their needs and who are working to meet those needs and to prepare for the future.

The citizen-soldiers of the Army Reserve, confronted with attacks to Americans on American soil for the first time in our lives, have answered the nation's call and are adding a new chapter to our 94-year history of service. It is a great chapter but it is not yet completed. It may take a long time to finish but we know the part we have in it.

Our part was clearly stated by the Commander-in-Chief when he signed the proclamation for National Employer Support of the Guard and Reserve Week 2001 on November 9:

"We're fighting a war on many fronts. It's a diplomatic war, it's a financial war. The military is performing brilliantly in Afghanistan. And we could not win the war without the help of the Guard and the Reservists."

The citizen-soldiers of the Army Reserve are proud of their country and of the role they play in its defense and in winning the war forced upon us. As our citizen-soldiers have always done, they have come forward, without hesitation, at a moment of crisis and danger to our country. Although today's Army Reservist is more ready, better trained, more adaptable and more relevant than ever before, we readily admit that we cannot surpass the love of country and willingness to sacrifice of all those who have served before us. Those great American citizen-soldiers passed to those who serve today a tremendous responsibility—to uphold their legacy of defending this nation, its citizens and its freedoms, no matter what it costs. We proudly and confidently accept that responsibility.

We are grateful to the Congress and the Nation for supporting the Army Reserve and our most valuable resource, our soldiers—the sons and daughters of America. United we stand—united we will win.

Thank you.

ON TARGET, ONLINE—STRATEGIC FUNDING PRIORITIES FOR THE NAVAL RESERVE

FOREWORD

NAVAL RESERVE ASSOCIATION

THE ASSOCIATION VOICE OF THE NAVAL RESERVE

The Naval Reserve is responding to a recall of Reservists unprecedented since the Korean War. These Naval Reservists are supporting the mission needs of our Navy and joint operations around the globe. It has often been said by the Naval Leadership that the Navy cannot perform its mission without the Naval Reserve. In addition to personnel readiness, a critical part of this support involves units that operate equipment and systems that are compatible and operationally relevant.

If Reserve forces in general, and the Naval Reserve in particular, are to be immediately effective and totally integrated with the operating forces, they must have first-line, compatible, and modern equipment. They must be trained on and have utilized these systems and equipment "prior to the fight." It is well recognized that equipping Reserve forces with older, noncompatible equipment and systems results in increased training, logistics and supply costs. In the end, this does not support optimal readiness, utilization, or war-fighting capability of either the Active Duty Fleet or Reserve forces.

There has been an alarming trend over the past few years of significantly decreasing funds in the Defense budgets and in the Navy's budget in particular. As a result, the availability of dollars for Naval Reserve equipment and systems has faded. This trend must be reversed if the Department of Defense and the Navy are serious about keeping a front-line, well-equipped, fully-integrated and compatible Naval Reserve Force to defend our nation.

Appropriately "equipping the Naval Reserve" is at the top of the priority list for the Naval Reserve Association. As a result, we are proud to present this publication that outlines the most pressing equipment and system needs of the Naval Reserve. This publication will be distributed to every member of Congress in the hopes that they will consider this data and address these needs in upcoming and future Defense budgets.

Forwarded by the 23,000-plus members of the Naval Reserve Association residing in all 50 States and territories of the United States.

The Naval Reserve Association—The Premier Professional Organization for Naval Reserve Officers, Committed to Supporting a Strong Navy and National Defense, While Providing Outstanding Service to Its Members.

OVERVIEW

DEPARTMENT OF THE NAVY,
OFFICE OF THE CHIEF OF NAVAL OPERATIONS,
Washington, DC.

Naval Reserve Association,
*1619 King Street,
Alexandria, VA 22314.*

Our primary mission—before and after September 11—has been to support the Navy and Marine Corps team throughout the full range of operations, from peace to war. At this time, it is war. Fortunately, the Naval Reserve is well trained, ready and dedicated to achieving the nation's objectives. But many of our Naval Reservists are trying to do their jobs with aging, inadequate equipment.

During the early months of Operations Noble Eagle and Enduring Freedom, we have mobilized more than 10,000 skilled Reservists and deployed Naval Reserve personnel and equipment around the world. Yet, as we progress with these mobilizations and deployments, crucial operational and communication issues persist.

For instance, our aircraft and our information technology tools fall far short of our nation's capabilities and requirements. Naval Reserve aviators are providing almost 100 percent of the Navy's intra-theater logistics support—but are doing so with C-9 aircraft that are more than 30 years old, require expensive maintenance and no longer meet international noise abatement requirements. New C-40A Clippers are gradually replacing them, but the pace of procurement is glacial. Rebuilding the logistics aircraft fleet is my number one unfunded priority.

The Naval Reserve Force that has long focused on interoperability with the Fleet and carrying out active duty missions now finds itself battling with outdated systems. It is time to remedy budget shortfalls, upgrade essential hardware and aged facilities, and strengthen our lines of communication. Thus, this booklet describes our specific unfunded priorities in aircraft, information technology and military construction.

Committing to these improvements will improve our compatibility with the active duty Fleet, reduce long-term costs and most importantly, contribute to the safety, well-being and readiness of our most valuable assets—our Sailors.

JOHN B. TOTUSHEK,
Vice Admiral, U.S. Naval Reserve, Chief of Naval Reserve.

SUPPORTING THE FLEET FROM THE AIR AND SEA: MEETING STRATEGIC FUNDING PRIORITIES

From Naval Air Station/Joint Reserve Base Fort Worth, TX, Naval Reserve Fleet Logistics Support Squadron 59 is flying four of the newest class of logistics aircraft in the Navy's Fleet: the C-40A Clipper. These include the two newest Clippers, named "Spirit of the Pentagon" and "Spirit of New York City," which are ferrying Sailors and equipment to the Fleet worldwide in support of the War on Terror.

The C-40A Clippers, introduced to the Naval Reserve in April 2001, fly higher, faster, farther, and can carry a greater load than the aging C-9 Skytrain, long the airlift workhorse of the Navy. As the military version of the Boeing 737, the Clipper can be configured to fly either 121 passengers or eight pallets of cargo totaling 80,000 pounds. In its "combi" role, the Clipper can be configured to accommodate up to three cargo pallets plus 70 passengers on its main deck. The pilots and crewmembers of VR-59 give the Clipper an enthusiastic thumbs up, citing the aircraft's lower maintenance requirements, greater fuel efficiency, longer "legs," and outstanding versatility.

C-40A Aircraft Procurement Leads Naval Air Reserve Equipment Priority

The introduction of the C-40A into the U.S. Naval Reserve—and its continued production—is vital to the nation's military readiness. Our seven Naval Air Reserve squadrons provide 100 percent of worldwide, in-theater medium and heavy airlift for the Fleet. The Navy could not meet its global operational commitments without the Naval Reserve's airlift capabilities.

Without the C-40A, the Navy could soon lose its ability to conduct airlift operations in European and Western Pacific airspace due to noise abatement requirements now being phased in. The aging fleet of C-9 Skytrains, nearly a quarter of which are more than 30 years old, does not meet these requirements. Engine and avionics upgrades not only would be costly but also would degrade the C-9's performance to an unacceptable level. Clearly, the answer is to replace the C-9's with C-40A's as quickly as possible. The Naval Reserve has taken delivery of its first four C-40A's and currently has contracts for two more. As a side note, the Naval Aviation Museum in Pensacola, FL, in February 2002 accepted delivery of a recently retired Naval Reserve C-9 as a "relic" with more than 54,000 airframe hours—the highest-time aircraft in the museum.

To maintain the pace of C-40A acquisition, the Naval Reserve needs an additional \$186 million appropriated in fiscal year 2003 for three additional Naval Reserve C-40A's and associated support equipment. Eventually, the entire fleet of C-9's must be replaced.

Maritime Patrol Aircraft Need Upgrades for Modernization

Seven Naval Reserve maritime patrol squadrons make up almost 40 percent of the Navy's maritime patrol fleet and conduct surveillance, counterdrug, anti-surface warfare, and anti-submarine warfare operations. Reserve patrol squadrons provide three aircraft and crews deployed overseas at all times to support the deployment requirements of the Navy. The Naval Reserve's P-3C Orion aircraft need a number of upgrades to achieve parity with their active duty counterparts.

Half of the Naval Reserve's P-3's still use an acoustical processing system first developed more than 30 years ago, which degrades the patrol aircraft's anti-submarine warfare performance and capabilities. Transitioning from antiquated analog technology to digital processing technology is essential for these aircraft to perform successfully their missions. Lockheed-Martin's Block Modification Upgrade Program (BMUP) will replace these obsolete avionics components. In fiscal year 1997, Congress authorized funding for eight BMUP's for Naval Reserve P-3's. An additional \$33 million is needed in fiscal year 2003 for three more BMUP's.

The Aircraft Improvement Program (AIP), an off-the-shelf upgrade developed by Lockheed Martin, is needed to enhance the P-3's ability to retrieve and/or to send information via satellite, ground station, or surface ship. The program, also, enhances the P-3's ability to classify properly targets at long range and improves the aircraft's weapons delivery capabilities. Funding has been authorized for only two of the 42 upgrades needed by the Naval Reserve, and \$28 million is needed to purchase two more upgrade kits in fiscal year 2003.

Strike Fighter Upgrades to Provide Fleet Compatibility

Three of four Naval Reserve F/A-18A Hornet squadrons provide strike fighter support to the Fleet. The Navy's only tactical air platform originally designed for multiple missions, the F/A-18 conducts carrier-based strikes, provides close air support, and carries out air combat operations. In addition to providing fleet air defense and force projection, the Hornet is, also, capable of deploying sea mines. The Naval Reserve's fourth Hornet squadron provides adversary training to the Fleet, simulating enemy aircraft tactics and giving Navy aircrews the kind of real-world training that simulators can't provide.

The three strike fighter squadrons need to be retrofitted with Boeing's Engineering Change Proposal 560R1, a software and hardware upgrade kit that will give the F/A-18A precision-guided munitions capability. In the 1991 Persian Gulf War, about nine percent of the weapons used were precision guided; by early 2002, in Operation Enduring Freedom in Afghanistan, the figure was up to 60 percent.

Without this upgrade, which affects the mission computers, radar, armament controls, system wiring and control stick, Naval Reserve F/A-18's are not compatible with the rest of the Navy's carrier-based strike fighters. Though current funding has supported the purchase of kits for two F/A-18 squadrons, an additional \$36.6 million in funding is needed in fiscal year 2003 to upgrade the third squadron.

C-130T Avionics Modernization to Standardize Aircraft

The C-130T provides the Navy with the capability to move heavy or oversize cargo in support of forward-deployed forces around the world. A typical equipment loadout could include aircraft engines, helicopter rotor blades, large ship repair parts, missiles, or personnel. The Naval Reserve's current inventory of 18 aircraft operates from New Orleans, LA; Point Mugu, CA; Washington, DC; and Brunswick, ME. One aircraft is now forward-deployed to Bahrain in support of Operation Enduring Freedom.

The navigation, communications, and flight equipment on these aircraft are based on 1970's technology. In addition to being obsolete in today's digital environment, the gear is expensive and labor intensive to maintain.

The Avionics Modernization Program will upgrade and standardize the cockpit configurations for the C-130T's. It will replace 17 separate obsolete avionics systems on each aircraft and will satisfy international flight requirements for operating in global airspace. Boeing has been awarded a multibillion dollar contract to upgrade nearly 500 U.S. Air Force C-130's, and the Naval Reserve could piggyback on this contract to acquire the improved components at reduced cost should funding be appropriated. The estimated procurement cost to begin the upgrade process is \$1.9 million, with a total of \$100 million needed to modify all 18 aircraft.

Adversary Aircraft Provide Real-World Training, but Require Upgrades

The Naval Reserve provides nearly 100 percent of the Navy's adversary training. In addition to utilizing the F/A-18A Hornet for adversary training, the Naval Reserve, also, employs the F-5 Tiger to simulate potential enemy aircraft. The F-5 simulates older threat fighters such as the MiG-21 Fishbed, which is flown by the air forces of dozens of Third World countries. The F/A-18A simulates newer threat fighters such as the MiG-29 Fulcrum and the Su-27 Flanker, used by most of the former Soviet-bloc nations and such nations as Iran, Iraq, and China. To improve the adversary training provided by the F-5's, its 25-year-old avionics package needs to be replaced with Northrop Grumman's APG-66 Radar. Not only will these upgrades more accurately simulate potential enemy aircraft, but also the new radar will enhance safety. Avionics upgrades for 12 F-5's will cost \$47 million in fiscal year 2003, and an additional \$3.73 million is needed to install the APG-66 Radar on three aircraft.

Another necessary avionics upgrade for the F-5 is the installation of an integrated Global Positioning System (GPS) in each aircraft. Congress has mandated that this upgrade—a navigation safety issue—be installed by 2005, but no funding has been put in place for these aircraft. Procurement of GPS for the F-5 will cost \$8.1 million.

SH-60B Helicopter Upgrades Needed

Versatile SH-60B Seahawk helicopters are designed for anti-submarine and anti-surface unit warfare. While the Naval Reserve's helicopters are among the oldest in the Fleet, three newer versions of the SH-60B were accepted in fiscal year 2001, and three more will be added to the Naval Reserve in fiscal year 2002. A new Reserve helicopter squadron (HSL-60) stood up in Mayport, FL, in April 2001. While this is good news, even these "new" helicopters are relatively old and need upgrades to provide the best support to the Fleet.

Specifically, the Naval Reserve requires four Forward Looking Infrared (FLIR) kits. These kits will increase night detection capabilities by five-to-eight times and will improve the ability to detect, monitor, and track targets covertly at night and in low visibility. Naval Reserve aviators will be better able to target suspected drug traffickers operating small, fast boats that are otherwise extremely difficult to detect with conventional radar, as well as performing Fleet-critical anti-surface warfare missions. No funding has been authorized to cover the \$5.6 million procurement. A total of \$7 million is needed in fiscal year 2003 to purchase and install the four FLIR kits.

Littoral Surveillance System

The Littoral Surveillance System (LSS) began in 1997 as a Naval Reserve initiative to provide improved surveillance information to battlefield commanders in real or near-real time. Information (in the form of imagery, signal intelligence, electronic intelligence, and human intelligence) is presented in a single, comprehensive, coordinated display. This capability emerged from the existing Mobile Inshore Undersea Warfare mission of providing similar information as part of coastal surveillance operations.

Later in 2002, LSS will begin its initial operational training in coastal areas throughout the world. The system uses the latest computerized technology to gather, refine, and process information from a wide variety of sources in the air, on the surface, and under the surface of coastal waters. It can communicate with many existing command and control systems used by the Department of Defense and can be adapted to those developed in the future. The system deploys on a series of highly mobile, heavy-duty HUMVEE's.

LSS is today's information system for tomorrow's battlefield. To maintain the pace of development of the Littoral Surveillance System for full deployment, the Naval Reserve needs additional funding of \$30 million in fiscal year 2003.

Naval Coastal Warfare

Naval Coastal Warfare Reserve units responded to several crises during 2001. Immediately following the terrorist attack on the guided missile destroyer *Cole*, units mobilized and began to provide force protection in the Arabian Gulf. Following the attacks on Sept. 11, these units shifted into high gear.

Today, 17 Reserve units are deployed around the globe and at home, providing vital antiterrorism and force-protection capabilities. The demand for these units is high.

Since September, a \$132 million equipment procurement and upgrade package was submitted for these units as part of the President's Defense Emergency Response Fund. Ultimately, \$46 million was appropriated. To complete readiness upgrades and to buy needed equipment, \$86 million is required in fiscal year 2003 to bring these units to a readiness level appropriate for their current missions.

Summary

The delivery of the first four C-40A Clippers to the Naval Reserve is a tremendous success story, but it is only the first step in modernizing the Naval Reserve's air and surface assets. Every day, the men and women of the Naval Reserve are supporting the Fleet by providing antiterrorism and force protection, logistics support, strike fighter support, adversary training, maritime patrol, search and rescue, and counter-narcotics operations. By investing in much-needed upgrades, the Naval Reserve can achieve equivalence with their Active Duty counterparts, while providing support in a safe, efficient manner for many years to come.

UPGRADING INFORMATION TECHNOLOGY AND SYSTEMS

In autumn 2001, Naval Air Facility Washington became the first Navy command to roll out the long anticipated Navy-Marine Corps Intranet (NMCI), marking the trend away from numerous isolated networks to a single Navy network. The immediate beneficiaries were more than 1,400 drilling Naval Reservists and the personnel of five squadrons, more than 2,000 people using more than 600 computers.

These Reservists are now doing their work using high-performance computers on a high-speed network that has much-improved security. Any unresolved issues are immediately addressed through a centralized help center and network operations center located in Norfolk, VA.

A tenant on Andrews Air Force Base, Naval Air Facility Washington includes both active Navy and Naval Reserve commands. In preparing to implement NMCI, the Naval Air Facility had to work with 45 separate computer systems, eliminating duplication while taking a strategic approach to upgrading hardware and software. As such, the test facility represents a microcosm of the issues faced in overhauling the Navy and Naval Reserve's aging and disparate IT infrastructure.

The Navy is using the lessons learned by the Reservists and their Active Duty counterparts at the Air Facility to implement NMCI across the rest of the Navy. In addition, other federal organizations are studying the results closely, as Congress has indicated its desire that all federal agencies develop similar agency-wide intranets.

Requirements of the Fleet Driving IT Upgrades

Providing support to the Active Duty Fleet is one of the driving forces behind the push for IT upgrades in the Naval Reserve. The Navy-Marine Corps Intranet will replace the Navy's numerous shore-based networks and equip the Department of the Navy with access, interoperability, and security for the Navy's information and communications by providing voice, video, and data services to Navy and Marine Corps personnel. The five-year contract for NMCI was awarded in October 2000 to a consortium of companies led by Electronic Data Systems, Inc.

To fully utilize NMCI, Naval Reserve facilities must upgrade both antiquated software and hardware. The Reserve must obtain the equipment, storage capacity, and bandwidth necessary to allow quick and easy access to information. Existing or "legacy" systems will have to be abandoned or significantly upgraded.

The Navy's goal is to move Navy processes to the Web. Therefore, Naval Reservists must have the ability to take advantage of a Web-based Navy. Naval Reserve IT infrastructure must provide better access to all drilling Reservists and their full-time support counterparts in a secure, user-friendly atmosphere.

Among other IT initiatives is the introduction of the Common Access Card, a "smart card" that is replacing the military ID card. It not only will serve as an identification card but also will enable access to computer networks and systems. Furthermore, it will serve as an access key to buildings and controlled spaces. In the future, each card could contain access to the card holder's service record, including medical records.

All service members, Active and Reserve, will receive such a card; and the Naval Reserve must have the necessary software and hardware in place to utilize it.

IT Efforts Hampered by Older Technology

So rapid are the advances in Information Technology that what is cutting edge today can become obsolete in a matter of months. Imagine the challenges of using the current Naval Reserve IT infrastructure and systems, most of which are based on 1980's technology.

Just months ago, the Naval Reserve was working toward a goal of achieving parity with the Active Duty Fleet on IT issues. Today, the Naval Reserve must, also, respond to emerging Navy-wide IT initiatives. Add to that the Navy's planned warfare strategy, based heavily on the inter-operability of information technology; and the upgrading of the Reserve's IT infrastructure becomes even more critical. Additional funding for IT remains one of the Naval Reserve's top priorities.

Successful Naval Reserve Initiatives

Despite IT funding shortfalls, the Naval Reserve has implemented several initiatives. The Naval Reserve Skills Online program, launched in the fall of 2000, allows drilling Reservists to enter their military skills and experience and pertinent civilian skills into a database that is accessible by Fleet Reserve Liaison Officers. By providing a searchable database to the Fleet, Reservists meeting certain criteria can be located and contacted quickly to provide support. This system was adapted from an off-the-shelf program originally developed for the Office of the Assistant Secretary of Defense for Command, Control, Communications, and Intelligence. It is, also, used by the Air Force Reserve, the Army Reserve, and the Coast Guard Reserve.

Another success story is the building and expanding of the Naval Reserve Network. Created to support data transmission, e-mail and Internet access, the Naval Reserve Network initially connected only a few Naval Reserve sites. It has expanded to a total of 174 sites, 83 of which are Naval and Marine Corps Reserve Centers. In a unique partnership with the Marine Forces Reserve, the Naval Reserve was able to take advantage of economies of scale on both system router equipment and data lines. Connectivity and performance have improved dramatically each year. In addition, the system is compatible with Active Duty systems; and it is now being integrated into the Navy-Marine Corps Intranet.

The Naval Reserve is continuing to develop the New Order Writing System, which is expected to streamline the cumbersome procedures for requesting and delivering orders and travel arrangements. The single Web-based system will replace four other systems and is expected to cut significantly the current 60 days wait-time for orders.

The Naval Reserve is currently working with such companies as EDS, Worldcom, Raytheon, Microsoft, Cisco, Compaq, Novell, UNISYS, Dell, Lockheed Martin, and Oracle to bring Reserve Force IT capabilities into the 21st century using a combination of off-the-shelf and specially designed solutions.

The Cost of Doing Business

Upgrading Naval Reserve IT infrastructure is necessary to provide efficient, cost-effective support to the Fleet in the 21st century. Not only will upgrades allow the Naval Reserve to interface rapidly with the Fleet, but also they will streamline operations while improving quality of life for Reserve Sailors by making them more productive and by reducing the amount of system downtime.

IT upgrades will, also, benefit in long-term savings through efficiency and fewer maintenance requirements. Unfortunately, additional funding is needed right now just to sustain current capabilities—\$6.1 million is needed in fiscal year 2003 to operate the current antiquated systems at their minimum level and current capacity. An additional \$15.7 million is required to update existing systems to allow them to perform new and enhanced capabilities.

The Navy and Naval Reserve are in ongoing negotiations to determine appropriate funding levels for NMCI. However, \$2.0 million is required in fiscal year 2003 for network infrastructure not associated with NMCI services. Two much-needed initiatives—one to provide classified access to selected Reserve centers around the country prior to NMCI implementation and the other to allow Reservists to access common Naval Reserve applications on any computer—are driving this requirement.

Additionally, \$1.5 million is needed to establish and maintain a Continuity of Operations/Disaster Recovery Plan for mission critical systems. Lastly, an additional \$6 million is needed to create Naval Reserve-specific applications that can be accessed on the Web.

Summary

With Naval Reservists among the first to test the Navy-Marine Corps Intranet, the Department of the Navy has underscored the importance of equipping the Reserve component with the best in IT infrastructure. The Naval Reserve has proceeded with several IT initiatives in an effort to overcome the difficulties incurred by operating systems based on 20-year-old technology. With the Naval Reserve Skills Online program and the New Order Writing System, the Naval Reserve is giving its personnel the tools they need to work more efficiently while providing improved support to the Fleet.

Naval Reserve leadership is working hard to meet IT mandates set by the Active Duty Navy; but it is hampered by older platforms and systems, as well as a critical shortfall in funding. The Naval Reserve needs additional funding right now just to maintain its current IT infrastructure, and will need even more in the future to enhance and modernize existing systems.

The challenge—whether we are called upon to operate in peacetime, on one war-fighting front, or several skirmishes—is to provide the Navy with the right Reservist at the right time with the right equipment every time. The only way to assure that we can do so is by upgrading and integrating into our Force today's sophisticated technological tools.

RESERVE FACILITIES & INFRASTRUCTURE: IMPROVING QUALITY OF SERVICE AND QUALITY OF LIFE

A flight of U.S. Naval Reserve F/A-18 Hornets roared overhead, and the U.S. Navy Band New Orleans thumped out a martial tune as Naval Reserve Center Meridian, MS, was dedicated in July 2000. Among those in attendance were retired Congressman G.V. "Sonny" Montgomery, for whom the building is named, and retired Rear Admiral Thomas F. Hall, former Commander, Naval Reserve Force.

The new Reserve Center replaced a decades-old, dilapidated facility in Jackson, MS. By co-locating onboard Naval Air Station Meridian, the new facility not only saves considerable operating costs, but also provides its Sailors with enhanced quality of life and quality of work.

Even greater cost savings and improved amenities will be realized by another facility currently under construction, the Joint Armed Forces Reserve Center in Orlando, FL. This facility, which will serve Naval Reserve, Marine Corps Reserve, Army Reserve, and Army National Guard units, is the first of its kind. A similar facility is planned for Naval Air Station/Joint Reserve Base New Orleans.

Additional Funding for Real Property Maintenance Necessary to Ease Critical Backlog

The Naval Reserve owns and maintains 1,224 structures covering 6,800 acres throughout all 50 states. The average age of these facilities is 33 years, and their general readiness condition is useable but degraded. Naval Reserve facilities include office buildings, hangars, runways and ramp areas, fuel and equipment storage areas, maintenance and training buildings, utilities and power generation.

The Naval Reserve has worked hard to manage its resources wisely, reducing infrastructure and cutting costs while trying to maintain current facilities to provide Reservists with the quality of service, quality of life, and the quality of workplace that they deserve and need to support fully the Active Duty Fleet.

Consistent underfunding of the Naval Reserve Sustainment, Restoration, and Modernization Account has resulted in a critical backlog of maintenance and repair. Additional funding planned for fiscal year 2003 will reduce the amount of backlogged work to \$54 million by the end of fiscal year 2007.

Demolition of Old Facilities

Budget constraints present a constant challenge to the Naval Reserve. As it attempts to maintain the proper size and composition of the infrastructure needed to administer and train personnel properly, the Naval Reserve needs to maintain and operate equipment in a safe environment while providing day-to-day support to the Fleet.

Since before the personnel drawdown began in the early 1990's, the Naval Reserve has been working to reduce its infrastructure and to utilize facilities more efficiently and effectively. For example, the number of Reserve Centers has been reduced by 50 percent since fiscal year 1975; and the 40 percent decrease in Naval Reserve personnel during the 1990's was matched by a 30 percent drawdown of Reserve Center inventory.

The demolition of excess facilities—such as outdated buildings, water towers and piers—is one means of reducing the facilities maintenance impact. In fiscal year 1999, the Navy created a Naval Reserve Demolition Program with initial funding

of \$1 million per year for five years. Because this has proven to be an inadequate funding level, an additional \$3.98 million is needed in fiscal year 2003 for planned Reserve Force demolition projects.

Building to Meet the Needs of Today's Sailors

The bulk of the Naval Reserve's Military Construction budget goes to operations and training facilities. Additional funding is necessary for infrastructure improvements. By reconfiguring existing facilities and building new ones, the Naval Reserve is working to meet the changing needs of today's Sailors.

Many older Naval Reserve facilities have classroom configurations that no longer reflect training methods employed today. Manning standards have changed, as have the ways in which Sailors work and receive training. Most of the Naval Reserve Centers were built prior to age of the personal computer. The original builders of Reserve Centers had no notion of workstations or the requirements for Local Area Networks. These inappropriate building designs not only reduce the efficiency of the personnel working in them but also degrade the Sailors' quality of life and work.

In addition, Antiterrorism Force Protection (AT/FP) measures require modifications and upgrades to our stand-alone Reserve Centers. All of our facilities must become AT/FP compliant.

The Naval Reserve has numerous expansion and reconfiguration plans in place, from building additions to Reserve Centers to modifying hangars and other facilities. A total of \$51.6 million is reflected in the fiscal year 2003 budget for these six projects.

Joint Service Facilities: the Way of the Future

Through outsourcing, privatization, and regionalization, the Naval Reserve is working to minimize infrastructure costs where it can. The Naval Reserve fully supports the Joint-Use Reserve facilities concept as outlined in Department of Defense directives. The Joint Service Reserve Component Facility Board reviews all Naval Reserve facilities requirements annually for joint use, and the opportunity for consolidation with nearby activities is considered in the design of any new facilities.

As mentioned earlier, the Joint Armed Forces Reserve Center in Orlando, FL, now under construction, and the planned Joint Armed Forces Reserve Center in New Orleans, bring economies of scale and significant cost savings to the Reserve Components. The wisdom of the Joint Reserve Base concept has been proven at Naval Air Station/Joint Reserve Base New Orleans, LA; Naval Air Station/Joint Reserve Base Fort Worth, TX; and Naval Air Station/Joint Reserve Base Willow Grove, PA.

While \$7 million for Phase I funding of the new Joint Armed Forces Reserve Center in New Orleans was provided by Congress in fiscal year 2001, and \$10 million for Phase II in fiscal year 2002, an additional \$9 million is needed for the completion of Phase III of the project in fiscal year 2003.

Summary

The Naval Reserve has embraced Joint Reserve facilities as the way of the future to ensure cost-effective infrastructure that will contribute to an improved quality of life and work for Reserve Sailors. A direct benefit will be an improved quality of service to the Fleet. In addition, the Naval Reserve is actively working to reduce infrastructure and to cut costs through demolition of excess facilities, reconfiguring current facilities, and construction of new facilities to meet today's standards. Additional funding is critical to the Naval Reserve's success in these areas.

Summary: Unfunded Requirements Air and Sea Naval Reserve—Fiscal Year 2003

	(In millions)	
C-40A Acquisition (3 aircraft)		\$186.0
P-3C Orion Upgrades		61.0
Upgrade F/A-18		36.6
C-130T Avionics Upgrades		1.9
F-5 Avionics and Radar Upgrades		58.8
SH-60B Helicopter FLIR kits		7.0
Littoral Surveillance System		30.0
Naval Coastal Warfare		86.0
		<hr/>
Total Air & Sea Programs		467.3

Summary: Unfunded Requirements Naval Reserve Information Technology—Fiscal Year 2003

(In millions)	
IT Budget Shortfalls fiscal year 2003	\$6.1
Update Existing Systems	15.7
Network Infrastructure	2.0
IT Force Protection/Continuity of Operations	1.5
Naval Reserve Specific Applications	0.6
<hr/>	
Total IT Unfunded Requirements	25.9

Summary: Unfunded Requirements Reserve Facilities & Infrastructure—Fiscal Year 2003

(In millions)	
Demolition	\$4.0
Joint Armed Forces Reserve Training Centers	9.0
<hr/>	
Total Reserve Facilities & Infrastructure	13.0

The Corporations listed below have partnered with the Naval Reserve Association in mutually supporting Naval Reservists, their families, and our military for a strong national defense. They provide first-line equipment and services to all of the military components. We are indebted to them and are honored to work with them as highly valued members of the Corporate/Association/Military TEAM.

Lockheed Martin	Seabury & Smith, Inc.
The Boeing Company	MBNA America
Gulfstream Aerospace	CES, a California Corporation
Northrop Grumman Corporation	Rosen Associates Management Corp.
Kaman Aerospace Corporation	Aquilasm Group of Funds
DRS Technologies	First Virginia Bank
BAE Systems	Science & Engineering Associates, Inc.
Northrop Grumman Avondale	Military.com
Sikorsky Aircraft Corporation	CACI International Inc
USAA	First USA Bank, N.A.
Raytheon Systems Company	SES, Inc.

Senator INOUE. Thank you very much.

We will now call on Vice Admiral Totushek.

Admiral TOTUSHEK. Thank you, Mr. Chairman. I appreciate the opportunity to appear before the committee this morning. I would like to take this opportunity to once again thank the committee for the strong voice of support you have given to the Reserve and Guard components by the numerous initiatives that you have supported in the last year.

I have submitted my statement for the record and I intend to just summarize it in my oral statement.

Senator INOUE. Without objection, the full statement is made part of the record.

Admiral TOTUSHEK. Thank you. I would just like to summarize a couple points quickly, if I may.

Since the attacks on the Pentagon and New York City, we at the height of our recall reached 10,000 naval reservists and this time we recalled them mostly individually and primarily in the areas of security and force protection. We also recalled people for intelligence, Seabee and other missions, but primarily we recalled people to provide force protection for our naval forces around the world.

As none of us sitting around this table this morning are going to be able to predict how long this crisis is going to go on, we have taken a look at and are currently demobilizing naval reservists so

that we can answer sustainment issues as we go forward with the war on terrorism.

Homeland security of course is going to be one of our important future missions and we are looking right now at the role that the Naval Reserve will be able to take in that regard. In order for the Naval Reserve to continue to provide the kind of support that it has in the past and during this war on terrorism, we have critical equipment needs, as do some of my brethren who are sitting at the table.

In our case it comes down to the C-40s to replace our aging C-9 force, which supports our Navy AFLOAT Component Commanders around the world. We need additional boats for our Navy coastal warfare units. Our P-3s and C-130s need updating in order to keep them compatible with the active Navy force. We also have issues where our F-18s and our helicopter force need upgrading so that we are compatible, but we're not asking for new equipment there.

We have already mentioned the Guard and Reserve component analysis which showed that we are moving to a position of being about \$15 billion short in equipment across the Reserve components. The Naval Reserve is about \$2 billion of that backlog.

I believe you have received a copy of a publication done by the Naval Reserve Association. It's called On Target On Line, and gives the Naval Reserve strategic funding priorities. I won't go into all that but we need this type of equipment to be able to continue the fight the way we have been taking it to the enemy.

MANPOWER

I would just like to say one quick thing about my highest priority, and that is our manpower in the Naval Reserve force. While we will meet our end strength goal this year, we are having a difficult time with recruiting. We are largely and have been in the past a veteran force. In other words, about 75 percent of all the people we bring into the Naval Reserve force are veterans. Since the war on terrorism started, those people who have made the decision to leave active duty, and they are way down at these times because of the success the Navy has had in retaining people, but those people that are leaving have made up their mind to not be part of our war on terrorism and want to get on with other parts of their civilian life. We don't see a large number of them coming into the Naval Reserve right now. So we're down to about a 50 percent veteran recruiting staff right now.

We could use some more advertising to help us get people that have not been in the Reserve before, or have not been in the Navy before they come on active duty, and we could use some additional support for our recruiters out there.

Finally, Mr. Chairman, let me say that it has been my pleasure to command this wonderful force of citizen sailors who have been out there supporting our country, especially since September 11th. Our mission has remained the same. We are the major support for the Navy-Marine Corps team in times of peace and war, and of course right now that's war. It has been a pleasure for me to lead this force. I look forward to your questions.

[The statement follows:]

PREPARED STATEMENT OF VICE ADMIRAL JOHN TOTUSHEK

Mr. Chairman, I appreciate the opportunity to appear today to discuss the Naval Reserve and our role in Operations Enduring Freedom and Noble Eagle. There are really two distinct aspects of Naval Reserve support of the war effort: the first deals with the immediate aftermath of the attacks. Even before the mobilization, more than 230 Naval Reservists began immediately assisting in any way they could.

Within hours following the attacks on the Pentagon and on New York, Naval Reservists responded:

- Chaplains were on duty in Washington administering to the needs of Pentagon personnel and their families;
- Naval Reserve F/A-18s were flying combat air patrol missions in Texas;
- A Reserve helicopter squadron training in northern Virginia was providing Medevac support at the Pentagon;
- Naval Emergency Preparedness Liaison Officers began working with civilian authorities in rescue and relief efforts;
- A Naval Reserve augment unit began round-the-clock support for the New York City Port Authority;
- Reservists—from intelligence specialists to law enforcement and physical security personnel and more—began showing up to provide support to their gaining commands in Washington;
- and phone lines lit up in New Orleans and Washington with Reservists volunteering for recall to active duty.

The second aspect is the mobilization itself. The numbers change daily, but we've recalled approximately 10,600 personnel. The majority of these Naval Reservists have been recalled individually based on specific skills; primarily law enforcement, security and as cohesive units of the Naval Coastal Warfare command. Other skills reflected in the mobilization include medical, supply, intelligence and other specialties. There is a Naval Reserve C-130 based in Bahrain that last month moved approximately one million pounds of mission critical equipment. We are providing an additional logistics aircraft to support personnel and equipment movement throughout the fleet, and our newest Naval Reserve C-40A logistics aircraft are ferrying men and equipment to the Gulf with great reliability.

I found it interesting that one of the frequent comments heard in the immediate aftermath of the Sept. 11 attacks on our country was that the Navy and the Naval Reserve—and the armed forces in general—would have to change the way we do business.

The attacks left the impression in some circles that our military was not prepared for what had happened, that we were not equipped to deal with new realities and that a fundamental rethinking of our training and our mission was in order.

I believed then, as I do now, they were wrong. And our response since the moment of the attack has been proving them wrong. The fact is that our Sailors—and the Marines, airmen, and soldiers in our sister services—are well trained to respond to a terrorist crisis at home, to track down enemies of freedom abroad—and well suited to carry out their roles in Homeland Defense.

While none of us knows how long we will need to tap into this reservoir of talent, it is heartening that—once again, as in Desert Storm—many Naval Reservists stepped up and volunteered for recall in the early days of the crisis.

As a nation, before Sept. 11, we already knew that we lived in a troubled world. Now we know how dangerous the enemy in that world can be. And we know how vulnerable an open society such as ours can be to those who seek to do us harm.

The Price of Liberty

The patriot John Philpot Curran said in 1790, "The condition upon which God hath given liberty to man is eternal vigilance." This passage provides as much relevant guidance for us today as it did then.

The question is this: what can the Naval Reserve do in support of eternal vigilance?

Two things are certain: we are ready—ready to live in freedom, ready to pay the price for freedom and we are capable.

Every day, the Naval Reserve maintains facilities in every state. Every day, we support operations and exercises on a global basis. As you read this statement, Naval Reservists are deployed in support of operations in the Arabian Gulf, in Bosnia/Kosovo, in the Caribbean and South America, in Korea, throughout Europe, and afloat on every ocean.

Today's Naval Reserve Force consists of 34 air squadrons, including a carrier air wing, a maritime patrol wing, a helicopter wing and a fleet logistics support wing. We operate 26 ships, including 9 frigates, 10 mine hunter coastal patrol ships, five

mine countermeasures ships, one mine control ship and a tank landing ship. Further strength lies in additional fleet support units. Among the most notable of these are 2 Naval Coastal Warfare Group staffs, 22 Mobile Inshore Undersea Warfare units, 14 Inshore Boat units and 9 Harbor Defense Command units; 12 construction battalions, 12 cargo handling battalions, four fleet hospitals, and many other units.

The force that we deploy is highly educated. Nearly 11 percent of our enlisted members have college degrees, and more than 97 percent have a high school diploma. Within the Reserve Force officer ranks, nearly 35 percent have master's degrees, and more than nine percent have a doctorate.

The state of the Naval Reserve is strong, and our fundamentals remain unchanged. Let's take a look from three perspectives:

- Alignment of the Chief of Naval Operations' (CNO) top priorities and the Commander, Naval Reserve Force's (CNRF) top priorities.
- Our progress and achievements over the past year, and how our ships, aircraft and people are being employed.
- Our goals for the future. Congressional support of these initiatives and upgrades will keep our Naval Reserve Force strong and integrated into the active Force.

Goals

Our first—and most immediate—goal is to assist the CNO in his providing a capable and effective Naval force and to help in prosecuting and winning the war on terrorism. Our supporting goals complement this primary one and align with the CNO's following priorities:

Manpower and personnel.—Just as the active Navy competes for people, the Naval Reserve makes every effort to attract and retain the best, and to reduce first-term attrition. The Reserve Force focuses on retaining our best people, recruiting to fill future needs, and sustaining end strength. Through a combination of leadership training, financial and educational incentives and career decision surveys, we watch closely and encourage the career paths of our talented Reservists. We continue to support health care protection for mobilized reservists and families. Similarly, our recruiting efforts have been strengthened this year with the addition of new recruiters, a new advertising campaign, new incentives to recruit the best candidates, and by the ability to recruit in the 21–25 year old non-prior service market. Our main recruiting concern at this time is that the sense of renewed patriotism following the attack upon our homeland did not translate into hikes in enlistment contracts. The major change Naval Reserve recruiting has experienced since September 11, 2001 is the decrease in Navy Veteran (NAVET) recruiting from about 80 percent of SELRES accessions having been Navy veterans to around 55 percent. We believe that this is due to the desire of many sailors to remain on active duty to support our nation's war on terrorism. Reserve recruiting is closely monitoring this trend. Coupled with the efforts outlined above and the renewed thrust into the non-prior service market, reserve recruiting is combating the downward trend in NAVET affiliations. Naval Reserve recruiting is currently well ahead on officer recruiting.

Current Readiness.—The active force has benefited from additional funding for training and maintenance and continually reviews the balance between requirements and resources. On the Reserve side, we're using Just-In-Time Training to support homeland defense requirements. Specifically, the Naval Reserve has established the Law Enforcement Specialist Course in response to force protection mobilization requirements. Personnel who have been mobilized are being sent to the two-week course in Willow Grove, Pennsylvania, and Fort Worth, Texas. Graduates will receive a certificate and Joint Qualifications Booklet to bring back to their gaining command. When the booklet is completed, they will earn the Navy Enlisted Qualification for Enlisted Law Enforcement Specialist. Training is also taking place through the new Navy Learning Network, as well as in non-traditional settings such as the Senior Enlisted Academy and Navy Apprentice Schools.

Future Readiness.—The Navy makes continuous investments for the near-, mid-, and long-term. These include investments in training, technology and new equipment. The Naval Reserve strives to upgrade its equipment, with acquisitions such as the new C-40A aircraft, F/A-18 and P-3 upgrades, and building a new Information Technology structure.

Alignment and Fleet Support.—The CNO has set as a priority the unification of systems, processes and organizations, which increases support to the Fleet. The role of the Naval Reserve is fleet support, and we are aligning our systems, processes and organizations to serve our primary customer: the active force.

2001 Achievements

Our current mobilization has gone much smoother than in Operation Desert Storm, due to changes put into effect in the 1990s, and the extremely hard work put in by our Reserve and active duty personnel. With that said, the mobilization alone doesn't reflect the whole story of success in the past year.

- Naval Reservists supported Fleet operations and exercises throughout the year. Naval Surface Reservists provided over 15,000 man-days of direct support to Fleet exercises in Bahrain, Germany, Korea, Iceland, Italy, Norway, Istanbul, Thailand and Puerto Rico.
- Naval Reserve Force frigates continued to make the same six-month length deployments as the their active Navy counterparts, focusing on counter-narcotics interdiction and exercises such as UNITAS, BALTOPS, and CARAT. Naval Reserve Force Frigates were on station in either the Caribbean or Eastern Pacific supporting drug interdiction operations for 356 days during calendar year 2001. The U.S.S. *STEPHEN W. GROVES* proved to be one of the Navy's most productive counterdrug units. During her deployment, *GROVES* interdicted three go-fast boats, interrupted one significant smuggling event, detained 10 suspects, and recovered 3,600 pounds of cocaine.
- VAQ-209 continued to support tactical electronic warfare deploying to Saudi Arabia for six weeks as part of Operation Southern Watch.
- Naval Reserve P-3 and E-2 squadrons provided year-round patrols supporting Counter-Drug detection and monitoring operations in the Caribbean and Eastern Pacific.
- Naval Coastal Warfare Reserve (NCW) Units were in high demand during 2001. Before 9/11 units deployed to the Arabian Gulf and Vieques, PR in vital AT/FP missions. Units also participated in exercises Bright Star, Northern Edge, Natural Fire, and CARAT. Subsequent to the homeland attacks, 17 full units within the NCW organization mobilized and deployed both at home and overseas. The demand for this robust capability by warfighting CINCs is so great; NCW will expand to include units both in the Active and Reserve component. The Reserve NCW organization will provide valuable training and operational expertise as the Active and Reserve component emerge as important segment of Homeland Security.
- Naval Reserve Strike Fighter and Adversary squadrons provided 100 percent of Fleet adversary training (more than 9,000 hours in 2001).
- More than 30 Naval Reserve divers participated in an historic expedition to raise the Civil War Ironclad Monitor from 240 feet off the coast of Cape Hatteras, N.C.
- Reserve Carrier Air Wing 20 (CAG-20) embarked three squadrons and staff on U.S.S. *NIMITZ* for a 54-day circumnavigation of South America during a coast-to-coast homeport change.
- In fiscal year 2001, our logistics aircraft flew more than 4,450 missions, transporting 172,220 personnel and 14 million pounds of cargo in direct support of Navy fleet operations worldwide. Presently, there is a Naval Reserve C-130 transport flying out of Bahrain supporting the war effort in Afghanistan, as well as several C-9, C-20 and C-40 flights per week in direct support of deployed forces in theatre.
- We took delivery of our first four C-40A Clippers: the last two were named "Spirit of New York City" and "Spirit of the Pentagon."
- We began to roll out the long-anticipated Navy-Marine Corps Intranet, which over a five-year period will equip the Navy with access, interoperability and security for the Navy's information and communications by providing voice, video and data services to Navy and Marine Corps personnel. The Navy's first site was our own Naval Air Facility Washington.

The Future

With a mobilization underway—and mindful of President Bush's caution that the war on terrorism could last for years—the near-term future of the Naval Reserve will be focused on continuing to sustain the Navy's warfighting capabilities. Given the uncertainty of how the war might develop, the challenge for the Naval Reserve will be to remain flexible in adapting existing capabilities—both function and structure—to meet evolving and previously unanticipated requirements.

Yet, the Navy's requirements for Reservists to support the war are in addition to its need for Reservists to conduct "normal" peacetime operations, including exercises, training, watch standing and administrative duties.

While the Navy's demand for Naval Reserve longer-term capabilities are not clear, there are some implied and important Reserve roles. Homeland Security will create demand for capabilities to guard the nation's borders, and the Reserve Components

are being considered for this major role. Further, a recently published Quadrennial Defense Review indicated that future forces would be shaped to meet an expanded list of threats, and that the Department of Defense would transform itself simultaneously. These have the potential of adding to Navy's challenges at a time when it is fighting the war and otherwise maintaining a forward presence worldwide. The Naval Reserve will undoubtedly play a part.

In addition, to continue supporting the Fleet, our long-range plans include upgrading our aircraft, implementing information technology improvements, and maintaining our real estate holdings.

—*Aircraft upgrades.*—The introduction of the C-40A Clipper into the Naval Reserve is maintaining our worldwide intra-theater logistics lift support for the Fleet. Without these aircraft, the Reserve could not conduct its essential airlift operations in foreign airspace. The C-40As are slowly replacing the fleet of aged C-9s. Four C-40As have been delivered to the Naval Reserve and two additional C-40As will be delivered by the end of this year. The C-40A delivery begins the process of increasing safety, improving compatibility and meeting environmental requirements. Our goal is to replace all 27 of our aged Navy C-9 aircraft and 2 Marine Corps Reserve C-9 aircraft at a rate of three per year.

My aging, but well maintained, P-3 aircraft assets are in need of modernization upgrades in the form of Block Modification Upgrade Program (BMUP) and Aircraft Improvement Program (AIP) kits. These kits provide new mission computers and acoustic sensors to achieve a common P-3C configuration with our fleet counterparts.

In addition, two of our four F/A-18 Hornet aircraft squadrons will benefit from the purchase of 28 upgrade kits that will improve radar systems, armament controls, weapons station wiring and cockpit indicators. We are pursuing funding to purchase 12 additional ECP-560 kits to outfit our third F/A-18 squadron.

—*Navy and Marine Corps Intranet.*—The NMCI is an opportunity for the Reserve Force to show the way in integrating the best in Information Technology. We are replacing disparate 20-year old systems with a unified system accessible by fleet commanders and Reserve units alike.

—*Real estate maintenance and management.*—With the Naval Reserve as a landlord for 1,224 structures (average age of 33 years) on 6,800 acres in all 50 states, and Puerto Rico, maintenance and efficient management are issues of continued concern.

Summary

Our primary mission—before and after Sept. 11—has been to support the Navy/Marine Corps Team throughout the full range of operations, from peace to war. At this time, it is war. Fortunately, we are a well-trained force dedicated to enduring freedoms. In the words of Edmund Burke, "The only thing necessary for the triumph of evil is for good men to do nothing." I am very fortunate to have good men—and women—in my Force, and we are truly fighting the good fight and meeting the threats posed to us, as we must. As the War on Terrorism unveils we will all be called to serve. The Naval Reserve is ready to answer the call.

Senator INOUE. Thank you very much, Admiral. General Sherrard.

General SHERRARD. Mr. Chairman, Senator Stevens, indeed, it is my pleasure also to represent the 74,000 plus men and women of the Air Force Reserve in telling you a little bit about our accomplishments of last year. Thanks to the great support of this committee we were able to achieve more than 105 percent of our recruiting goal and achieve an end strength of almost 101 percent. And our retention numbers I'm very proud to tell you for last year were 89 percent overall, with a high of 92 percent in the officer, and our career enlisted maintaining 91 percent.

With the tragic events of September 11th, the whole world changed, as we all know, and I'm very proud to say as my colleagues have already expressed before, and my friends in the Marines will express after me, the men and women of our Reserve forces along with all our fellow active members stepped forward, and were so very proud to know that they stood there ready to do

the duties that they had in fact agreed to do many many years ago, and were able to do that.

In doing that I will tell you that today we have more than 12,800 Air Force Reserve members activated, more than 2,300 of them in the Area of Responsibility (AOR). We currently have demobilized 98 individuals, that is all we have demobilized, sir, and we continue to have between 2,400 to 2,600 on average volunteers working today supporting Operations Noble Eagle and Enduring Freedom, as well as other requirements that the Air Force has that we are so very proud to say that as full team partners and players, we are allowed to do those missions.

RECRUITING AND RETENTION

I would also tell you that we have some concerns and challenges, and as was just mentioned by Admiral Totushek, recruiting and retention remains number one, because people are our number one issue. And as we go through the recruiting and retention, the fact that stop loss has been implemented, there are fewer active duty members that are separating, our recruiting efforts are truly very large this year. Thanks to the support the committee has given us in the past with the additional 50 recruiters, I am confident we will be successful. We are currently over 100 percent, actually at 102 percent of our end strength, but that again, realizing that stop loss certainly helps with your recruiting and retention efforts, we will have to continue to make certain that when stop loss in fact starts to ease that we will have to work very hard to maintain our numbers.

CURRENT BONUS SYSTEMS

In doing so, I would tell you that one of our key goals is to maintain those members of experience that we have. All of our current bonus systems stop with the bonus period at the 20-year point. I personally believe that it is very very important that we retain those members from the 20-year point to their high year tenure if they are enlisted, or to their mandatory separation date on the officer side. It is critical. This experience base is what America has made an investment in each one of us, and we must retain these talents.

Likewise, I would tell you of the great concerns of what impact stop loss will have in the future is still unknown. The small numbers that have been released to date are such that it is very difficult to make any assessment as to losses we may have in the future as we come off of that and start our demobilization process when the requirements no longer exist.

The other key point I want to make, and this is a thanks, but that is a concern also, we say thanks to the employers for their great support but it's also a concern in our sustainment of that high level of interest that the employers have taken in our members and the support they have provided.

EMPLOYER SUPPORT

We continue to need, just as my colleagues have expressed before me, full-time support. As we have gone through the changes that

September 11th has created in our force, we have found that we, in fact, do need more full-time support, particularly at our host locations, to do the things that we're being asked to do.

MODERNIZATION

We will need to continue to modernize our force so that we're relevant and able to do the things that the active force expects us to do, and that our weapon systems are compatible and can deliver the precision munitions that, in fact, are necessary for us to carry out the very, very challenging tasks that face us.

I thank you and the committee for your continuing support and I stand ready, sir, to answer any questions that you may have.

[The statement follows:]

PREPARED STATEMENT OF LIEUTENANT GENERAL JAMES E. SHERRARD III

Mr. Chairman, Senator Stevens, and distinguished members of the Subcommittee, I appreciate the opportunity to appear before you today. Thank you for your continuing support, which has helped your Air Force Reserve address vital recruiting, retention, transformation/modernization, and infrastructure needs. Your passage of last year's pay and quality of life initiatives were especially important as your actions sent an unmistakable message to our citizen airmen that their efforts are truly appreciated.

I am pleased to tell you that the Air Force Reserve continues to be a force of choice for the Air Force and the war fighting Commanders in Chiefs (CINCs), whenever an immediate and effective response is required to meet the challenges of today's world.

The Air Force has enjoyed over 30 years of unparalleled Total Force integration success. Today, Air Force Reserve Command (AFRC) members are performing in almost every mission area within our Air Force including the war on terrorism, and we plan to seek involvement in all future mission areas, as they evolve. Key to our successes, to date, is the fact that AFRC is a very dynamic organization in a rapidly changing environment, and we are finding new and advanced ways to seamlessly link all our forces in both peace and war.

In the Air Force Reserve, our priorities are People, Readiness, and Transformation/Modernization and it is toward these key areas that our attention is focused to assure that our members are provided the full spectrum of training opportunities which ensure they achieve and enhance their war-fighting skills and capabilities. We put people first, emphasize readiness, and continue to seek balanced, time-phased transformation/modernization and infrastructure programs.

People are our most important asset. In an effort to retain our best and brightest, we must continue to reward our people through compensation and promotion and ensure they know their efforts are appreciated. We need to look after their families while they are deployed and reach out to their employers with our thanks for their support. We must ensure that there is open dialogue among the troops and from the troops through their appropriate chain of command to me to insure we're meeting their needs while fulfilling the needs of our Air Force in the best manner possible. More than ever, we need to continue to partner with you to ensure we maintain the strongest air force in the world.

Today's Air Force is a fantastic team—we train together, work together, and fight together. Wherever you find the United States Air Force, at home or abroad, you will find the active and Reserve side-by-side. You can't tell us apart and that's the way it should be. The bottom line is that when the Air Force goes to war, enforces a peace agreement, or undertakes prolonged humanitarian missions anywhere in the world, the Air Force Reserve will be there. During my comments today, I will discuss the status of many of our Air Force Reserve programs.

HIGHLIGHTS OF 2001

Until September 11th, fiscal year 2001 had been shaping up to be one of our most productive ever. Our key goals had been to achieve our authorized manning levels, continue to improve retention of our talented members, meet the extensive Reserve commitments to the Aerospace Expeditionary Force (AEF) and execute our Flying Hour Program as authorized in the fiscal year 2001 Defense Budget. The hard work of the men and women of the Air Force Reserve assured we attained our goals and,

even more, met the many additional challenges presented following the September attacks.

We exceeded our fiscal year 2001 end strength authorization; achieving a final manning percentage of 100.6 percent of our authorized end strength. This was possible only through outstanding efforts of our recruiters, who accessed 105 percent of our recruiting goal, and with the superb assistance of our assigned personnel who help tell our story of the true value of service to country. Likewise, we exceeded our command retention goals for officers, first-term airman, second-term airman and career airman by achieving retention rates of 92.1 percent, 81.7 percent, 79.6 percent and 91.4 percent respectively. The overall command retention rate of 89.3 percent is the result of great teamwork by members, first sergeants, supervisors and commanders who led us to this exceptional achievement.

We are also very proud of our Air Expeditionary Force contributions in 2001. We have met virtually 100 percent of both aviation and combat support commitments, deploying 14,000+ personnel in volunteer status in the current 15-month AEF cycle (1 Dec 2000–28 Feb 2002). The challenge for 2002 will be to meet ongoing AEF commitments, with volunteers, while striving to support the additional demands required to support Operations Noble Eagle and Enduring Freedom, from a Reserve force which has had much of its operations and combat support mobilized for homeland defense and the war on terrorism.

Through the dedicated efforts of our operators and maintainers, along with assistance from our support personnel, AFRC flew 99.5 percent of the Operation and Maintenance (O&M) funded portion of our flying hour program. Due to the lack of available cargo and passengers, we, like our fellow active duty and ANG partners, were unable to fly the full Transportation Working Capital Fund (TWCF) commitment. However, overall, this was our best year of flying hour execution within the past five years.

Air Force Reserve Command personnel participated in several key operational exercises in which combat training events were accomplished by our members, while critical command and control processes were tested and evaluated to determine overall readiness of our military forces. Pacific Warrior was a medical exercise conducted in Hawaii in which AFRC was the lead Air Force agent. Deployment and redeployment consisted of 72 missions, 1,030 passengers and 445 short tons of equipment and supplies. Ground and aeromedical patient care and evacuation was conducted utilizing all deployable specialties assigned within the Air Force Medical Service. More than 1,000 patients were treated and 533 patients were evacuated by aeromedical missions. Over 400 patients were moved via C-130 aircraft in the tactical phase and 130 patients were moved in the strategic phase. Additionally, units performed a pre-F³ (form, fit and function) on proposed new manpower packages to validate proposed innovations in aeromedical support.

Exercise Consequence Island was a large Veterans Administration and Federal Emergency Management Agency-sponsored exercise in Puerto Rico to evaluate United States response capabilities to a Weapons of Mass Destruction attack. A big emphasis was on post attack health care delivery and aeromedical evacuation. AFRC provided the majority of airlift and aeromedical evacuation capabilities. The long hours and changing dynamics of the exercise proved to be very realistic, and the hard work, dedication, and problem solving abilities demonstrated by our Reserve forces made the exercise a big success.

Another operation with heavy AFRC involvement this past year was Operation Palmetto Ghost, which is the resupply mission for Army counter-drug operations in the Caribbean. Each quarter, this requirement calls for a significant number of strategic and tactical airlift sorties, as well as a Tactical Airlift Control Element (TALCE) for command and control on the ground. Though this mission is not assigned specifically to the Air Force Reserve, we stepped up to provide the majority of the airlift support with C-5s, C-17s, C-141s, and C-130s, and provided 100 percent of the TALCE support.

The past year saw the Reserve enhance their continued role in training pilots for all Air Force components. As the Air Force determined a requirement to increase the production of fighter pilots, it became evident that our training capability needed to increase as well. To meet that demand, the Chief of Staff of the Air Force directed the Air Force Reserve to convert a combat flying unit to a training flying unit. The 944th Fighter Wing at Luke AFB, Arizona now trains active duty, Air National Guard, and Air Force Reserve Command pilots in all phases of the F-16 formal training program. This program utilizes its unit-equipped aircraft and instructor pilots assigned to the 302d Fighter Squadron and the instructor pilots assigned to the 301st Fighter Squadron, the Air Forces' only associate F-16 training organization. This associate squadron is an integral part of the overall Air Force training

capability. Through its use of highly experienced instructor pilots, it is truly the benchmark upon which all future operational training needs will be measured.

The Air Force Reserve Associate SUPT (Specialized Undergraduate Pilot Training) Instructor Pilot Program is managed by the 340th Flying Training Group at Randolph AFB, Texas. They provide administrative control for Reserve flying training squadrons at six Air Force bases; Laughlin, Randolph, and Sheppard in Texas, Columbus AFB, Mississippi, Moody AFB, Georgia, and Vance AFB, Oklahoma. The units are associate in nature and belong to the host active duty flying training wing for operational control. They provide programmed flying training support for all phases of SUPT. Overall, the AETC/AFRC Associate Instructor Pilot Program provides 16 percent of all Air Force SUPT training capability.

September 11, 2001 changed life in the United States forever, and its impact on Air Force Reserve operations will also be felt for a long time to come. Perhaps more so than any other potential scenario for military operations, it highlighted the huge importance and unique missions of the Air Force Reserve.

Air Force Reserve aeromedical evacuation (AE) aircrews were among the first to respond and provided almost half of the immediate AE response that was provided. Tragically, we found there was little need for their service. The larger need was in mortuary affairs support, of which the Air Force Reserve provides more than 75 percent of our Air Force's capability. One hundred eighty-six trained Reservists immediately stepped forward, in volunteer status, for this demanding mission. Reserve airlift crews were among the first to bring in critical supplies, equipment and personnel, including emergency response teams from the Federal Emergency Management Agency (FEMA), fire trucks, search dogs, and earth moving equipment. F-16 fighters and KC-135 air refueling tankers immediately began pulling airborne and ground alert to provide combat air patrol support over major U.S. cities. They were quickly joined by our Airborne Warning and Control System (AWACS) aircrews and our C-130 aircrews under the direction of NORAD in support of Operation Noble Eagle.

The response of our Reservists in this time of crisis has been simply overwhelming. Over 12,400 Air Force Reservists have been mobilized, and thousands more continue to provide daily support as volunteers.

More than three thousand of those mobilized are Individual Mobilization Augmentees (IMAs), providing critical support to the Unified Commands, MAJCOMs, and various defense agencies supporting Homeland Security efforts. Required support functions span the entire breadth of Reserve capabilities—security forces, civil engineering, rescue, special operations, strategic and tactical airlift, air refueling, fighters, bombers, AWACs, command and control, communications, satellite operations, logistics, intelligence, aerial port, services, and medical. Never have I been so proud to be part of the outstanding group of patriots who make up the Air Force Reserve Command.

Equally important to the Air Force Reserve Command's ability to meet the requirements being levied on us is family and employer support. Their sacrifices and support make it possible for our members to carry out their duties in such a spectacular manner.

RECRUITING AND RETENTION

As previously highlighted, significant progress has been made in Air Force Reserve recruiting and retention. However, my principal concern today remains attracting and retaining high quality people.

Recruiting

In fiscal year 2001, the AFRC exceeded its recruiting goal for the first time in five years. Also, we surpassed our fiscal year 2001 end strength by achieving a final manning percentage of 100.6 percent of our authorized end strength. This was possible only through outstanding efforts of our recruiters, who accessed 105 percent of our recruiting goal, and with the superb assistance of our assigned personnel who help tell our story of the true value of service to country. Several initiatives contributed to Reserve recruiting success. In fiscal year 2001, Air Force Reserve Command (AFRC) with great Congressional support increased recruiter authorizations by 50, instituted a new call center, redesigned the web site, launched a "Prior Service Other" advertising campaign, and re-energized the "Get One Program" in which current Air Force Reserve members give recruiters referrals. Air Force Reserve recruiting leads all other services in monthly accessions with 3.55 per recruiter.

While fiscal year 2001 was an outstanding year for Reserve recruiting, fiscal year 2002 is shaping up to be a very demanding year. After September 11th, "Stop Loss" was initiated for all service members. Historically, reserve recruiting directly accesses 25 percent of eligible members (i.e. no break in service) separating from ac-

tive duty which accounts for a total of 30 percent of annual AFRC accessions. Recruiting will have to make up that part of the goal, more than 3,000, from other sources including "non-prior" and "prior service other" (i.e. Air Force separatees with a break in service or accessions from other services) applicants until stop loss is lifted. Once lifted, we expect there will be challenges in filling many vacated positions.

One of the biggest challenges for recruiters this year is Basic Military Training (BMT) quotas. With recruiting services increased emphasis on enlisting non-prior service applicants, BMT allocations have not kept pace. This problem is projected to worsen this year as a result of stop-loss since more non-prior applicants will have to be accessed to offset the decrease in members separating from active duty. We are working diligently to increase our number of BMT allocations and explore solutions to address BMT shortfalls.

A new recruiting initiative we are currently implementing focuses on bringing back retired military members. We are actively encouraging retired members to continue serving their country by returning to active service in the Air Force Reserve.

By accessing retired military members, the Air Force Reserve and Total Force benefit by gaining personnel with proven experience, training, and leadership talents. Moreover, we save valuable training dollars and benefit from the specialty skills, experience and knowledge these individuals already possess. Once returned, members earn additional pay, retirement points, years of service, and promotion opportunity serving active reserve duty. Accessed members may continue serving as long as eligible under High-Year Tenure (HYT) guidelines, Mandatory Separation Date (MSD), or until age 60. This scenario presents a "win-win" situation for the member and the Air Force and allows valued service members the ability to continue serving while providing a vast amount of technical and mentoring experience to our USAFR. We are processing our first applicants and have discovered a couple of obstacles to effective implementation along the way.

Retention

The Air Force Reserve exceeded Command retention goals for first term airman, second term airman and career airman during fiscal year 2001. Again, it was the team effort of the members, first sergeants, supervisors and commanders that led us to this exceptional achievement.

At the end of CY 2001, Air Force Reserve Command was paying enlistment/reenlistment bonuses in 67 percent of its traditional reserve enlisted specialty codes and 50 percent of the enlisted individual mobilization augmentee specialty codes.

The Air Force Reserve is currently exploring the possibility of expanding bonus authorities for air reserve technicians and certain career fields for active Guard and Reserve members. These initiatives are designed to enhance both recruiting and retention of key, experienced Reserve component assets who are vital to our ability to continue to meet the Air Force taskings needed to support the war fighting CINCs. Additionally, special duty pay initiatives are also being studied for later implementation for senior enlisted positions such as command chief master sergeants and unit first sergeants.

Quality of Life Initiatives

To provide increased financial benefit to its members, the USAFR began enrollment of its members in the congressionally authorized Uniformed Services Thrift Savings Plan in October 2001. This program allows members to augment their retirement income through "401(k)" type investment accounts.

To better provide insurance benefits for members, we began implementation of the family coverage Service Member's Group Life Insurance (SGLI) program. This program allows the spouse and children of a service member to be covered for specified SGLI insurance coverage amounts. The enhanced coverage program allows service members and their families to take advantage of a comprehensive insurance package that might not be otherwise available to them.

In summary, the matter of recruiting and retention is an issue of major concern to me, and we are taking positive steps to address ongoing recruiting and retention challenges as I lead the Air Force Reserve in this new millenium.

READINESS AND TRANSFORMATION/MODERNIZATION

Readiness

As full participants in the Total Air Force, our readiness remains fair overall. At present, the Air Force as a whole is in the process of addressing a significant decline in readiness levels due to sustained OPTEMPO, cumulative effect of chronic underfunding, declining skill-level manning and aging equipment. It will take several years of significant investment to restore readiness through substantial and sus-

tained recapitalization of people, equipment, infrastructure, and “info”-structure. Operations Noble Eagle and Enduring Freedom will also require a reconstitution period to regain pre-attack readiness levels. Reserve units have comparable equipment in quantities proportional to their active duty counterparts and participate in day-to-day operations, exercises, and training. Reserve units train to active duty standards and receive regular inspections from their gaining major commands.

Our 70 assigned F-16s, using the information being provided through the LITENING II targeting pod combined with Global Positioning System (GPS) software enhancements, provide a remarkable precision munitions delivery capability. This outstanding capability, combined with the information being provided through the Situational Awareness Data Link (SADL), give our pilots a capability that is acknowledged as one of the weapon systems of choice for combat missions. We have seen in operations in Southwest Asia, both in Iraq and most recently in Afghanistan, how this capability in the hands of our experienced pilots provides combatant commanders the ability to conduct attacks against “time-critical targets” in conjunction with the Predator. The F-16 pilot can put a laser mark on the target for confirmation by the Predator controller. So now, the Predator and its controller are operating as a Forward Air Controller from a remote location.

Our B-52 aircrews were among the first to deploy in support of Operation Enduring Freedom. Their efforts have been superb and clearly demonstrated the value of this weapon system in today’s arsenal of capabilities. While the B-52 was first built 50 years ago, it shows, on a daily basis, it has a “mean bite” and remains the enemy’s “worst nightmare”.

Transformation / Modernization

As AFRC continues to work within the Active Component structure, transformation/modernization is key to our ability to provide like capability for deployed operations and homeland defense. This is true across our airlift/special mission areas, as well as with our bomber, fighter, and aerial refueling aircraft.

As AFRC moves into the future and we analyze our interoperability with the Active Component (AC), a key issue is our ability to work within the AC structure while providing like capability. AFRC has 127 C-130s including the E, H, J and the N/P models. Air Mobility Command, as the lead command for C-130 modernization, has published a “Road Map” detailing the fleet modernization schedule. Near term modernization specifics for the AFRC C-130 fleet are additional removable cockpit armor sets for deploying aircraft, traffic alert and collision avoidance systems, autopilot replacements and night vision compatible aircraft lighting systems. Specifically for the HC-130, we have equipped nine HC-130’s with the APN-241 navigation ground map radar to improve aircrew survivability and weapon system reliability. Also in the combat search and rescue area we are beginning the upgrade of the forward-looking infrared for the HH-60G helicopter fleet.

AFRC equipment is compatible to support all applicable Air Force missions. One exceptional highlight is the 10 WC-130H aircraft at Keesler Air Force Base, MS soon to be replaced by 10 WC-130J models. These aircraft and crews are specially trained and equipped to penetrate severe storms while collecting and transmitting data to a special ground station. The extensive meteorological data necessary to track and forecast the movement of these severe storms requires a dedicated aircraft with special equipment and crew.

There are 52 O/A-10 aircraft assigned to the Air Force Reserve inventory. Plans call for upgrading all A-10 aircraft with the revamped precision engagement program that will incorporate Situational Awareness Data Link, targeting pods, and smart weapons capability. This precision engagement modification, with its major upgrade in communications, is a key stepping stone that will be key to keeping the current ground attack fighters (F-16, F-15E and A-10) compatible with the next generation of information intensive ground attack system, the Joint Strike Fighter.

AFRC’s 70 KC-135E/R aircraft provide about 13 percent of the Air Force’s KC-135 aerial refueling capability. In an effort to increase reliability and sustainability, the Air Force began a KC-135 engine retrofit in 1996. There are 16 AFRC KC-135E aircraft requiring upgrades to the KC-135R configuration.

In addition, transformation/modernization of the avionics and navigation systems on all Air Force KC-135 continues, including those in the AFRC inventory. Called Pacer CRAG (compass, radar and global positioning system), the project provides for a major overhaul of the KC-135 cockpit to improve the reliability and maintainability of the aircraft’s compass and radar systems.

The project also meets the congressionally mandated requirement to install the global positioning system in all Defense Department aircraft. As an added safety measure for formation flying, a traffic collision avoidance system (TCAS) will be in-

stalled. TCAS will give pilots the ability to actively monitor other aircraft and will provide advance warning of possible mid-air collisions.

In 2002 we will continue to work closely with Air Mobility Command to finalize the Air Staff led Mobility Tiger Team beddown plan for the C-17 aircraft and establish viable, long-term replacement missions for our C-141 locations. Currently our C-141s are scheduled to leave the inventory starting in fiscal year 2004. AMC is working hard to insure Reserve mobility experience is preserved and follow-on missions for these units are a top Air Force priority. A great deal of work remains to be done and senior leaders at Air Force Reserve Command are engaged at every level. Already funding has been secured to ensure our C-141 manpower is retained; operation and maintenance dollars will follow once replacement missions are finalized in the 2004 program.

NEW MISSIONS

In the 21st Century, the U.S. Air Force anticipates deriving its strength from the flexibility and diversity of its integrated Active Duty, Air Force Reserve, and Air National Guard more than ever before. Optimum use of Air Force component resources is critical in providing the complete potential of American aerospace power. Future campaigns will include new ways to optimize the active, Reserve, and Guard components to make the best use of our resources and people and to build on a foundation of high standards and strong cooperation among the components.

September 11th attacks have brought homeland security to the forefront with the publication of Executive Order 13228 establishing the Office of Homeland Security. Total Force components are being called upon to counter a new class of foreign and domestic terrorist threats with both defensive and offensive actions. Air Force Reserve Command has begun the process of identifying and coordinating the extent of its role and participation in Homeland Defense. Among foreseeable needs relating to this vital mission are augmentation of existing security forces, firefighters, and home station operational support personnel, both full-time and traditional reserve.

Both AFRC and Air Force Space Command (AFSPC) see space as a growing mission area in which AFRC can help support the Department of Defense and national requirements. To that end we will maintain our work with AFSPC in the determination of long-range plans in space operations and support. We currently provide over eight percent of total Air Force Space Capability and have the capacity to contribute even more within this growing mission.

Our 310th Space Group at Schriever AFB, Colorado provides direct war fighter support to 14th Air Force at Vandenberg AFB, California. In addition, many AFRC squadrons and units have been established within AFSPC to provide full mission support, including satellite operators that provide support for Global Positioning System and Defense Support Program surge requirements.

The 6th Satellite Operations Squadron, the only unit-equipped space squadron in AFRC, operates the Defense Meteorological Satellite Program in support of both the Commerce Department and the National Oceanic and Atmospheric Administration.

Full- and part-time operational augmentation to the Space-Based Infrared Radar System at Buckley AFB, Colorado, the Satellite Operations Center at Vandenberg AFB, California, and the 17th Test Squadron at the Space Warfare Center at Schriever AFB, Colorado, round out our current involvement in the space mission area. As we develop our synergistic relationship with AFSPC, we continue to look at additional mission area projects for potential implementation.

AFRC has one existing Air Operations Center (AOC) supporting organization—the 701st Combat Operations Squadron, March AFB, California. This unit represents approximately 33 percent of the current AOC units, with active component units in Korea and Germany, and Air National Guard units in Missouri and New York. Plans for at least three additional AOC units are projected for this year and beyond, with one additional tasking for an AFRC organization. All command and control units will provide equipment and/or manning support for an eventual 19 AOC units for aerospace command and control operations worldwide. Eventual crew and equipment standardization will promote effective aerospace command and control in the United States and abroad.

FINAL THOUGHTS

The Air Force Reserve supports the Air Force mission to defend the United States through control and exploitation of air and space by providing global reach and global power. As we have repeatedly witnessed, the Air Force Reserve Command plays an integral role in the day-to-day Air Force mission and is not a force held in reserve for possible war or contingency operations.

The events of September 11th clearly changed our normal manner of business as we continue to fulfill the needs of our Nation, maintain our increased vigilance, and prepare for the unexpected. As we are presented with new and challenging missions, I remain confident in the tremendous capabilities of Reservists to measure up to the task.

While this new mission activity continues, we need to keep our focus—assess the impact of Stop Loss on our operations, provide adequate funding for continuing activations, and keep an eye on sustaining our recruiting efforts. The challenge will be to retain our experience base and keep our prior service levels high.

Based on the actions of Reservists over the past year and especially since September 11th, I'm sure the challenge will be met by the outstanding men and women assigned to Air Force Reserve Command. It is these hardworking, professional and patriotic individuals who are the heart and soul of the command. Our accomplishments during this past year are the accomplishments of everyday Americans who are proud to serve.

In summary, Air Force Reserve Command is committed to meeting our people, readiness and transformation/modernization challenges, to remain a fully integrated partner with the Air Force. Reservists with the support of their families and civilian employers enable AFRC to be fully combat capable and meet its worldwide commitments.

Mr. Chairman, I thank you and your committee once again for your assistance in making us part of the worlds best Air Force, the USAF. I appreciate the opportunity to meet with the committee today to share my views with you and I look forward to answering any questions you might have for me.

Senator INOUE. Thank you very much, General Sherrard. We just had another vote, so that's why Senator Stevens has left. General McCarthy.

General MCCARTHY. Thank you, Mr. Chairman, members of the committee. It is a great honor for me to appear and to report to you on the status of your Marine Corps Reserve. I challenged the Marine Corps Reserve when I assumed command last June to be ready, willing and able, and I believe that they have amply met and demonstrated that level of capability.

We have gone through since September 11th a very measured call-up of reserves from the Marine Corps Reserve. We have called about 4,400 at our height, we are somewhere in the neighborhood of 4,300 plus now. The Commandant, as we say, scrubbed us with a wire brush in terms of scrutinizing the requirements so we did not call up anybody who was extra or excess, and I believe we met that challenge.

We are now going to demobilize about 500 of those marines over the next couple of months and I am working with my fellow force commanders to make sure that we do that in the most responsible way so that we don't negatively impact either individual marines who have made a commitment to us by coming on active duty, or their employers, who have made the sacrifice of supporting them.

The focus of our call-up has been on combat units. We have called infantry battalions, heavy lift helicopter squadrons, and a number of individuals, but primarily units, and those units have filled a variety of missions, continue to do so, and again, proven their worth as part of the total force of the Marine Corps.

We do have some equipment issues which I have outlined in my written statement and again, they involve modernizing primarily our equipment, but I would tell you that with some very, very small shortfalls, if we had to go to war today with the equipment we have, your Marine Corps Reserve would achieve its goals and would meet its mission. But we do that in large part because of the past support we received from this committee, and I guarantee you

that any future support that the committee sees fit to provide, we will put to the absolute highest and best use.

I look forward to being able or at least trying to respond to any questions that you or the committee may have. Thank you, sir.
[The statement follows:]

PREPARED STATEMENT OF LIEUTENANT GENERAL DENNIS M. MCCARTHY

INTRODUCTION

Chairman Inouye, Senator Stevens and distinguished members of the Committee, it is my privilege to report on the status and the future direction of your Marine Corps Reserve as a contributor to the Total Force. On behalf of Marines and their families, I want to thank the Committee for its continued support. Your efforts reveal not only a commitment for ensuring the common defense, but also a genuine concern for the welfare of our Marines and their families.

YOUR MARINE CORPS RESERVE TODAY

The Marine Corps Reserve continues to make an extraordinary contribution at home and abroad, most evident now during this time of crisis. Today we have 172,600 Marines in the Active Component and another 39,558 in the Selected Marine Corps Reserve (SMCR). This force can be expanded by drawing from the 60,000 Marines who serve in the Individual Ready Reserve (IRR). As an integral part of our Total Force, Reserve Marines augment and reinforce the Active Component by performing a variety of missions in wartime and in peacetime.

The Marine Corps Reserve today is a daily use force, not just dedicated solely to supporting a Major Theater War effort. Our contribution to Total Force requirements, measured in terms of work-days, has doubled from an average of 150,000 work-days per year, to well over 300,000 in recent years. This fiscal year, the Marine Corps Reserve is assuming the Marine portion of the United American States (UNITAS) deployment around South America, a major OPTEMPO relief effort. The goal is to assign the UNITAS deployment to the Reserve every other year. We are using the Reserve for manpower augmentation to Active and Reserve staffs, units, and exercise forces by providing short-term and full-time personnel to plan and perform training, administration, maintenance and logistical support not otherwise available through existing manpower levels or traditional Reserve participation (drills and annual training). These additional personnel are also of absolute necessity in maintaining our ability to plan and participate in OPTEMPO relief operations, Joint and Combined Exercises, and essential combat, combat support, and combat service support training. To meet Total Force training and support requirements, sufficient funding in Special Training and ADSW-AC is critical.

Operations Noble Eagle and Enduring Freedom

The mobilization of our Reserves for the Global War on Terrorism (GWOT) has been a very deliberate and prudent process. The Commandant of the Marine Corps, General Jones, has stressed the need to scrutinize and validate every request for Reserve support. The priority mission for the Reserve is to augment and reinforce the operating forces; therefore, the Marine Corps must remain judicious in committing its Reserves to "other" missions. The relatively low number of mobilized Marines reflects this prudent approach.

The partial mobilization authorized by President Bush gave the Marine Corps full access to the IRR. This pool of trained and experienced Reserves has always been particularly important to the Marine Corps to fill critical individual augmentation requirements. In order to avoid disrupting the lives of our IRR members and their families, our goal has been to activate those Marines most ready and willing to serve. Our Reserve Career Management Team added a database link to their well-established website for individual reserves to identify themselves and their skills and their availability for activation. The database has been used to assess individuals with specific skills and fill validated requirements.

At the end of March, 4,400 Marine Reserve personnel were activated in support of the Global War on Terrorism. The missions assigned to our Reserves in the GWOT are a clear reflection that Marine Forces Reserve (MARFORRES) possesses capabilities across the full spectrum of military operations.

—A detachment from Marine Aerial Refueler Transport Squadron 234 is forward deployed providing support for operations in theater.

—Two provisional security platoons have relieved two Fleet Anti-terrorism Security Team (FAST) platoons of the security mission at U.S. Naval Base, Guanta-

namo Bay, Cuba. This mission has become even more critical since the arrival of Joint Task Force (JTF) 160 and the detainees.

- Marine Heavy Helicopter Squadron (HMH) 772 is preparing to deploy its CH-53's and personnel with the 24th Marine Expeditionary Unit.
- 2nd Battalion, 23rd Marines serves as a ready reaction force in support of Homeland Security.
- 2nd Battalion, 25th Marines serves as an integral part of 2nd Marine Division.
- Civil affairs and intelligence detachments are augmenting I and II Marine Expeditionary Force (MEF) staffs, along with detachments from our MEF Augmentation Command Elements.

Our close partnership with the U.S. Navy has been evident in the mobilization process. When two platoons from Company B, 1st Battalion, 23rd Marines were mobilized in early November, their Navy Reserve Program Nine corpsmen were mobilized on the same timeline and deployed with the Marines to Guantanamo Bay. This success from one of our first unit activations has carried over to subsequent activations and is directly attributable to the close coordination of our Marines and their Navy counterparts. Also, for the first time we have activated the Medical Augmentation Program, which provides active duty Navy personnel to support certain SMCR units.

The ability of the Reserve to rapidly mobilize and integrate into the active component in response to the Marine Corps' operational requirements is a tribute to the dedication, professionalism and warrior spirit of every member of Marine Forces Reserve.

MARINES AND THEIR FAMILIES

Our future success relies firmly on the Marine Corps' most valuable asset—our Marines and their families. From provisional security platoons manning the fence line at the U.S. Naval Base, Guantanamo Bay, to a reaction force ready to respond to terrorist attacks on American soil, the men and women of your Marine Corps Reserve are ready, willing and able to answer the call to duty.

Recruiting and Retention

We need your continued support to attract and retain quality men and women in the Marine Corps Reserve. While we experienced a surge in prior service recruiting after Sept. 11, finding the right people to serve as Marines remains a challenging endeavor. This year our prior service recruiters were integrated with Marine Corps Recruiting Command (which has always had our non-prior service recruiting mission) to provide more synergy in our overall recruiting effort. Our mission is to find those potential Marines who choose to manage a commitment to their family, their communities, their civilian careers, and the Corps. While such dedication requires self-discipline and personal sacrifices that cannot be justified by a drill paycheck alone, adequate compensation and retirement benefits are tangible incentives for attracting and retaining quality personnel.

During the past fiscal year we achieved 102 percent of our recruiting goals for both prior service and non-prior service Marines. It was not easy! Our retention rates for Reserve enlisted Marines who stay beyond their initial obligation are also improving. We do, however, still have some work to do in keeping non-prior service Reserve Marines in a satisfactory participation status for the full length of their obligated drilling commitment. The incentives provided by Congress, such as the Montgomery G.I. Bill (MGIB) and the MGIB Kicker (Kicker) educational benefits, enlistment bonuses, medical and dental benefits, and commissary and exchange shopping privileges, have helped us to attract and to retain capable, motivated, and dedicated Marines, which has contributed to the stability of our Force.

The MGIB and the Kicker, which provide up to \$600.00 per month for college, are our most popular incentives. But, they compete with more lucrative educational entitlements offered by the National Guard. I appreciate the additional MGIB funding the Congress provided in fiscal year 2001. It expanded our ability to offer the Kicker to more Marines in critical billets and it helped to level the field of competition between the Guard and the Reserve Component.

Many of our Reserve Marines serve initially in the Active Component, which contributes significantly to our total force concept. We staff transitional recruiting stations at Marine Corps bases and stations to begin the prior service recruiting process before Marines leave active duty. Congressional support for increased educational benefits and reenlistment and affiliation bonuses in fiscal year 2001 helped us attract these Marines to join and to stay in our units. During that year, not only did we exceed our enlisted accession goal, but unit attrition decreased by two percentage points to 27.1 percent, well within our target range.

Maintaining overall SMCR end-strength at 39,558 (including 2,261 Active Reserves) will ensure the Marine Corps Reserve's capability to provide OPTEMPO and PERSTEMPO relief to Active Marine Forces, maintain sufficient full-time support at our small unit sites, and retain critical aviation and ground equipment maintenance capabilities. The current Marine Forces Reserve force structure also reflects a small tooth-to-tail ratio with a minimal number of active duty personnel in support of a majority of deployable warfighters.

Our Career Management Team (CMT) continues to expand its efforts to support "Career Reservists"—those Marine officers and enlisted who have completed their initial obligation and who remain affiliated. The CMT staff provides record reviews and counseling, offers career guidance, and communicates promotion information to assist and guide Reserve Marines in making the best possible career decisions. Via the CMT Website, Marines can access CMT services as well as find and apply for open Reserve billets and ADSW opportunities using the Reserve Duty On-Line (RDOL) database. RDOL replaces the Reserve Career Management Support System and allows units to advertise billet vacancies and ADSW opportunities and provides units with online visibility of Marines who are actively seeking Reserve career options. RDOL will also be the linchpin in our effort to leverage the civilian job skills of our Marines. We want to stratify the IRR to tap into skills not associated with traditional Marine Corps military occupational specialties but needed for special assignments. The RDOL will include the capability to capture and maintain data on civilian job skills, as well as allowing Reserve Marines to identify their periods of availability.

Our benchmark for achieving our goals is simple—"One Corps, One Standard" for all Marines, Active and Reserve. The Marine Corps Total Force System (MCTFS), our single integrated personnel and pay system, encompasses the records of all Marines in a single logical database. To meet the unique requirements of the Reserve, we are constructing MCTFS compatible automated systems to reduce costs and provide better service to our Marines. An example is the Reserve Order Writing System (ROWS), fielded just last month, which integrates our orders request and writing systems and facilitates reconciliation of funding obligations, thereby expediting orders and travel processing for our Reserves coming on active duty. We actively participate in development of the Total Force Administration initiatives, a Marine Corps program to update and further automate our Manpower Management System.

The U.S. Navy continues to directly support MARFORRES personnel readiness by providing over 2,700 medical, dental, religious, and naval gunfire support staff. I enthusiastically support the Navy plan to fund a full 15-day annual training for these sailors in fiscal year 2002 and out. Our joint training is essential to the successful accomplishment of our training and operational mission.

Quality of Life

Our Commandant has made it clear that combat readiness and personal and family readiness are inseparable. We are aggressively working to strengthen the readiness of our Marines and families by enhancing their quality of life (QOL).

One of our top concerns is the provision of an affordable health care benefit for Reserve Marines as they transition to and from periods of active duty, which we believe is necessary to support the increased use of the Reserve. Switching into and out of TRICARE clearly adds to the burdens the families bear when the Reserve member is called away.

Our many MARFORRES Marine Corps Community Services (MCCS) programs and services are designed and being developed to reach all Marines and their families regardless of geographic location; a significant and challenging undertaking considering the geographic dispersion of our Marines and their families throughout the United States and Puerto Rico. One area of which I am particularly proud is our Marine Corps Family Team Building program. During the past three years we have made a considerable commitment and investment in building, training, and supporting family readiness teams—comprised of Marines and volunteers—at sites and units across the Force. In short, these teams are vital to our family readiness efforts prior to, during, and after a deployment or mobilization. Our other MCCS programs include chaplain delivered retreats; physical fitness and healthy lifestyle programs; children, youth, and teen support; and continuing education programs just to name a few. Much work remains to extend MCCS programs and services to our unique Force, but even today MCCS is positively impacting our mobilization readiness.

The most sacred honor we can provide veterans is that of a military funeral. The active duty staff members and Reserve Marines at our 185 manned sites performed approximately 5,750 funerals in 2001 and we project to support approximately 7,000 funerals this year. The authorization and funding to bring Reserve Marines on active duty to perform funeral honors has particularly assisted us at sites like Bridge-

ton, MO, where we perform several funerals each week. We appreciate Congress exempting these Marines from counting against active duty end strength. Furthermore, as a result of the increase in funeral honors, we have realized increased operations and maintenance costs associated with vehicle maintenance and fuel for transportation of funeral honors duties and for the cleaning and maintenance of dress uniforms. Continued support for military funeral honors funding, in our Military Personnel and Operation and Maintenance accounts, is critical to ensuring mission success in this most worthwhile endeavor.

The Marine For Life Program is being developed to achieve the Commandant's vision of "improving assistance for our almost 27,000 Marines each year who honorably leave active service and return to civilian life, while reemphasizing the value of an honorable discharge." The Marine For Life Program will enhance current assistance by providing valuable sponsorship to these Marines as they transition to civilian life. The Marine for Life Program will build, develop, and nurture a nationwide network of transitioning Marines, veterans, retirees, Marine Corps affiliated organizations, and friends of the Corps. The program will foster a mutually supportive life-long relationship between the Marine, the Corps, and the public that we serve, thereby strengthening our ethos of "Once A Marine, Always A Marine." The Marine For Life program has entered the formal acquisition process and initial operational capability with at least 50 Hometown Links across America will be achieved by this summer.

CURRENT READINESS

The general state of readiness in the Marine Corps Reserve today, I am happy to report, is good. This condition is attributable to the spirited "can do" attitude of our Marines, and increased funding in the procurement and operations and maintenance (O&M) accounts provided by the Congress in fiscal year 2002. Most important, we remain ready and prepared to augment the Active Component in support of standing and crisis action requirements.

Maintaining current readiness levels into the future will require continued support as our equipment continues to age at a pace which, unfortunately, exceeds replacement. Within our Reserve aviation community our "youngest" platform is the UC-35 at 4 years, followed by the AH-1W Cobra at 9 years, CH-53E at 14 years, KC-130T at 16 years, F/A-18A at 18 years, and F-5 at 29 years. Our oldest platform and ones which have exceeded programmed service life include the UH-1N at 31 years (20-year service life) and the CH-46E at 35 years (20-year service life with "SR&M" extension to 30 years). Maintaining these aging legacy platforms requires increased financial and manpower investment with each passing year due to parts obsolescence, higher rates of equipment failure, etc. Aircraft maintenance requirements are increasing at an approximate rate of 8 percent per year. For example, for every hour the CH-46 is airborne, it requires 37 man-hours of maintenance.

The situation within our Reserve ground community, while not as dire as the aviation force in terms of nearing or exceeding service life, is a growing concern. The average age of our LVS fleet is 15 years, LAV's are at 16 years, ROWPU at 17 years, HMMWVA1 at 17 years, 5-ton trucks at 20 years, M-198 at 19 years, and AAV at 29 years. ROWPU has exceeded its programmed service life and our 5-ton trucks are at the end of their service life. Maintaining these aging legacy platforms requires increasing financial and manpower investments for the reasons cited earlier.

In addition to equipment aging, O&M expenses are also being driven upwards by increasing equipment utilization rates brought about by greater integration and support to the Active Component, both in peacetime and more recently in support of the GWOT. Obtaining increased O&M funding is only part of the solution; we are also pursuing various measures internally to mitigate these trends focusing on better business practices. One example is transferring unit non-essential equipment to central storage locations for preservation and maintenance.

One of our most immediate readiness challenges is providing adequate NBC protective equipment for our individual Reserve Marines. MARFORRES maintains NBC protective equipment in quantities sufficient to outfit the Force. Recently, however, a serviceability review resulted in a significant portion of the inventory being ruled unserviceable. The events of Sept. 11 and subsequent have justifiably elevated the importance of addressing this deficiency. The fiscal year 2003 President's Budget does not include sufficient funding for this requirement; however, the Commandant has formally recognized this as a deficiency.

We are thankful for and remain confident the additional funds provided by Congress in fiscal year 2002 will ensure the continuing readiness of the Marine Corps

Reserve, and we seek your continued enthusiastic support in this President's Budget.

INFRASTRUCTURE

Investment in infrastructure has been a bill-payer for near-term readiness for most of the last decade. Maintaining and modernizing our training center infrastructure has become extremely challenging. MARFORRES units are located at 185 sites in 47 states, plus the District of Columbia and Puerto Rico. Over 75 percent of the reserve centers we are in are more than 30 years old, and of these, about 35 percent are over 50 years old. Our costs for facilities operations and maintenance have increased 20 percent in less than three years. Rising infrastructure costs, largely beyond our control, challenge our finite resources.

The present Military Construction, Naval Reserve (MCNR) backlog is \$205 million. Our fiscal year 2003 President's Budget submission for Military Construction, Naval Reserve, \$12.1 million, is slightly higher than the fiscal year 2002 enacted level. The fiscal year 2003 request addresses our most pressing requirements—\$6 million for a new Reserve Training Center in Savannah, GA; \$2 million for a tank maintenance facility in Syracuse, NY; and \$4.1 million for a vehicle maintenance facility in Waco, TX. The overall condition of Marine Corps Reserve facilities continues to demand a sustained, combined effort of innovative facilities management, a proactive exploration of and participation in Joint Facility projects, and a well-targeted use of the construction program.

After Sept. 11, we accelerated our Vulnerability Assessment program, completing a two-year effort in six months. This assessment identified \$33.6 million in projects over the next three to four years to resolve anti-terrorism/force protection (AT/FP) deficiencies at the 42 sites that we own or otherwise have responsibility for site maintenance. We will strive to fund these AT/FP requirements in the future.

MODERNIZATION AND TRANSFORMATION

In recent years the Marine Corps has made a deliberate choice to fund current readiness over recapitalization and transformation. It is well documented that this practice has led to a downward spiral in which we annually invest more funds for operations and maintenance to maintain aging equipment leaving insufficient funds for new equipment procurement. Generating savings to reinvest in procurement, while essential for recapitalization and transformation efforts, should be accomplished with great care, with existing legacy systems scrutinized using a business and risk management approach.

The following modernization priorities represent low investment/high pay-off capabilities, closely linked to Marine Corps operational concepts and doctrine, relevant to the combatant commanders, and essential to the survival of our Marines in combat.

Modernization

F/A-18A ECP-583

Our top modernization priority remains unchanged from fiscal year 2002: upgrading our fleet of 48 F/A-18A Hornet aircraft with Engineering Change Proposal (ECP)-583. This Marine Corps Total Force program encompasses 76 aircraft, including 28 Active Component aircraft. This ECP converts early lot, non-precision, day fighter/attack aircraft into F/A-18C Lot 17 equivalent aircraft capable of employing the newest generation of air-to-air and air-to-ground ordnance, including JDAM, JSOW, SLAM-ER, AIM 9X, capable of operating day or night. The ECP replaces the APG-65 radar with the APG-73, adds GPS to the navigation suite, replaces radios with ARC-210 and digital communication system (DCS), installs new mission computers and many other components.

The Chairman, Joint Chiefs of Staff stated in recent testimony "we need to find ways to modernize and integrate legacy systems where it makes sense." This initiative clearly makes good sense from a business perspective. For the relatively low cost investment of \$4.3 million per aircraft, the combatant commanders will have access to an additional 76 relevant war-fighting assets. Secondly, with numerous F/A-18C aircraft nearing service life limits, upgrading these aircraft helps to mitigate the DON's TACAIR downward inventory situation. Third, it is supportive of a goal outlined by the Secretary of Defense in recent testimony—to move our military forces from unguided munitions to combat formations armed with precision-guided capabilities.

Congress has funded 52 aircraft ECP-583 upgrades through fiscal year 2002 with 24 remaining unfunded (2 AC/22 RC). The fiscal year 2003 President's Budget funds \$11.7 million. We seek to accelerate program completion and request your support.

CH-53E Helicopter Night Vision System

Our second modernization priority also remains unchanged from fiscal year 2002: upgrading our fleet of 21 CH-53E helicopters with Helicopter Night Vision Systems (HNVS). This Marine Corps Total Force program encompasses 153 aircraft, including 132 Active Component aircraft. The primary component of the HNVS is the AN/AAQ-29 Forward Looking Infrared (FLIR). HNVS "expands the envelope" by providing improved night and all-weather capability. The importance of having a robust and capable heavy lift capability has been on display in Afghanistan where the Corps' CH-53E's transported 15th and 26th MEU(SOC) Marines and supplies hundreds of miles inland to austere operating sites. Our expeditionary nature will lead us to equally challenging environments in the future. To operate effectively and within safe margins mandates our CH-53E's be equipped with HNVS. Congress has funded 72 HNVS through fiscal year 2002 with 81 remaining unfunded (70 AC/11 RC). The fiscal year 2003 President's Budget funds \$1.2 million (2 HNVS). We seek to accelerate program completion and request your support.

Initial Issue Equipment

On the ground side, next to NBC protective equipment, our most important priority concerns the need for adequate initial issue equipment for our individual Reserve Marines. Individual issue equipment includes body armor, cold weather items, tents, and modular lightweight load-bearing equipment (MOLLE). Every unit assigned to MARFORRES may be called upon, as indeed some of our units already have been, to support the GWOT. Equipment shortfalls could lead to delays in deploying mobilized Marines. The fiscal year 2003 President's Budget provides \$9.6 million which funds part of the deficiency.

Transformation

As directed by QDR-01, we are participating in the comprehensive review of Reserve forces. In the process we will look at possible new missions and organizations for our Reserve force to better integrate with the Active Component in support of the National Military Strategy. We conducted a similar internal review in 2001 at the direction of our Commandant. Regardless of what changes may result, we know that certain challenges will remain.

CONCLUSION

The Marine Corps Reserve is ready, willing and able to answer our Nation's call to duty in the Global War on Terrorism, as has been so well demonstrated by the mobilization and integration of Reserves into the Active Component. However, our readiness has come at the expense of investment in our infrastructure and modernization. Congress' consistent and steadfast support has directly contributed to our success. The Marine Corps appreciates your continued support and collaboration in making the Marine Corps and its Reserve the Department of Defense model for Total Force integration and expeditionary capability.

Senator INOUE. Gentlemen, I assure you that all your prepared statements will be made part of the record and your exhibits will be placed on our file.

Before proceeding, I would like to note that the Chief of the Army Reserve, Lieutenant General Plewes, this may be your last appearance, after having served for 35 years. On behalf of the Senate, I thank you very very much for the service you have rendered to all of us. We appreciate it very much.

PRIVATE SECTOR SUPPORT

General PLEWES. Thank you, Mr. Chairman.

Senator INOUE. At the time of 9/11 the level of support in the private sector was exceedingly high. Has that level of support continued, can you tell me?

General PLEWES. Let me just start off by saying yes, it has not only been high, but it's remarkably much higher than we saw for example during Desert Storm. I think in large part, people do understand that this is a war on terrorism that's very close to home.

We have over 200 employers both in the private sector and Government sector who are doing things that they did not do before, such as making up the difference in pay for our reservists who have been called up. That's much larger than anything we have seen before. So, there is a ground swell of strength.

The question that was discussed with the previous panel I think is a valid one, and that is, as this goes on can we sustain that level? I think for some time you can if we do this wisely and we make it known that the call-ups are of a definite duration, and perhaps get into the business of giving them further advance notification of call-ups. We have done things very easily so far, and I think we can retain that level of support.

Senator INOUE. Admiral.

Admiral TOTUSHEK. My evidence is that we have ongoing support from our employers, the same kinds of evidence that General Plewes talked about. I think the issues are to continue to communicate with them, to make sure they understand that we are going to need a level of support from the Reserve for some time, and then the key is to get people back just as soon as we don't need them any longer.

Senator INOUE. General Sherrard.

General SHERRARD. Yes, sir, I echo those comments. Sir, I would tell you also, equally important to note is the number of State and local municipalities who, in fact, have taken steps during this particular activation to provide support to their members.

But I also would like to go back to something the first panel said too. We will need to be very careful as we start the demobilization process, to do it in a time phased fashion that protects the members as well as not jeopardizing the great support that those employers have given to us to date. That will take some very careful planning on our part and we are postured to do that today and it really requires close close communication and that will be the key to success.

Senator INOUE. General McCarthy.

General MCCARTHY. Senator, I would like to join in all of those remarks and my experience is the same.

I just point out that in the Marine Corps Reserve, about 40 percent of our enlisted marines are college students, and one of the things that we are seeing this time that we didn't see in 1990 as much is great support by educational institutions in supporting the young men and women who have to leave school because they are mobilized. That has really been gratifying and we have expressed our thanks to a lot of institutions who have supported our students in that way. We talk about employers, sometimes we forget about educational institutions.

RECRUITING

Senator INOUE. I think it's becoming very apparent that this war on terrorism, that it will be a bit longer than some have anticipated, and I note that two of you have indicated you're having problems on recruiting. What can this committee do to alleviate that problem?

Admiral TOTUSHEK. I think one of the big things we need to do as a Nation is to continue a robust advertising campaign for all the

military. It seems that our country, and actually I think 9/11 brought us into a sense of reality about what it is going to take to protect our country in the future, but I think we need to continue with a robust advertising campaign, and I frankly don't think we are quite at the levels we need to be.

Senator INOUE. Will the campaign for the regular help the reserves too?

Admiral TOTUSHEK. Yes, sir. I think that the message needs to be that we need people both full-time and part-time, and that message needs to be gotten across all the components.

Senator INOUE. Anybody else?

General SHERRARD. Yes, sir. Sir, I would tell you that that is very important, but also I think we need to make certain that we look for advertising capability that supports our independent components, because of where we are localized and that is one of the key points for the Air Force Reserve in particular, is that you're recruiting for a local area, and while you may try to have a nationwide campaign, the fact that the members do not have that much flexibility to travel to and from.

And the other I would tell you is that, which the committee was so gracious in the recent past to give us some additional recruiters, it's key that we retain those and work very hard to keep that force going. The smaller size of the active force, the smaller size of the members of the active force that can separate, certainly will impact on the numbers of prior service members, which as Admiral Totushek mentioned earlier, we both really rely on that ability and that number of members to come into our force. It's going to be important that we have the advertising capacity to reach out and touch all those areas.

General PLEWES. Sir, if I could just add there, the Army National Guard is having great success this year in our recruiting and in our retention and we are in fact at this moment over strength. And we have asked our recruiters if you will, to slow down our recruiting and turn their attention to helping the active service build its delayed entry program.

So we don't have that problem this year, I'm not quite sure about the future, but we clearly need to have the underpinning of a strong basis of advertising and it needs to be conducted on a team basis.

HEALTH CARE

Senator INOUE. Do we have any health problems with the men and women who have been mobilized? I notice you have indicated that there are companies in the private sector that make up difference in pay for some. Do some provide health care coverage? What about the rest of them?

General PLEWES. My assessment is that the health issues, at least in the Army Reserve, is much better than it was 10 years ago, and that's the only basis of experience I have. During Desert Storm we lost somewhere between 20 and 25 percent of soldiers because of family problems, and now it's down to about 9.9 percent, so it's much better off. We are particularly doing a better job of educating our soldiers.

I think that there is more things that we can do still. We still have a huge problem in the dental area. We don't have good dental care programs, and where there's insurance available, it's not a strong program, I don't believe. So we need additional help in the dental area. We still have too many soldiers who show up with dental problems.

Admiral TOTUSHEK. We're finding that as far as health care is concerned, that the people that are the most disadvantaged by the current program are those people that are remote and the ones that are on active duty. So as we mobilize people from areas where you don't have a large TRICARE community, educating basically the healthcare providers in that area about TRICARE, a lot of them just don't want to bother with bureaucracy, it's one of the most difficult ones for the provider to be able to make its claim through, they basically push back on us. So that's the biggest problem I see concerning health care.

General SHERRARD. Sir, if I might, one of the concerns that we have seen in our activation are in fact the period that we're asking the members to be activated, which then drives them to a particular type of medical care that their families are being provided. And I will share, as John just mentioned, those that live in remote areas have experienced some difficulty in finding some of the proper care.

We have had a very small number of cases, and I mean literally one or two where we have had some fairly catastrophic health problems with one of the family members of an airman that was activated. We have been working with the current system to provide that protection and I will tell you that the employers, again, have been very very supportive and they have sustained that medical support for that member so that we did not put that family in harm's way or that particular individual in harm's way and jeopardize their health.

General MCCARTHY. I would just add, Senator, the support of employers has really been good but as we brought more people into the TRICARE system from home communities where the member, the Marine may be off to Camp Lejeune where the coverage is great but his family is still in Columbus, Ohio, and I'm not picking on Columbus except that I'm from there, but you know, someplace where TRICARE is not a big provider, we have seen more and more issues raised.

ADDITIONAL COMMITTEE QUESTIONS

And those are the kind of things we saw before mobilization with our inspector instructor staffs, the active duty members who support a reserve unit. Now we're seeing it increasing somewhat with reserve families who are being brought into the TRICARE system. So we really do have some work to do, but the Office of the Secretary of Defense in their mobilization policy really did some good things with regard to TRICARE. I applaud their efforts and I agree with the first panel, I think people are working hard on this, but we have a ways to go.

[The following questions were not asked at the hearing, but were submitted to the Department for response subsequent to the hearing:]

QUESTIONS SUBMITTED TO LIEUTENANT GENERAL THOMAS J. PLEWES

QUESTION SUBMITTED BY SENATOR CHRISTOPHER S. BOND

BIOLOGICAL DETECTION CAPABILITIES

Question. I am very interested in the Army Reserve's biological detection capabilities given America's ongoing War on Terrorism and the current world situation. I understand the Army Reserve will activate a biological detection unit in Missouri during 2003. For the record, please explain the Army Reserve's current and planned future biological detection capabilities, suggest how the activation of the Missouri biological detection unit will impact current capabilities for supporting homeland security and global missions, indicate whether or not the unit's biological detection equipment will be fully funded in fiscal year 2003, and recommend how this Subcommittee might best assist the Army Reserve with its biological mission?

Answer. Currently the Army Reserve Biological detection capability has one Biological Detection System (BIDS), the 310th BIDS Company, located at Fort McClellan, Alabama. This unit consists of 186 personnel and has 35 biological detectors in the BIDS Non-Developmental Item Configuration and has the capability of detecting 4 Biological agents in 45 minutes.

Future Army Reserve plans call for a total of 11 biological detection companies. Seven of the companies will be comprised of Army Reservists and the other four will be multi component companies that will include Army Reserve and Active Component soldiers. The remaining units will be activated between fiscal year 2003 and fiscal year 2009. All of the units are programmed to be equipped with the Joint Biological Point Detection System (JBPDS) that is capable of identifying 10 agents in 15 minutes.

The first unit to be fielded with the JBPDS will be the 375th BIDS Company, in St. Louis, Missouri. This unit will participate in Homeland Security (HLS), small scale contingencies, and major combat operations. It will cost approximately \$42 million to activate this company. The JBPDS BIDS program is only partially funded; there is a \$28 million shortfall requirement to fully equip this unit to maximize its readiness. The activation of this unit will set the standard for all future Active and Reserve bio detection units.

QUESTIONS SUBMITTED BY SENATOR KAY BAILEY HUTCHISON

STRATEGIC STORAGE OF EQUIPMENT FOR ARMY RESERVE

Question. I understand that the Army Reserve conducted a detailed analysis of its equipment maintenance and storage program and that they are presently implementing key elements of the program. Can you explain the results of the study, the concept for strategic storage of equipment, and the technology that it employs to mitigate the threat of moisture-induced corrosion?

Answer. The Army Reserve completed an extensive study that examined issues critical to sustaining and maintaining its \$5.7 billion of equipment. The purpose of this study was to look at where Army Reserve logistics is and to gain a better understanding of how to move the Army's largest combat support element into the future. The findings of this study, which looked specifically at the 77th Regional Support Command in New York and New Jersey, provided scientific recommendations on how the Army Reserve can implement better business practices, outsource some logistics services while leveraging our core competencies, redesign and modernize Equipment Concentration Sites and Area Maintenance Support Activities, leverage automation technology, and establish Strategic Storage Sites.

Controlled Humidity Protection (CHP) technology was one of the key elements in the redesign of our Equipment Concentration Sites and the establishment of Strategic Storage Sites. CHP technology in equipment storage facilities not only has the potential for greatly reducing the cost to maintain the equipment, but it can also improve our ability to be a strategically responsive and ready force.

We believe that this concept of strategic storage which is essential to achieve strategic responsiveness is oriented towards supporting Army Transformation. A complex methodology to identify equipment assets required for unit training readiness and those assets only needed to support wartime authorizations has been implemented. This will involve placing only wartime assets into CHP facilities that are strategically located near major seaports and metropolitan areas. This concept allows units to maintain their training readiness while reducing the "fort to port" time for roughly 37 percent (or \$2.5 billion) of Army Reserve equipment, thus greatly improving strategic responsiveness.

Question. Most importantly, has the General Accounting Office or any other government audit agency looked at the return on investment from such a program?

Answer. The General Accounting Office looked at the use of Controlled Humidity Protection (CHP) and determined that CHP shelters normally pay for themselves, using the principle of “cost-avoidance”, within the first year, and Army units can receive as much as a 9:1 return on investment.

INCREASE OF FULL-TIME SUPPORT OF ARMY GUARD AND RESERVE

Question. I recall that the Army validated the need to increase Full-time Support (Active Guard/Reserve plus Military Technicians) to improve Army Reserve unit readiness and established ramps to climb to the “high-risk” threshold of these requirements. What is the annual requirement to support this increase?

Answer. First, let me say that the Army Reserve appreciates the support that they received from Congress last year with Full-time Support (FTS). The Active Guard/Reserve (AGR) ramp is projected to last until fiscal year 2011 when it is expected to reach through the “high risk” threshold of 16,263 endstrength. The current AGR endstrength is 13,406 which is 2,675 below the Army’s validated requirement. The Army Reserve has an \$11.4 million shortfall for the fiscal year 2003 portion of the ramp and a \$28.9 million shortfall to pay for the 13,588 soldiers requested. The annual funding requirement for 300 AGRs is: \$11.4 million for fiscal year 2003, \$13.5 million for fiscal year 2004, \$14.2 million for fiscal year 2005, \$14.6 million for fiscal year 2006, \$15.1 million for fiscal year 2007, \$15.7 million for fiscal year 2008, and \$16.2 million for fiscal year 2009.

The fiscal year 2002 Army Reserve Military Technicians (Miltechs) endstrength is 7,344 which is 1,646 below the Army’s validated requirement of 8,990 Miltechs. To alleviate this shortfall, the Army established a nine-year ramp to achieve the “high-risk” full-time manning (FTM) levels by fiscal year 2009. Congress recognized the severity of this shortfall and responded in December 2001, by allocating an increase of 250 Miltechs for fiscal year 2002 in the fiscal year 2002 National Defense Authorization Act, but only authorized funding for this increase in fiscal year 2003 and fiscal year 2004. The annual funding requirement for 250 Miltechs is: \$8.0 million for fiscal year 2003, \$8.0 million for fiscal year 2004, \$8.1 million for fiscal year 2005, \$8.3 million for fiscal year 2006, \$8.6 million for fiscal year 2007, \$8.9 million for fiscal year 2008 and \$5.4 million for fiscal year 2009.

Question. How long are the ramps projected to last and what portion has the Army funded?

Answer. The Army Reserve ramp is projected to last until fiscal year 2011 for the Active Guard/Reserve soldiers (AGRs) and fiscal year 2009 for the Military Technicians (Miltech). The Army intends to fully resource the ramp in fiscal year 2004–09 during this programming cycle. Congress has resourced the fiscal year 2001–02 Ramp by adding 598 AGRs and adding 900 Miltechs. Fiscal year 2003 is currently pending Congressional mark. The endstrength goal is 16,263 AGRs and 8,990 Miltechs.

EQUIPMENT STATUS OF ARMY RESERVE

Question. I am well aware of the relevance of the Army Reserve and the truism that the Army cannot perform its mission without the Army Reserve. The very structure of the Army demands that the Army Reserve remain constantly ready to support the active forces across the entire spectrum of operations. What equipment shortfalls are severely hampering the Army Reserve’s ability to accomplish this mandate?

Answer. I would like to thank the Committee for helping to address our equipment shortfalls. The Army Reserve is ready to serve in the ongoing war on terrorism thanks to your commitment to fund equipment requirements. As you know, the Army Reserve’s core competencies, combat support (CS) and combat service support (CSS) are equipment dependent. This emphasis on equipment focuses on our role in the Army’s Transformation and the Army’s war fight. While we have many items of required equipment that enable us to do our mission, our effectiveness is dependant on our ability to achieve our modernization goals.

Key CS/CSS systems are critical to the Army Reserve’s ability to meet the full range of missions. Shortages of distribution platforms such as tactical vehicles and materiel handling equipment impede rapid force projection. The Family of Medium Tactical Vehicles (FMTV), Rough Terrain Cargo Handlers (RTCH), High Mobility-Multipurpose Wheeled Vehicles (HMMWV), 22.5 Ton Semi-Trailer, Heavy Expanded Mobility Tactical Trucks (HEMTT), Palletized Load Systems (PLS), All-Terrain Lifting Army Systems (ATLAS), All-Terrain Cranes (ATEC), and Theater Support Vessels (TSV) are systems that are critical to maneuver sustainment.

Shortfalls in logistics automation Standard Army Management Information Systems (STAMIS) such as the Global Combat Support System (GCSS)-Army, the Transportation Coordinator Automated Information for Movements System Two (TCAIMS II), and Movement Tracking System (MTS) degrade efficient logistic support and prevent total asset visibility. Major shortages also exist in petroleum and water distribution systems and communications equipment such as the High Frequency Radio. In systems that provide maneuver support to our combat forces, the Army Reserve's capability is degraded by shortages of Biological Integrated Detection Systems (BIDS), Deployable Medical Systems (DEPMEDS), Tactical Fire Fighting Trucks (TFFT), tactical bridging, night vision devices and force protection vehicles such as Up-Armored HMMWV's. The fielding of these new distribution platforms and logistics automation systems coupled with the recapitalization of existing legacy systems allows the Army Reserve to meet the deployment vision outlined by the CSA.

Question. What is being done to address these shortfalls?

Answer. The Office of the Chief, Army Reserve works closely with Headquarters, Department of the Army to ensure that equipment requirements for the Army Reserve are recognized and incorporated into planned procurements. New procurement for many Army Reserve shortfalls is identified in the P-1R, an exhibit to the President's Budget. This Army procurement plan must be monitored closely to ensure proper execution. The greatest risk facing the Army Reserve in support of the National Military Strategy is the potential deferment of key combat support (CS) and combat service support (CSS) procurement programs identified in the P-1R over the Future Years Defense Program (FYDP).

Due to limited resources, equipping and modernizing of the Army Reserve remains a challenge. In the last ten years, the Army Reserve has averaged less than 6 percent of the annual Service Procurement (P-1R) Projection. Additionally, the balance of dollars expended favors funding major combat weapon systems, thus promoting an acquisition philosophy that severely affects the capability of the Army Reserve to fulfill its wartime mission. At the same time the Army Reserve provides 31 percent of the CS and 45 percent of the CSS assets at echelons above corps to support the warfight. The Army Reserve requires a steady state funding rate commensurate with projected requirements to curtail the erosion of readiness and to ensure interoperability.

Currently, the Army Reserve is short \$2.1 billion of mission essential equipment with a large portion of the on-hand equipment well past the Economic Useful Life (EUL). This figure only depicts current shortfalls; it does not modernize the Army Reserve. For example, to move to the objective requirement for High Mobility Multi-purpose Wheeled Vehicles (HMMWV) our Force Packages 1 and 2 units require additional funding of \$66 million with the total for all Force Packages at \$431.4 million.

The logistics modernization strategy must focus on developing and procuring systems that provide the key capabilities for soldier and weapon systems they will support, i.e., increased mobility, survivability, and agility. Significant reductions in the logistics footprint will not be attained unless key CS and CSS enablers are procured in sufficient quantity to support the plan.

FAMILY OF MEDIUM TACTICAL VEHICLES

Question. General Tommy Franks has recently testified on the need to maintain the Army's combat systems and combat systems support base. He described several systems that he deemed were "of particular interest to the Command." One program he mentioned is the Family of Medium Tactical Vehicles (FMTV). I am told that the Army Reserve has only 287 two and a half ton FMTVs on hand against a requirement of more than 13,000 new trucks and that there is an urgent requirement for \$151 million for all versions of FMTV Trucks for the Guard and Reserve. What is the specific requirement for these vehicles?

Answer. The current Army Reserve requirement for the Family of Medium Tactical Vehicles (FMTV) is 13,148. Currently there are 291 vehicles in the Army Reserve inventory, leaving a shortfall of 12,857. The 13,148 total includes multiple variants of both the Light Medium Tactical Vehicle (LMTV) requirement of 4,433 and the Medium Tactical Vehicle (MTV) requirement of 8,715. The projected fielding of the FMTV between now and fiscal year 2009 includes 4,616 vehicles, leaving a projected shortfall of 8,532.

The FMTV consists of a common truck chassis that adapts to several configurations. The vehicle is available in a both a van and cargo version and offers a 2.5T and 5T payload capacity. The FMTV supports Army Transformation replacing over-aged, maintenance intensive, World War II era designs with modern, state-of-the-

art technology that is fully interoperable with Active Component equipment. The FMTV performs line haul, local haul, mobility, supply and other Combat Support and Combat Service Support (CS/CSS) missions. FMTV can operate worldwide on primary and secondary roads and trails in support of all Army operations.

Question. If Congress can find the money to fund this requirement, what will the Guard and Reserve be able to do that they cannot do now?

Answer. The Active Guard/Reserve represents over 80 percent of the Army's total transportation force structure. The Family of Medium Tactical Vehicles (FMTV), a critical equipment component for Army Transformation, allows the Army Reserve to more effectively meet mission requirements by offering reduced Operational and Sustainment costs, full interoperability with Active Component equipment, a reduced logistics footprint, and increased deployability. Although the FMTV's payload capacity is the same as existing equipment, onboard diagnostics, ultra-reliable and common parts, and increased off-road capability provide units with nearly 100 percent mission availability rates, making the vehicle more effective than existing equipment.

Additional funding for the procurement of Medium Tactical vehicles directly enhances unit readiness by increasing interoperability and capability of Army Reserve units to support overall mission requirements. The average age of our current Light-Medium Tactical Vehicle fleet is approximately 28 years or 13 years past its Economical Useful Life (EUL). Many of our trucks are approaching 40 years old. Without funding, the Army Reserve will continue to operate aging equipment resulting in increased maintenance costs and reduced mission capability/deployability. As such, the FMTV is critical in mitigating serious readiness issues.

QUESTIONS SUBMITTED TO VICE ADMIRAL JOHN TOTUSHEK

QUESTIONS SUBMITTED BY SENATOR CHRISTOPHER S. BOND

Question. The recently released "National Guard and Reserve Equipment Report for Fiscal Year 2003" projects Reserve Component equipment shortages of over \$15 billion next year. With the country relying heavily on its RC's to fight the War on Terrorism, we could be sending our NG and RC members into combat without the best tools to maximize safety and success.

VADM Totushek, I have been briefed that the "National Guard and Reserve Equipment Report for Fiscal Year 2003" projects a Reserve Component shortfall of over \$15 billion next year, with over \$2 billion in the Naval Reserve. This deeply concerns me because of the degree in which we're relying on our NG and Reserve Components in the war. If we send forces into war with older, less-modern equipment we could be putting them into danger needlessly. VADM Totushek, please give us your top three examples of unfunded equipment and explain any adverse effects on the war effort that they might create if left unfunded?

Answer. If additional funding were to become available for Naval Reserve equipment modernization, our top three priorities would be:

(1) *C-40A Procurement.*—Replacement of twenty-seven aging C-9B and DC-9 aircraft with the C-40A aircraft (Boeing 737-700). Without funding for the C-40A, the Naval Reserve will be forced to operate the aging and less capable C-9B/DC-9 transport aircraft (average age of over 28 years) and eventually will be excluded from air space as Global Air Traffic Management/Communication, Navigation and Surveillance requirements and noise reduction mandates are instituted around the world. To date, six aircraft have been funded.

(2) *P-3 BMUP/AIP Modifications.*—Upgrade of the Reserve P-3C aircraft with the Block Modification Upgrade Program (BMUP) and/or Aircraft Improvement Program (AIP) would make the Reserve P-3 force common with the active P-3 force. BMUP is common with the P-3C Update III configuration, and this commonality has capability, training and logistics benefits. Without AIP installed, the Naval Reserve's P-3C aircraft are less relevant and less capable in comparison to active component aircraft and therefore are less demanded by the warfighter. Thirteen BMUP aircraft are required to achieve an all Update III Reserve force. Further, some of the Reserve Update III aircraft need conversion to AIP, including funding for the non-recurring engineering required to convert a BMUP aircraft to the AIP configuration. To date, the Naval Reserve has twenty-nine Update III configured aircraft, of which eight are BMUP aircraft and two are AIP capable.

(3) *Naval Coastal Warfare Equipment.*—Procurement of small boats and other table of allowance equipment and supplies to support the forty-five units of the Naval Coastal Warfare force. Many NCW units are currently deployed throughout the world in support of the war effort. These units provide coastal surveillance and

force protection support to bases and other Navy operating areas around the world. Without additional funding, the readiness of these units will be reduced and future sustainment jeopardized.

Question. Starting in fiscal year 1997, the Congress made a conscious attempt to reduce miscellaneous National Guard and Reserve Equipment (NGRE) allocations with the intent to force the services to start funding Reserve equipment requirements from their own budgets. The Navy budget has consistently fallen short of this goal and, as a result, the Naval Reserve has a \$2.1 billion equipment shortfall in fiscal year 2003.

VADM Totushek, starting in the fiscal year 1997 Defense Appropriations Bill, the Congress directed the services to start funding Reserve Component equipment requirements from their own service budgets. How has the Navy funded your equipment requirements? Were your requirements better addressed through the miscellaneous NGRE Account than through the current service budget process?

Answer. As the National Guard and Reserve Equipment Appropriation (NGREA) has been reduced from \$200 million in fiscal year 1997 to just \$10 million in fiscal year 2002, the Navy, because of higher priority Active component requirements, has been unable to correspondingly increase its Reserve Component's procurement funding accounts to offset for the NGREA decrease. The result is that with the dramatic reductions in NGREA, the Naval Reserve has less funding to support its many equipment modernization and recapitalization requirements.

[In millions of dollars]

	1997	1998	1999	2000	2001	2002
NGREA	199.7	78.7	60.0	19.9	5.0	9.9
P-IR	11.7	32.0	34.0	105.9	17.1	21.9

Question. The Naval Reserve moved a Mobile Inshore Undersea Warfare (MIUW) Unit from Kansas City to Whiteman Air Force Base last year. This MIUW is in the process of becoming the first unit to receive the Littoral Surveillance capability to receive, process, and display, in real-time, data received from national, theater, and tactical sensors to interface with naval command, control, communications, computers, and intelligence and weapons control systems. It can be deployed onboard a ship or deployed to a remote location to support operations plans or crisis response.

VADM Totushek, I understand that the first Littoral Surveillance System is to be located at Whiteman Air Force Base in Missouri. What is its current status? How do you envision the system being used to support the War on Terrorism?

Answer. Mobile Inshore Undersea Warfare (MIUW) Unit 114 moved from Kansas City to Whiteman Air Force Base last year. The Littoral Surveillance System (LSS) equipment for the unit is currently awaiting a modification at the Northrup Grumman facility in Baltimore and should be completed during fiscal year 2003. The LSS unit will be shipped in the Summer of 2003 after the new secure facility for MIUW 114 is completed.

Question. Does it have any role in homeland defense/security?

Answer. The Littoral Surveillance System (LSS) may play a role in the war on terrorism and also support homeland defense/security. LSS is a Navy program developed to provide a robust end-to-end capability to receive, process, and display, in real-time, data received from national, theater, and tactical sensors. It also has the capability to interface with naval command, control, communications, computers, and intelligence and weapons control systems. It may be deployed onboard a ship or deployed to a remote location to support operations plans or crisis response. As a land based, portable version of the Naval Fires Network, it is likely to play a prominent role in future operations, including the war on terrorism and homeland defense/security.

QUESTIONS SUBMITTED BY SENATOR KAY BAILEY HUTCHISON

C-40 AIRCRAFT FOR NAVY RESERVES

Question. VADM Totushek, as you are well aware, the cargo carrying capacity of the much relied upon Navy Reserve aircraft is becoming more and more limited because of the aging of the C-9 fleet. To address this concern, the Navy has begun to procure new C-40 aircraft to eventually replace these aging airframes. In fact, these C-40s are being heavily relied upon to support the ongoing operations overseas because the C-9 has severe structural and avionics limitations to conduct these

overseas operations. I know that VR-59 at NAS JRB Fort Worth received the first three of these C-40 aircraft for the Naval Reserve. However, VR-59 has a requirement for four aircraft. When can the squadron expect to receive its fourth aircraft?

Answer. The squadron did in fact receive a fourth aircraft last year. That aircraft was later transferred to VR-58, in Jacksonville, FL to stand up a second C-40 squadron to better serve the needs of the Navy. It is not yet known when VR-59 will ultimately receive its fourth and final C-40 aircraft as the Naval Reserve Basing Plan calls for the remaining five C-9 squadrons to transition to C-40 aircraft (3 per squadron) first.

Question. Since the Navy Reserve has only procured six C-40s to replace the 27 C-9s in its inventory, what is the plan to acquire additional C-40s?

Answer. Four additional C-40A aircraft are presently programmed for the Naval Reserve in the FYDP (three in fiscal year 2006 and one in fiscal year 2007). Twenty-one additional C-40s are required to modernize the Naval Reserve Logistics (VR) Force. Navy recognizes this requirement and is doing its best to fund additional aircraft in light of competing demands.

FA-18A AIRCRAFT IN NAVY RESERVE

Question. Vice Admiral Totushek, Fighter Attack Squadron 201, based at NAS JRB Fort Worth, is one of three Naval Reserve squadrons requiring an avionics upgrade to be able to deliver precision-guided munitions. Without this upgrade, this squadron will not be compatible with the rest of the Navy's carrier based fighters and hence will not be fully capable of performing its strike, close air support, and air combat missions. What is the status of the program and when are your squadrons scheduled to receive this upgrade?

Answer. VFA 201, 203, and 204 are the Naval Reserve F/A-18A Hornet squadrons that provide strike fighter support to the Fleet. The squadrons conduct carrier-based strikes, provide close air support, and carry out air combat operations. Engineering Change Proposal (ECP) 560 consists primarily of avionics and hardware upgrades, which allow the F/A-18A to process and utilize the updated versions of the F/A-18C software and accessories. After modification, the resulting F/A-18A+ aircraft have the same warfighting capabilities as Lot 16 (pre-Radar Upgrade) F/A-18C aircraft, which are seven years newer. This ECP enables the F/A-18A+ aircraft to employ all current and future planned air-launched weapons. Further, this ECP enhances operational and logistics commonality between the F/A-18A and C aircraft, reducing the logistics tail and solving many current obsolescence issues. Finally, to the operational commander it becomes a single point solution.

Under the current funding profile Fighter/Attack Squadron 203 (Atlanta) will complete the ECP-560 modification in July 2002 and Fighter/Attack Squadron 204 (New Orleans) is scheduled to be complete in August 2003. At the present time, the ECP-560 upgrade for Fighter/Attack Squadron 201 (Fort Worth) remains unfunded.

Question. If a squadron does not receive this Boeing Engineering Proposal 560 upgrade, what missions will these aircraft be capable of performing and what on missions will they be realistically employed?

Answer. Because of their limited warfighting capabilities, the operational CINCs chose not to use F/A-18A aircraft in Operation Allied Force. F/A-18A's saw limited combat operations during Operation Enduring Freedom. That is because without the ECP-560 upgrade, the aircraft is unable to perform the full range of mission requirements specified by the operational CINCs.

Without ECP-560 upgrades, F/A-18A aircraft are unable to drop precision weapons such as the Joint Direct Attack Munition (JDAM), Joint Stand-Off Weapon (JSOW), or launch the AIM-120 AMRAAM missile. In addition, unmodified aircraft would lack the HAVEQUICK radio that employs frequency hopping or anti-jamming technology. Having this capability is critical to operating in the combat zone.

The bottom line is that without the ECP-560 upgrade and as "legacy" weapons are phased out, the F/A-18A will no longer be operationally relevant nor an employable asset for the CINCS.

SUBCOMMITTEE RECESS

Senator INOUE. Thank you. General Plewes, we wish you a very happy and productive future. Gentlemen, we thank you very much for the testimony, and we will stand in recess until we meet on May 1 at 10 a.m. to receive testimony concerning the fiscal year 2003 budget request of the Department of the Navy.

[Whereupon, at 11:58 a.m., Wednesday, April 24, the subcommittee was recessed, to reconvene at 10 a.m., Wednesday, May 1.]

**DEPARTMENT OF DEFENSE APPROPRIATIONS
FOR FISCAL YEAR 2003**

WEDNESDAY, MAY 1, 2002

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 10:06 a.m., in room SD-192, Dirksen Senate Office Building, Hon. Daniel K. Inouye (chairman) presiding.

Present: Senators Inouye, Stevens, Cochran, and Hutchison.

DEPARTMENT OF DEFENSE

DEPARTMENT OF THE NAVY

**STATEMENT OF HON. GORDON R. ENGLAND, SECRETARY OF THE
NAVY**

OPENING STATEMENT OF SENATOR DANIEL K. INOUE

Senator INOUE. The committee is pleased to welcome the Secretary of Navy, the Honorable Gordon England; the Chief of Naval Operations, Admiral Vernon Clark; and the Commandant of the Marine Corps, General James Jones. Thank you for being here this morning.

When we met in this forum last year, it was under very much different circumstances. It was your first appearance before us, Mr. Secretary, and at that time we were anxiously awaiting Secretary Rumsfeld's strategic review and the President's budget request.

Much has changed in 1 year, perhaps not in the way the Department of Defense (DOD) is conducting its business, but certainly in the world we live in. The attacks of September 11th changed the world as we know it, and have brought new challenges to our military forces.

I wish at this time to commend the men and women of the Navy and Marine Corps for their selfless service in the war on terrorism across the globe. They are the backbone of the military and our most valuable resource.

For many years, I have expressed my concerns about readiness. It seems this year, however, by making some tough choices, you have begun to address these chronic shortfalls, and I wish to applaud this effort and look forward to hearing more about it.

I am concerned, however, about your ability to meet the Navy and Marine Corps' long-term modernization requirements with the resources requested. While the Department of Defense's overall

procurement budget increases by 10 percent, the Navy's increases by only 3 percent. This is the smallest increase of all the services.

Two of your most critical modernization programs are suffering from instability. The first is Navy shipbuilding. Your critics have been particularly vocal this year, decrying the critical lack of shipbuilding dollars. As the shipbuilding budget shrinks by 15 percent in 2003, they argue that budget is short-sighted, putting the Navy's future dominance and the Nation at risk. We recognize, however, Mr. Secretary, that accelerating shipbuilding programs before they are ready can lead to cost increases that put these programs at risk.

The second program, arguably one of the most vital to the Marine Corps modernization, is the V-22 Osprey. I understand that important decisions have been made about restarting the test program, and I hope, General Jones, you will be able to provide us with some insight into this matter.

Time and again this committee has demonstrated its commitment to our naval forces, and once again, we face great challenges as we attempt to strike an appropriate balance between the needs of today and the investments of tomorrow. So, I look forward to hearing your remarks today and working with each of you to ensure that we maintain the finest naval forces in the world.

Before we proceed, may I turn to the co-chairman of this committee, Senator Stevens.

STATEMENT OF SENATOR TED STEVENS

Senator STEVENS. Mr. Chairman, I join you in welcoming all three witnesses and commending them and people under their command for their marvelous job they are doing and have done since September 11th.

Let me start off with just a personal comment. There was an item in the U.S. News and World Report that I would use my position on this committee to somehow or other retaliate against the two Senators from Maine because they did not support our State's position on drilling on the Arctic coastal plain. That is totally untrue, unfair, and unfounded.

But in any event, I wanted to assure you, as members of the Department of Defense, I would never try to use my position here to harm anyone, let alone the Department of Defense. Anyone who knows my relationship to your Department would know that's just totally untrue and I regret that it was published.

I do want to tell you I think, Mr. Secretary, you've got a real winner in your new Assistant Secretary. Our loss is your gain. So, I hope that Mr. Young is doing a fine job for you.

Admiral Clark, we have witnessed the extraordinary circumstance in this air campaign over Afghanistan, in that much of the air operations on that landlocked country was projected from your carriers. I do not think many people understand the significance of that. The campaign validated once again the importance and the dramatic power of mobile sea-based platforms, and the success of the campaign reflects the value of the training and engagement overseas.

In the past 90 days, Senator Inouye and I have taken delegations to Central Asia, the Far East. On both trips, we came back very

impressed with the performance of our forces and particularly those under the command of you two as a General and Admiral.

The work of our overseas Commander In Chiefs (CINCs), particularly that of General Joe Ralston and General Franks and then Admiral Denny Blair there in the Pacific, made possible, I think, this overwhelming success in Afghanistan.

On that basis, I have just led into what I want to raise with you in the opening statement here again, the significance of maintaining the integrity and organization of the naval and marine forces dedicated to the Pacific. Maintaining the role of the third fleet and the marine force in the Pacific sends a vital signal I think to our partners and friends in the Pacific region. Senator Inouye and I have maintained a constant pattern of trips through the Asian region to assure our friends in that area that the United States intends to maintain a very vital defense presence in the Pacific in order to assure peace in our region. I know that you understand and heard of our views before, but in all matters on defense, there is no disagreement between the chairman and me on the importance of this issue of the continued defense force in the Pacific. No matter where we went, from China to Indonesia to the Philippines, they all say the same thing. We are maintaining the peace in the Pacific and without our really robust presence, that would deteriorate very rapidly.

Thank you very much, Mr. Chairman.

Senator INOUE. I thank you, sir.

Senator Cochran.

Senator COCHRAN. Mr. Chairman, thank you very much.

Welcome to the committee. Our panel of witnesses is an impressive array of talent and professional leadership in our Navy and Marine Corps, and we appreciate very much the great work that you are doing to help protect the national security interests of the United States.

Mr. Chairman, I think something that we need to recognize right away when we point out that while we must be prudent in the appropriations process, the clear and present need for more ships cannot be ignored. And I am hopeful that we can find a way in this committee and the authorization committee as well to move out at a more rapid pace in the authorization and funding of more ships for the Navy and Marine Corps team.

I know that the recent announcement of the DD-X program and the selection of Northrop-Grumman and Raytheon, the team that will lead that effort, has to be encouraging to shipbuilders. We are very pleased in our State of Mississippi that Northrop-Grumman is going to be a part of that team, and talking to the leaders at that facility, I know that this is an important step in dealing with the industrial base challenge that we have as well. We need to be sure that we maintain the capacity to build first-class ships, ships that are second to none, and that's what I think the DD-X program intends to do, to create a framework for a new family of ships to ensure that our sailors and Marine Corps personnel are able to carry out their missions in the future as well as continue in the present.

So, I look forward to discussing these and other issues with the panel today. We thank you very much for your cooperation with our committee.

Senator INOUE. Mr. Secretary.

STATEMENT OF SECRETARY ENGLAND

Secretary ENGLAND. Mr. Chairman, thank you very much, and Senator Stevens, Senator Cochran, it is a pleasure to be here. I thank you for the great relationship we have with your committee. We genuinely appreciate your help and your friendship and your support of our naval services. And thanks for the opportunity to be here today.

Before I make my comments, I do have a request of this committee. It is a simple, yet potentially powerful request, and I know the President would support this recommendation to you. I would recommend that the defense appropriations bill be the first appropriations bill passed by the second session of this 107th Congress. This action would frankly send a very strong signal to our men and women in uniform. It would send a strong signal to our fellow citizens. It would send a strong signal to our friends and allies, and equally important, it would send a very strong signal to our foes. So, I would appreciate your consideration of that request, and I thank you for that consideration. I think this simple action would be a very powerful message around the world, and so I make that recommendation to you today.

First, let me comment that I have with me, of course, Admiral Clark and General Jones. I want to comment that over the last years we have become a very close team, a very close leadership team for our naval services, and we work that way as a very close team. I am pleased to report to you that all issues of importance to our naval forces we jointly discuss and arrive at decisions. So, this is indeed a true leadership team, and I can tell you I am absolutely pleased and privileged to serve with both of these magnificent officers.

As you commented, the naval services are, indeed, performing magnificently for the people of America. The decisive advantage of combat power at sea has been clearly demonstrated in our war against terrorism and, as you commented, even for deep inland targets. In my judgment, this will be a crucial element of our naval forces as we move into the future, taking the fight to the enemy and sustaining that effort over time was and will continue to be critical to our national security.

I do, however, have to also comment to you that this is not the naval services acting alone. We are part of this integrated team, a joint effort, and we are very proud of how seamlessly we work with all the other services, including the Coast Guard in terms of homeland defense.

By the way, much of this is made possible by prior actions of this committee making this equipment and this interface available to us, and I thank you for those prior appropriations.

Now, regarding the President's proposed budget for fiscal year 2003, I can first tell you without hesitation that the budget accurately reflects the priorities that were set by this naval leadership team before you today. The three of us agreed that we must keep faith with our people by providing them the pay and benefits they so richly deserve and must also ensure that our forces remain trained and ready to carry out our war on terrorism.

So, to this end, we did, Mr. Chairman, prioritize our spending on critical readiness elements such as adequate flying hours and steaming days, spare parts, preventative maintenance and replenishing our stockpiles of precision weapons. That was our first priority.

These were difficult choices to make, but I believe we indeed made the right choices for fiscal year 2003. We cannot fix every problem in 1 year, so we did prioritize our funding.

Now, the Chief of Naval Operations (CNO), the Commandant, and I also agree that efficiency in our business practices is more important than ever before. Mr. Chairman, you commented about conducting DOD business. I will tell you we are conducting our business differently in the Department of the Navy. We are striving for efficiency and effectiveness, and we do this every day and it is showing up in terms of how we are now funding our programs. So, business practices are very important and I can tell you this leadership team is absolutely dedicated to that objective.

I will tell you that this year I believe we have built a foundation as we go forward for the Navy. Most of our programs now—in fact, all of our programs—we have fully funded our programs. We still have some prior year shipbuilding bills to pay, which is very important to us, but we have addressed the fundamental programs now to go forward and to build our great Navy.

PREPARED STATEMENT

So, I look forward to discussions with this committee during the question and answer period. Thank you very much for the opportunity to make a few comments.

[The statement follows:]

PREPARED STATEMENT OF GORDON R. ENGLAND

NAVY-MARINE CORPS: THE POWER OF TEAMWORK

INTRODUCTION

The Navy/Marine Corps Team continues to provide extraordinary service and value to our country. Our contributions in the “War Against Terrorism” have been significant and important in the overall success of U.S. military forces. Naval Forces have demonstrated the reach of their lethal power deep into the enemy heartland. Operating beyond the traditional littoral, we have destroyed the enemy in areas that they previously considered sanctuaries.

Our forces have been effective and Congressional support has been essential. In fiscal year 2002 the Congress supported the President’s amended budget for the Navy and Marine Corps. In fiscal year 2003, we are again requesting your support of the President’s Budget to continue the Navy and Marine Corps improvement in areas previously under-funded, sustain our force, and continue the transformation in the way we fight.

The following sections of this statement describe the dramatic improvement the fiscal year 2003 President’s Budget will provide for the Department of the Navy. Significant accomplishments of Naval Forces in the past year, and some of the detail of our plans for the future supported by this budget request are also described.

In assessing our request, it is important to note that our focus is on sustaining and further developing the effective and lethal Naval Forces that are part of a broader networked Joint warfighting architecture. Numbers are important, but as Naval Forces are already so well illustrating, warfighting capabilities go beyond mere numbers. It used to require multiple aircraft to strike a single target. Now a single aircraft can strike multiple targets. Networked systems and sensors may be more important today than the sheer number of weapons and platforms. Our focus is on warfighting capability and sustaining an effective and properly resourced force. The Navy and Marine Corps are going to continue to work with the other

military services to determine the best path to transformation and the best aggregate warfighting capabilities for our country.

FISCAL YEAR 2003—A DRAMATIC IMPROVEMENT FOR THE DEPARTMENT OF THE NAVY

The fiscal year 2003 budget request, building on improvements in the Fiscal Year 2002 Department of Defense Authorization Act, represents a dramatic improvement for the Department of the Navy. Although the Department of the Navy still had to make difficult priority decisions, the final request represents the best mix possible among competing priorities. In this budget request, the highest priority items are pay and benefit improvements for our most valuable resource; namely, people and providing them the necessary spares, tools and munitions to carry out the nation's requirements. The following is the listing of the priority funding in fiscal year 2003 for the Department of the Navy:

- Personnel salary and benefits are improved approximately \$4.1 billion in MILPERS accounts. This represents improvements in salary, health care, housing allowance and increased sea pay both in amount and number of military personnel covered. In this budget, civilian health care is also on an accrual basis and that administratively adds \$750 million to this budget in Operation and Maintenance and working capital accounts that was not accounted for in prior years.
- Operation and Maintenance and working capital accounts are increased by \$3.4 billion. This increases funds for steaming and flying hours, including spares and depot/contractor repair of major systems. This funding does not, however, include any cost directly associated with Enduring Freedom.
- Munition accounts are increased \$973 million which is allocated predominately to tactical land attack Tomahawk cruise missiles and precision ordnance delivered from Navy and Marine Corps ships and aircraft.
- The airplane account is increased by \$323 million. Although the number of attack airplanes remains the same as in fiscal year 2002, the total number of airplanes declines due to the mix of airplanes being procured in fiscal year 2003.
- The RDT&E accounts increased by \$1.1 billion reflecting the need to continuously invest in the future and to incorporate new technologies into our naval services.
- The total number of ships in fiscal year 2003 is 7, consisting of 5 new construction ships and 2 conversions. The conversions consist of modifying 2 ballistic missile submarines into 2 modern cruise missile platforms that provide a transformational capability to the Navy and the Nation. Prior year shipbuilding is funded in the amount of \$645 million. Additionally, pricing for new construction ships has been increased by \$400 million as a management approach to help avoid future cost growth.

Our objective in fiscal year 2003 to fund more robustly all of our operational accounts across the Department of the Navy to assure that our men and women in uniform have all the necessary resources to provide forward presence and to support the President's call for action in support of the "War Against Terrorism." This necessitated some difficult choices and continues to leave the naval services with a smaller number of new construction ships than desired and an airplane force that continues to age beyond the age of our surface ships. In addition, the Department of the Navy is disinvesting in older systems that no longer provide combat capability commensurate with their cost.

SEA-BASED FORCES IN A POST-9/11 WORLD

The “War Against Terrorism” illustrates the value of Naval Forces and the importance of Sea Basing.

Naval Forces

- Provide global continuous presence
- Have no need to obtain base access
- Quickly put potent ground forces ashore in a crisis area
- Quickly strike enemy targets throughout much of the world
- Operate and sustain from secure sea bases
- Enable U.S. and allied forces to get into the fight
- Remain on-station indefinitely
- Influence events ashore from the sea
- Extend U.S. power and influence deep into areas that enemies might consider secure

On September 11, 2001, U.S.S. *Enterprise* and her battlegroup were returning from a successful deployment to the Arabian Gulf. By next morning, *Enterprise* was within reach of Afghanistan, ready to launch and sustain precision strikes against enemies hundreds of miles from the sea.

Enterprise was not alone. In Australia, the Sailors and Marines of the Peleliu Amphibious Ready Group/15th Marine Expeditionary Unit (Special Operations Capable) cut short their port visit and sailed for the Arabian Sea. U.S.S. *Carl Vinson* steamed at high speed to join *Enterprise* on station while surface combatants and submarines prepared Tomahawk missiles for long-range strikes, established maritime situational awareness, and prepared for interdiction operations. U.S.S. *Kitty Hawk* prepared to leave her homeport in Japan, to serve as an innovative special operations support platform. Off the east and west coasts of the United States, U.S.S. *George Washington* and U.S.S. *John C. Stennis* took station along with more than a dozen cruisers and destroyers, guarding the air and sea approaches to our shores. Shortly thereafter, the hospital ship USNS *Comfort* joined USNS *Denebola* in New York City to support firefighters and recovery workers. Marine Chemical-Biological Incident Response Force (CBIRF) and Explosive Ordnance Disposal (EOD) teams deployed to support local authorities in New York and Washington, D.C. Naval Intelligence, in conjunction with Coast Guard Intelligence, immediately began monitoring civilian ships approaching the United States and assessing the potential terrorist uses of the seas around the world.

When the nation called, the Navy-Marine Corps team responded—with speed and agility, and with lethal, combat-credible and sustainable forces. On September 11th, as on every other day of the year, sovereign Naval Forces were on watch “around the clock, around the globe”.

In 2001 as in the past, the Navy-Marine Corps Team operated extensively representing U.S. interests throughout the world. In the Pacific, forward-deployed Naval Forces based in Japan, the West Coast and Hawaii continued to assure our allies in the region, deterring threats and coercion. The Navy-Marine Corps team also supported United Nations Transition Assistance East Timor (UNTAET) humanitarian assistance efforts.

In the Mediterranean, Navy ships operated with friends and allies in over 85 exercises. Marines in Sixth Fleet MEUs provided presence ashore in Kosovo and served as the Joint Task Force Commander’s ready reserve. In South America, Marine elements participated in riverine and small unit training. The annual UNITAS deployment promoted regional security cooperation and interoperability with regional Naval Forces.

In Southwest Asia, we maintained continuous carrier presence throughout the year, conducting combat operations in support of Operation Southern Watch over Iraq. Surface combatants continued Maritime Interdiction Operations (MIO), supporting U.N. economic sanctions against Iraq for the tenth straight year. Marines from the 15th and 22nd MEUs trained and exercised with friends and allies throughout Southwest Asia.

These familiar “peacetime” operations demonstrate two enduring characteristics of the Navy-Marine Corps team that have been essential in launching the war on terrorism:

- The ability to provide assured, sea-based access to the battlefield unfettered by the need to negotiate base access.
- The ability to project power from the sea to influence events ashore—tailored, flexible, relevant power that is critical to the Joint Force Commander’s ability to fight and win.

When combat operations began in October, these characteristics made the Navy-Marine Corps team leading-edge elements in the joint campaign. Against a dispersed, entrenched enemy in a landlocked nation, hundreds of miles from the nearest ocean, strikes from the sea were in the vanguard. Carrier-based Navy and Marine aircraft provided the preponderance of combat sorties over Afghanistan while Tomahawk cruise missiles fired from ships and submarines struck communications and air defense sites. In the days that followed, the Navy and Marine Corps worked seamlessly with the other services to sustain carrier strikes deeper inland than ever before. Carrier aviators flew, on average 6-hour missions over Afghanistan, covering distances equal to missions launched from the Gulf of Mexico to Chicago and back. Maritime patrol aircraft flew over Afghanistan to provide unique reconnaissance and surveillance capabilities in direct real time support of Special Operations Forces (SOF) and Marine units on the ground. U.S.S. *Kitty Hawk* excelled as an interim afloat forward staging base (AFSB) for SOF. Ships and submarines supported by Naval Intelligence established maritime situational awareness over a huge area, and began the most extensive Maritime Interdiction Operation (MIO) ever to interdict terrorist leaders and material.

Against a landlocked nation, hundreds of miles from sea * * *

- 70 percent of combat sorties were flown by naval air.
- Tomahawks from submarines and ships key in taking down air defense and command nodes.
- Navy P-3’s provided critical surveillance and reconnaissance over Afghanistan.
- Sea based Marines—using organic airlift—moved 400 miles, deep into Afghanistan.

Marines established the first conventional ground force presence in Afghanistan. Elements of two MEUs and a Marine Expeditionary Brigade Command Element moved from their ships using organic Marine and Navy lift to create a tailored Marine Air Ground Task Force (MAGTF) ashore. Light, agile and self-sustained, Marines established security in a hostile environment and assured access for follow-on forces. Navy Seabees improved runways, enhanced conditions at forward operating bases far inland, and established detainee camps.

Submarines provided tactical and persistent intelligence, surveillance, and reconnaissance (ISR). Sea based aircraft, ships, and submarines brought down enemy defenses from a distance. Carrier strike aircraft, in conjunction with Air Force bombers and tankers and guided by SOF on the ground, destroyed the enemy’s ability to fight. Having assured access and sustainment from the sea; Marines, Navy SEALs, Seabees, and Army SOF worked with local allies to free Afghanistan from the Taliban regime and al-Qaeda terrorist network.

In Operation Enduring Freedom and the global “War Against Terrorism”, on station Naval Forces were first to respond, first to fight, first to secure U.S. interests. These operations exemplify the decisiveness, responsiveness, agility and sustainability that are key to Naval Services.

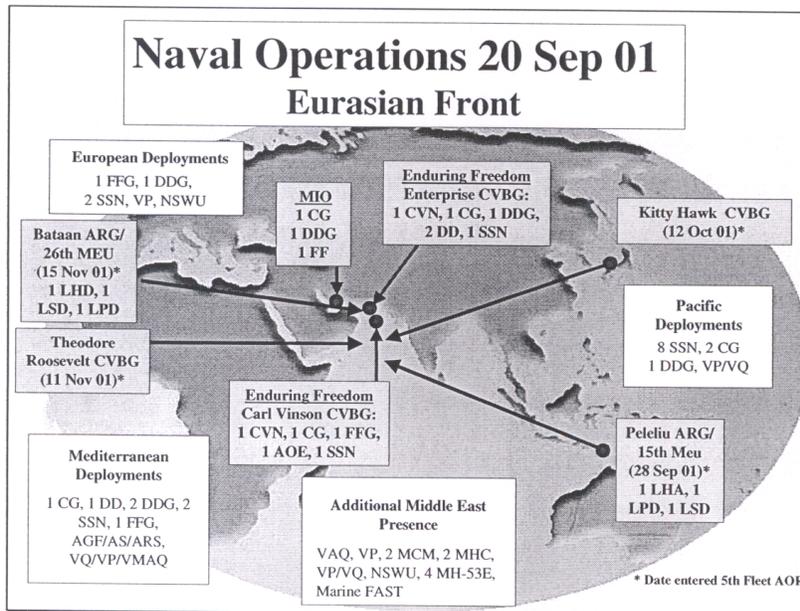
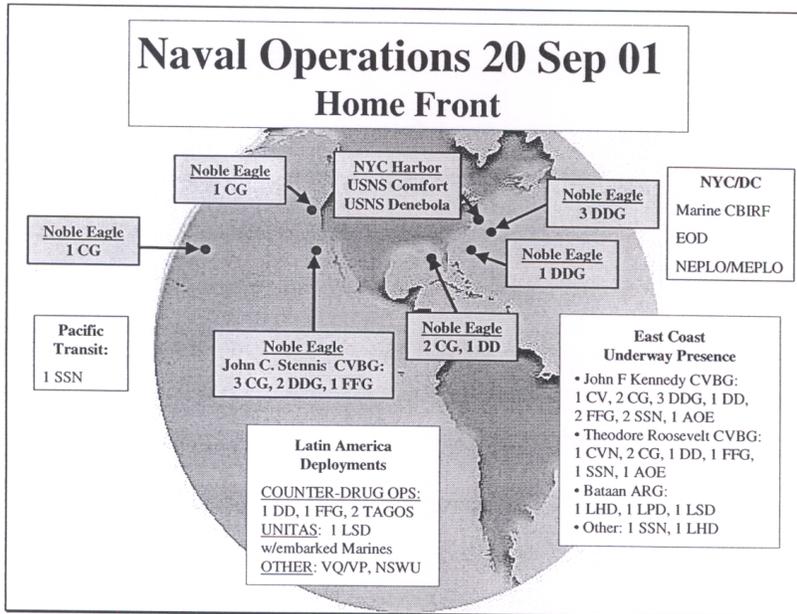
Operations in the “War Against Terrorism” make clear important lessons as we move to transform the nation’s military force and capabilities. Transformation is not just about revolutionary new hardware and technologies. Quantum improvements in warfighting effectiveness also come by coupling evolutionary improvement in existing systems to new ways of thinking—innovative operational concepts, doctrine, tactics and intelligence—and through new ways of using them together. Here are some examples of this potent combination, and the dramatic improvement in capabilities over just the past decade:

- Unprecedented long-range precision strikes from carrier aviation, effectively supported by Air Force tankers. In Desert Storm our strikes were less than 200 miles on average; in Afghanistan they were often 600 miles or more inland.

- Seamless command and control across a joint task force engaged in global operations.
- Seabased Marine operations, arriving and staying light, with the “rear area” largely aboard ships.
- Expeditionary flight operations were conducted from Kandahar, over 400 nm inland. These operations included helicopters and VSTOL fixed-wing aircraft, making the AV-8B the first U.S. tactical strike aircraft to conduct operations from a base in Afghanistan.
- Direct real time intelligence and reconnaissance operational support of Ground Special Operations Forces by P-3 maritime patrol aircraft.
- Continued refinement of Tomahawk as a timely tactical weapon. In Desert Storm, it took about 3 days to program a new mission into a Tomahawk missile. In Afghanistan, some missions were programmed in less than half an hour.
- Marriage of precision munitions with real-time targeting to make aircraft precision “airborne artillery”. Precision munitions became the most commonly used ordnance. Ninety-three percent of the ordnance expended by the Naval Forces in Afghanistan was precision munitions.
- Long-term surveillance and real-time targeting from unmanned aerial vehicles (UAVs).
- Inherent flexibility, as an aircraft carrier’s traditional mission was changed on short notice to become an afloat forward staging base for joint Special Operations Forces (U.S.S. *Kitty Hawk*).
- Integrated use of attack submarines in a networked force.
- Versatile surface ship combat operations, from Tomahawk launch and projecting air defense projection overland with the Aegis system; to escort duty, maritime interdiction, littoral interception operations, and search and rescue.
- Perhaps the most remarkable change is that Naval Forces from the sea are operating in the Eurasian heartland well beyond the littorals, striking an enemy in what he considered sanctuary.

Around the World, Around the Clock

Even as the world moves on through these turbulent times, it is clear that the global commons—the oceans—will continue to matter greatly to the United States of America: as a pathway for transport and commerce; a source of oil, minerals, foodstuffs, and water; a rich venue for research and exploration; a road to our allies and friends as the leader of a global maritime coalition; an extensive though not infallible zone of defense; and—above all—an arena from which to operate as we seek to dissuade, deter, and, if required, fight and defeat our enemies. The power of the Navy/Marine Corps Team in defending our country is inestimable!



SAILORS AND MARINES: INVESTING IN THE HEART OF THE TEAM

Key to our force, and the heart of the team are our Sailors, Marines, and civilian workforce. These are our most valuable resource. Our Navy and Marine Corps need

talented young Americans who want to serve their nation and make a difference. In return for their service, we offer them rich opportunities for leadership, growth, and achievement.

Sailors.—We continue to make solid progress in recruiting the right people, reducing attrition, increasing reenlistments, and manning the Fleet. Navy recruiting goals were met in 1999, 2000, and 2001. As a result, a greater number of initial service school seats are filled, providing better trained Sailors to the Fleet, and Fleet manning continues to improve.

Sailors are staying Navy in record numbers. First term retention is now at 57 percent. The Navy continues to make progress in combating attrition of first-term enlistees with 8.5 percent fewer first-term attrites in fiscal year 2001 than the previous year. Opportunities for advancement have improved. Our battle groups are being fully manned earlier in the inter-deployment training cycle, deploying with the best manning levels in years. We have begun filling increased manpower requirements in areas such as Anti-Terrorism/Force Protection (AT/FP).

Improving officer retention remains critical to our efforts to achieve a steady-state force structure. Strong leadership at all levels and increased personnel funding have produced recruiting and retention advances. The Navy will continue to invest in Quality of Service and build a 21st century personnel system.

The Navy wants to give Sailors greater choice in their assignment process. The Navy has taken a number of initiatives to make the process more Sailor-centered, including a Sailor Advocacy Program that has expanded outreach to Sailors by their personnel managers. We also want to be able to shape careers and the force—in skills and paygrade—to meet future as well as current requirements. For these reasons, the Navy supports several initiatives in this year's budget cycle. A gradual increase in our enlisted top six-paygrade mix (E4 through E9) to reflect the skills requirements of increasingly complex ships and aircraft, and legislative initiatives such as enhanced career pay and distribution incentive pay to help compensate for the arduous nature of an expeditionary Service.

Marines.—The Marine Corps has either met or exceeded its accession goals since June 1995. During 2001, aggressive recruiting has allowed the Marine Corps Recruiting Command to exceed its quotas again. As a result, the Marine Delayed Entry Pool (DEP), the recruiting reservoir, is in excellent shape. For the third consecutive year, the Marine Corps experienced lower post-boot camp first-term attrition.

Marine Corps retention was very encouraging in fiscal year 2001. More first term Marines re-enlisted than at any other time in the history of the Marine Corps, easily reaching our goal to re-enlist 26 percent. The Marine Corps also achieved a better military occupational speciality mix than in previous years. This strengthens the future of our enlisted career force and provides commanders with the most qualified Marine by rank and experience. Highly successful retention programs such as the Selective Re-enlistment Bonus (SRB) are addressing shortages in specialty areas. Officer retention has improved substantially with a 15 year low of 8.3 percent attrition during fiscal year 2001. Aviation Continuation Pay (ACP) has assisted in improving officer retention.

For the past decade, the Marine Corps has continued to aggressively examine its force structure. This is necessary to ensure proper staffing of our operating forces and the efficient and effective use of Marines and Civilian Marines in combination with business reform initiatives for our supporting establishment functions. To date, mainly as a result of business reform initiatives such as out sourcing and privatization, we have made substantial progress to increase manning in the operational forces with approximately 2,500 Marines identified to shift from the supporting establishment to operating forces billets. As we complete our A-76 studies and continue the implementation of Activity Based Costing/Activity Based Management in our supporting establishment process, we expect some additional Marines may be shifted to the operating forces. However the new security environment has increased our operating forces needs. We have responded with the permanent activation of the 4th Marine Expeditionary Brigade (MEB) (Anti-Terrorism/Force Protection), consisting of 2,400 Marines out of our total end-strength of 175,000 active duty Marines in order to assure we access, train and retain a new, robust tier one anti-terrorism/force protection force capability. The immediacy of the 4th MEB requirement resulted in initial manning using highly trained Marines from previously existing but already under staffed operating force units. Marines from the 4th MEB were quickly deployed in 2001 and are deployed today to provide this new capability for joint force missions in the European Command and Central Command Areas of Operation. The nature of the change in our national security environment, both overseas and here at home, requires we sustain this increase in Marine Corps end-strength.

Quality of Service.—The Navy and Marine Corps continue to believe that both quality of life and quality of the work environment are important factors in retaining Sailors, Marines, and their families. This includes compensation, medical care, family housing, retail and commissary services; recreation programs, community and family services; training and education; as well as elements of the work environment such as tools, supplies, and facilities. Congress has supported many improvements in these areas.

Professional development and training is one of our key focus areas. The Navy has launched Task Force EXCEL (Excellence through Commitment to Education and Learning) an initiative to create a “Revolution in Training”, leveraging distance learning technologies, an improved information exchange network, and a career-long training continuum to fully realize the learning potential of our professional force. The Navy College Program and the Marine Corps Lifelong Learning Program directly support career-long emphasis on the professional development needs of our Sailors and Marines. Continuous learning, including an increased reliance on advanced distance learning systems such as the Marine Corps’ Satellite Education Network (MCSEN) and the MarineNet Distance Learning Program, is needed to keep our Sailors and Marines on the cutting edge. The Navy-Marine Corps team owes those who promise to serve the best possible training throughout their Naval Service experience so they can succeed and prosper in their professional and personal lives.

Force health protection is an integral part of readiness and is one of Navy Medicine’s primary missions. Navy Medicine has implemented a comprehensive organizational strategy to prepare for, protect against, and respond to threats or attacks. The medical establishment is coordinating with sister Services, the Veterans Administration, Federal agencies, and civilian healthcare support contracts through TRICARE to combine our efforts for increased efficiencies. Programs are in place to ensure the health of Sailors and Marines; protect them from possible hazards when they go in harm’s way; restore the sick and injured, and care for their families at home.

Reserves.—Some 89,000 Navy Reservists and 39,558 Marine Corps Reservists serve today. The effective integration of reserve elements with active components is indispensable to military readiness and personnel tempo in the “War Against Terrorism.” We have recalled over 10,000 Navy and Marine Corps Reservists as of December 2001. The Marine Corps Selected Reserve contributes approximately 25 percent of the force structure and 20 percent of the trained manpower of the total Marine Corps force. The Navy Reserve constitutes 19 percent of the Navy’s total force, providing all our inter-theater airlift and inshore undersea warfare capability.

The Naval Reserve came within two percent of its authorized end strength in 2001 and is adding recruiters in fiscal year 2002 to help meet goals. The Marine Corps Reserve continues to meet its authorized end-strength, although the challenge to recruit company grade officers for service with Selected Marine Corps Reserve (SMCR) units is increasing. A Reserve Recruiting and Retention Task Force meets quarterly to develop and implement ways to meet the “right Marine in the right place” standard.

Civilian Workforce.—The Department of the Navy employs about 182,000 U.S. citizen civilian workers and nearly 3,500 foreign national employees. This is about 149,000 fewer civilians than were employed in 1989, a reduction of 45 percent. Now the Department of the Navy faces an employment challenge shared across the Federal Government: shaping the workforce to ensure that we have the right people, with the right skills, in the right jobs to help us meet the challenges of the future. In an age of rapid technological change, attracting the best available talent is essential. We are building on the successes of Navy and Marine Corps commands to identify and expand the use of best recruitment practices to attract high quality individuals at entry and mid-career levels. At the same time, we are examining and using other innovative workforce shaping strategies to ensure that we have a civilian workforce able to take its place as an integral part of the total force.

CURRENT READINESS: OPERATING THE NAVY AND MARINE CORPS

The success to date of the Navy and Marine Corps in the war against terrorism attests to progress made in current readiness. Sailors and Marines were ready and had the tools they needed on 11 September. We have worked hard to redress the shortfalls in training, maintenance, spare parts, ordnance, and fuel that have burdened our operating forces in the recent past. The fiscal year 2002 budget was the best readiness budget in a decade. The fiscal year 2003 Budget will continue to ensure that readiness meets mission requirements.

SAME SHIP, NEW CAPABILITIES	
DDG-51 (1991):	DDG-95 (keel laying July 2002):
SPY-1D	SPY-1D(V) littoral radar upgrade
5" gun	New 5" gun upgrade for Extended Range Guided Munition (ERGM)
Standard (SM-2), Harpoon, Tomahawk missiles	SM-2, BLK IIIA, IIIB, IV
PHALANX close in weapons system	Quad pack Sea Sparrow missile (2003)
SLQ-32(V)2 Electronic Support Measures (ESM)	SLQ-32(V)2 Electronic Support Measures
Link 4A, 11, 14	Link 16, Tactical Data Information Exchange System (TADIXS) B networks
Flight deck, no helicopter	Flight deck, hangar, two LAMPS Mk III helos
	Fiber Optic Data Multiplexing System
	Self Contained Breathing Apparatus
	Redundant Independent Mechanical Start System/Full Authority Digital Control
	COTS Zonal Electrical Distribution System
	COTS improvements to radars, and sonars
	Battle Force Tactical Trainer
	Cooperative Engagement Capability (CEC)
	NULKA, Electronic Decoy
	Joint Tactical Information Distribution System
	Combat Direction Finding BLK I
	Remote Mine Hunting System
	IT-21 Integrated Ship Networks System

The ships and aircraft joining the Fleet and Marine forces are the best in the world. In 2001, the Navy launched the next aircraft carrier, *Ronald Reagan* (CVN 76), commissioned our newest amphibious ship, U.S.S. *Iwo Jima* (LHD 7) and continued to take delivery of sophisticated Arleigh Burke-class guided missile destroyers, and F/A-18 E/F Super Hornets. While current DDGs and F/A-18s may look from the outside much like earlier models, by design they bring significant increases in capability as the classes evolve.

Ship and Aircraft Build Rates and Modernization.—Given current practices and the age of our systems, there is a steady-state requirement to procure 180–210 aircraft and 8–10 ships each year to sustain current force levels over the long term. However, we are also at a juncture of transitioning to new systems such as F/A-18E/F, LPD-17, DD(X), E-2C RMP, and others. We are investing in connectivity and interoperability to leverage our existing assets while we lay the foundation for future modernization.

The Navy has 5 new ships and 2 major conversions requested in the fiscal year 2003 budget, and substantial additional shipyard/conversion work: 2 DDG's (\$2.4 billion) including Advanced Procurement for a third (\$74 million); 1 *Virginia* Class Submarine (\$2.2 billion); 1 LPD-17 (\$604 million); 1 T-AKE (\$389 million); Incremental LHD-8 Funding (\$253 million); 2 SSGN Refuelings and Conversions (\$1.0 billion); 1 SSN Refueling (\$360 million); and DD(X) (\$961 million).

Although we plan to procure additional ships in the out years, fiscal year 2003 is not the best time to further accelerate ship procurement quantities. There is substantial work in many of the nation's shipyards for SSGN conversions, SSN engineering refueling overhauls, and new construction already underway. For example, there are 36 new ships already authorized and under construction.

The Navy could use additional DDG's, and they are the most appropriate candidate for additional procurement. The Navy would also like to move as quickly as possible to the DD(X) hull in order to reduce operating costs and improve capability and survivability. While the *Virginia* design is nearing completion, there was no prior year advance procurement funding available to support building a second *Virginia* Class submarine in fiscal year 2003. Delivery of U.S.S. *Virginia* in 2004 will allow the class design and ship testing to complete before beginning the increased production of two *Virginias* per year later in the FYDP. We are not ready for rate acceleration this year. The LPD-17 design is still not complete. Four ships are already funded with advance procurement for another 2 ships. Although we need to replace our older amphibious force ships, LPD-17 is not yet ready for rate acceleration. Design work is just starting on the T-AKE lead ship and 3 T-AKE's are already appropriated. Across the FYDP the Navy will fund 11 Cruiser conversions. Cruiser conversion offers an affordable way to add fleet capability and ultimately we plan to convert 27 Cruisers.

We are keenly aware of the critical need to address ship and aircraft recapitalization and plan to do so in future years budget submissions. Some shipbuilding programs have been delayed due to developmental challenges and we would expect to have more flexibility to recapitalize our ship accounts in the future. The challenge of recapitalization today is exacerbated by the immediate and compelling need to rapidly make whole and sustain the current Navy and Marine Corps ability to fight today's wars, which this budget addresses in great part. We had to make some very difficult choices, however, we are making the right choices within available dollars. At the present time, given the age of Navy aircraft, the Navy would place a higher priority on increasing aircraft procurement rates over ships.

SAME NAME, DIFFERENT PLANE	
The original 1978 F/A-18A:	The F/A-18E and F delivered today:
17,700 pounds of static thrust per engine	22,000 pounds of static thrust per engine
Speed >1.7 Mach	Speed >1.8 Mach
Sidewinder, Sparrow, Harpoon, General Purpose Bombs	JDAM, AMRAAM, Maverick capable
M61A1 cannon	New radar upgrades (AN/APG-73)
	New radio suite
	Joint Standoff Weapon (JSOW)
	Single Channel Ground and Airborne Radio System (SINGARS), Link 16 networks
	Greater payload flexibility
	Shared Reconnaissance Pod (SHARP) (2005)
	Improved displays, night vision
	Upgrades to Advanced Targeting Forward Looking Infrared (ATFLIR) pod (2003)
	Upgraded mission computer
	AN/AYQ-9 stores management system
	Improved range, endurance
	Improved maneuvering limits
	Joint Precision Approach and Landing System (2006)

Prior topline constraints, coupled with increased operational requirements over the last decade, forced the Marine Corps to defer investment in equipment modernization. As a result of this "procurement pause", many Marine Corps weapons, vehicles, and support systems are approaching or have exceeded block obsolescence. The fiscal year 2003 budget allows the Marine Corps to begin to make more appropriate levels of investment in ground equipment modernization and transformational programs such as the Advanced Amphibious Assault Vehicle (AAAV), LW155, High Mobility Artillery Rocket System (HIMARS), and Common Aviation Command and Control System (CAC²S). Sustainment of this increased level of investment is absolutely critical to the continued success of the Navy-Marine Corps team.

Readiness challenges.—We have made major strides in improving current readiness with the strong Congressional support in the fiscal year 2001 supplemental and fiscal year 2002 budget. But challenges remain. Our task is to sustain readiness funding while focusing clearly on three challenges in current readiness:

- The aging of assets—particularly aircraft and amphibious ships—due to inadequate replacement levels.
- The demands of the "War Against Terrorism."
- The maintenance of shore infrastructure.

The Aging Fleet.—The aging of ships and aircraft may be one of the main factors contributing to increased readiness costs. Naval aviation poses the most profound challenge. Our aviation force now contains the oldest mix of type/model/series aircraft in naval history, yet it is these same aircraft that are routinely employed in combat overseas. For the first time, our average aircraft age exceeds the average age of combatant ships, contributing to a corresponding increase in the cost of operations and maintenance.

The average age of our ships is 16 years which is near optimum for ships with a service life of 30 years. However some ships, particularly older aircraft carriers and our amphibious force ships, are reaching the end of their service lives, often requiring unprogrammed repairs, necessitating unplanned funds for urgent maintenance. In part because of these costs, we moved to retire some ships, such as some Spruance-class destroyers, before the end of their service life. Further, capable ships

reaching service mid-life, like the oldest of our Aegis cruisers, require modernization to remain operationally viable.

Global tasking and the “War Against Terrorism” continue to stress our aviation force readiness. As a result, the F/A-18 has been flown well in excess of planned utilization rates. More than 300 aircraft will require service life extensions earlier than planned or budgeted. Similar situations apply to F-14s, EA-6Bs, P-3Cs, SH-60s, and virtually every other aircraft in the fleet. The majority of Marine Corps airframes are over 25 years old.

In developing the fiscal year 2002 budget, the Department moved nearly \$6.5 billion from other Navy programs to the current readiness portion of the Navy baseline program for fiscal year 2002–2007, shoring up the Flying Hour Program, Ship Depot Maintenance, Ship Operations, and Sustainment, Recapitalization, and Modernization (SRM) accounts. The fiscal year 2002 defense budget made substantial investments to bring readiness accounts to required levels. We sustain this focus in fiscal year 2003 with an additional increase of \$3.4 billion in Operation and Maintenance and working capital accounts.

Selected readiness issues in the “War Against Terrorism”.—Recent combat experiences underline the importance of certain assets and capabilities in high demand but short supply. While the EA-6B Prowler, the EP-3E Aries II electronic warfare aircraft and P-3C Orion Anti-Surface Warfare Improvement Program (AIP) aircraft offer theater commanders extraordinary capabilities, higher than planned usage rates results in adverse effects on service life, maintenance costs, and aircrew tempo.

Precision Guided Munitions (PGM) have become the preferred munition of modern warfare. Unanticipated high usage rates during the war in Afghanistan, coupled with years of under investment in ordnance, have caused serious shortfalls. This is a critical path item that we are addressing to sustain our effort in the “War Against Terrorism” and we increased munitions accounts in fiscal year 2003 by \$973 million allotted predominately to Tactical Tomahawk missiles and precision guided munitions delivered from the air.

Current operations reinforce the need for sustainable access to training and testing ranges. We are dedicated to finding ways to enhance readiness through creative technologies. While an increasing amount of training and testing can be done using computer simulations and other information technologies, live practice on actual ranges will in some cases remain essential at the right time and place in the training cycle. Maintaining access to ranges requires a comprehensive approach that balances legitimate community and environmental concerns with the need for realistic training and testing.

Shore Infrastructure.—Real property maintenance and military construction accounts suffered in past years to maintain forward-deployed forces. Department of Navy’s shore infrastructure’s recapitalization cycle recently exceeded 130 years, our deferred sustainment is \$573 million and our Sustainment Restoration and Modernization (SRM) funding has been significantly below the private industry average. In fiscal year 2003 the Department is making significant increases in (USN \$221 million, USMC \$81.6 million) SRM. With this effort, our recapitalization rate will be driven down to 83 years by the end of the FYDP, and the lowest readiness (C³/C⁴) areas are projected to be eliminated by 2013.

The Marine Corps made significant progress in ensuring that its 15 major bases and stations maintain solid training facilities while providing an improving Quality of Service for Marines and their families. The MILCON program replaces or improves over 950 homes and provides new Bachelor Enlisted Quarters for over 1,000 Marines and their families. The program also addresses facility deficiencies providing maintenance and training facilities. While Marine Corps military construction is below the level necessary to sustain the DOD goal of a 67-year replacement cycle, the Marine Corps has made great strides in sustaining their facilities.

For most of the last decade, real property maintenance, military construction and family housing were bill payers for near-term readiness. Recent top line increases have allowed the Department to make progress in these important areas however, there is still a great deal of room for improvement. In the area of facility sustainment, the Marine Corps will achieve the goal of C² readiness ratings in all facility-type areas by 2010; however, currently 57 percent of Marine Corps infrastructure is at the lowest state of readiness (C³/C⁴). While the DOD goal for plant replacement is 67 years, the Marine Corps recapitalization rate for fiscal year 2003 is 125 years.

There is good news in the area of bachelor and family housing. The Marine Corps level of investment in bachelor housing has increased from \$84 million in fiscal year 2002, to an average of \$243 million per year across the FYDP. This increase in investment, coupled with the Marine Corps decision to build barracks in accordance

with a waiver-approved 2x0 room standard, allow the Marine Corps to achieve our goal to eliminate inadequate barracks by 2010. The Marine Corps 2001 family housing master plan identified close to 17,700 inadequate family housing units with the majority of those units requiring significant revitalization or replacement. Increases in Basic Allowance for Housing, combined with traditional military construction projects and public-private ventures will allow the Marine Corps to eliminate inadequate family housing by fiscal year 2005.

FUTURE READINESS: TRANSFORMING THE FORCE

The Navy and Marine Corps transformation vision is fundamentally about balanced capabilities rather than specific ships, airplanes, weapons systems or other technologies. The concepts of Network Centric Warfare (NCW) and Seabasing will fundamentally transform Joint warfighting. NCW will be part of every system and operation in the future and will tremendously extend the capabilities of individual platforms or systems by expanding the knowledge base, sensor and weapon reach, and ability to quickly react. Seabased operations will capitalize on NCW and the maneuver space afforded by the sea. Seabasing provides a full naval force package, integrated across the amphibious task force, carrier battlegroup, force, and combat logistic force. Sustained at sea, seabased forces will provide the Joint Force Commander with persistence in the battlespace and the capability to rapidly project power and influence well inland without the encumbrance of vulnerable fixed bases. As the overarching architecture unifying the forces and systems within an area of operations and reaching back to other forces ashore, NCW and seabasing will be the central tenant of Navy and Marine Corps experiments and program developments.

Navy and Marine Corps priorities for transformation are centered on capabilities that support Naval Operational Concepts: assuring and sustaining access; projecting power from forward-deployed combat credible forces; deterring aggression; and sustaining logistics from sea-based forces while minimizing our footprint ashore. Transformation activities will be focused on Information Technology (IT) through networks, sensors and information processing. Future capability requirements are determined through the Battleforce Capabilities Assessment and Planning Process developing strong links between technology developers, requirements offices, and concept development and experimentation organizations.

Forces to Support Operations in a Changed World

The “War Against Terrorism” and the emerging world ahead requires a transformational vision of emerging requirements. We envision the need for forces that are more dispersed and provide simultaneous application of sea control, strike, forcible entry, SOF, sea based missile defense, dispersed logistics, strategic deterrence, and Maritime Interdiction Operations (MIO). These forces will swiftly defeat any adversary’s military and political objectives, in anti-access area denial or other asymmetric environments.

Evolutionary and transformational improvements in platforms, concepts and technology now in the Fleet provide more combat capability per unit than ever before. Yet there remains a “quality in quantity (of platforms)” as global readiness, presence and mission needs change. A balanced force would reflect in part the following considerations:

- Surface ships.*—We will need to distribute surface ship combat power to face global terrorist network threats, take advantage of our network capabilities, and undertake demanding tasks around the globe. Emergent missions may translate to a new demand for additional surface combatants—some of which may be new concept ships focused on littoral warfare and others on Theater Missile Defense capabilities.
- Amphibious capability.*—Although the Marine Corps forcible entry amphibious lift requirements remain 3.0 Marine Expeditionary Brigade (MEB) assault echelon equivalents, the fiscal year 2003 budget and FYDP funds 2.5 MEB of lift which is in accordance with the QDR.
- Submarines.*—The submarine force structure is the minimum identified by JCS and other studies. Real world taskings stress this number.
- Support/Sustainment Requirements.*—Global demands implied by new operational concepts may require additional logistics/replenishment assets.

Transforming to the “Force-netted” Fleet.—FORCEnet is the architecture and building blocks that integrate sensors, networks, decision aids, weapons, warriors and supporting systems into a highly adaptive, human-centric, comprehensive system. DD(X), CVN(X), SSGN, Virginia-class SSNs, San Antonio-class LPD, and Multi Mission Aircraft (MMA) are examples of platforms netted for the future. Warfighting effectiveness will be achieved through transformational technologies, innovative operational concepts through experimentation, and a focused procure-

ment program, to realize major increases in our Naval Force's combat performance and achieve battlespace dominance.

While FORCEnet provides the overarching architectures, critical subset applications are already being procured—in particular, Cooperative Engagement Capability (CEC) and Naval Fires Network (NFN). CEC enables real time exchange of fire control quality data between battle force units, enabling all to have the identical picture, and to conduct cooperative engagements.

Ultimately, with a common integration of networks, sensors, weapons, and platforms—networked warfighters can achieve battlespace dominance through knowledge superiority and cyberspace exploitation. Today's Fleet already has much of tomorrow's capabilities and we are pressing ahead to advance these groundbreaking capabilities.

Key Acquisition Programs: The Transformational Bridge.—In addition to the highly capable systems now entering the Fleet, we are making substantial investments in programs that are the bridge to the transformed Naval Forces of the future. Programs include the DD(X) family of ships, CVN(X), Joint Strike Fighter (JSF), *Virginia*-class SSN, MV-22 Osprey and *San Antonio*-class LPD. The Navy will also convert four *Ohio*-class SSBNs into cruise missile carrying submarines (SSGNs) with special operations capabilities, as well as begin to procure a replacement for the aging P-3 series reconnaissance aircraft, such as the MMA. These programs are integrated with other ongoing transformation efforts to move toward the netted potential of Network Centric Warfare. For example, the Joint Tactical Radio system (JTRS) revolutionizes wireless communications; CEC successfully completed OPEVAL in May 2001; IT-21 is in 182 of our ships; Link 16 is in the Fleet, and Navy-Marine Corps Intranet is integrating the information backbone of the Naval Service.

CONCEPTS KEY TO TRANSFORMATION

Experimentation—to realize revolutionary and incremental change
 New Manning Concepts—for ships and squadrons
 Technological innovation—speeding the pace of development and insertion
 Expanded use of unmanned vehicles—above, on, and below the ocean
 Sea based forces
 All-Electric Warship design—could revolutionize the platform from ship design to sensor performance to tactics

These platforms are coupled with “process” transformation, such as improved business practices and spiral development, which will enable short notice innovation and technology insertion on subsequent units in a class. Thus the programs we are launching—DD(X), *Virginia*-class SSN, CVN(X), and others—are important not only for the capabilities they will bring initially, but also as the bridge to even more revolutionary capabilities downstream.

The DD(X) Family of Ships. DD(X), along with CG(X), and the Littoral Combat Ship (LCS), will introduce complementary technologies for 21st century warfighting success. Designed from the keel up to be part of a netted force, these three new members of the Navy's surface combatant fleet will provide precision and volume fires, theater air defense and focused mission capabilities supporting littoral access. The DD(X) program will provide a baseline for spiral development of technology and engineering to support a range of future ships, such as CG(X) and LCS, to meet maritime requirements well into the 21st century. Some of the most transformational technologies include the Integrated Power System, Multi-Function and Volume Search Radars, Advanced Gun System, and a Total Ship Computing Environment. These technologies will enable the fleet to operate more efficiently because of reduced life cycle costs resulting from fuel and manpower savings.

Future Aircraft Carrier (CVNX). The future carrier force, our centerpiece of global access, will incorporate the best of our transformation technologies. Each CVNX will provide 50 years of service life with growth margin to accommodate advanced equipment and systems that permit flexible response options to wide-ranging roles and missions. With a new more efficient nuclear propulsion plant, open systems architecture, state of the art C⁴I and greatly expanded electrical capacity, these ships will host a future air wing (including UCAV/UAV) capable of generating sorties required to strike 1,000+ aimpoints per day. CVNX will remain a premier national asset for forward presence, mobility/crisis response, and sustained force projection.

Amphibious Warfare. The building blocks of our future expeditionary capabilities—the Advanced Amphibious Assault Vehicle (AAAV), MV-22 Osprey aircraft,

JSF, and a new generation of modern ground equipment—allow us to operate from farther over the horizon and deeper into the littorals. High Speed Vessels (HSV) and new lighterage will be key components of the Seabasing concept. The new AAV will have triple the water transit speeds of older Amphibious Assault Vehicles. MV-22 will ultimately increase expeditionary airlift capacity by a factor of three while quadrupling range. This will increase joint lethality while using greater standoff range to reduce risk to the force. The JSF will provide a joint aircraft that avoids unnecessary duplication, yet provides leap-ahead technology in an interoperable system.

The Marine Corps assault echelon amphibious lift requirement remains at 3.0 MEBs. It shapes the future amphibious force with the number and type of ships required for a flexible warfighting capability. The planned force will form ARGs reconfigured or tailored to smaller sized independent elements during “split-ARG/MEU(SOC)” operations. The *San Antonio*-class LPD 17 is designed to be a principal ARG platform, supporting a range of expeditionary capabilities discussed above.

Virginia Class Attack Submarine. The first of a new class of attack submarine, *Virginia* (SSN-774), is being built today. Building a ship as quiet as the current *Seawolf* class, this program has received awards for cost reduction and efficiency, but with a 30 percent lower total ownership cost and modular design allowing for spiral acquisition and insertion of future technologies.

Combat Logistics. This force is well on its way to completing its own transformation from six ship classes down to three classes of modern, highly capable, multiple missioned platforms. The newly awarded *Lewis & Clark*-class Dry Cargo/Ammunition ships (T-AKE), the first of a twelve ship class, will eventually replace the aging T-AFS and T-AE platforms, providing increased capacity and combat load flexibility.

Assets. Prepositioning supports all four services. The current MPS program combines the capacity and flexibility of prepositioned sealift with the speed of strategic airlift. We continue to pursue both our Maritime Prepositioned Force Enhancement (MPF(E)) and Maritime Prepositioned Force Future (MPF(F)) programs, enhancing Navy Fleet Hospital, Naval Mobile Construction Battalion and expeditionary airfield capabilities. The long-term prepositioning program, MPF(F), will provide a more robust capability for rapid delivery and sustainment of Marine forces ashore. It will be more expeditionary and contribute significantly towards integration of the seabase in order to project naval combat power from the sea in support of joint operations.

Helicopters. All Navy helicopter missions are being consolidated into the MH-60R and MH-60S platforms. These platforms will have a common cockpit and common airframe, with equipment tailored to particular missions enabling a decrease in the number of maintenance personnel required.

Technology and Experimentation

Investing in Technology.—Transformation requires substantial investment in S&T to swiftly and effectively leverage emerging opportunities. In fiscal year 2003 we increased the investment in RDT&E accounts by \$1.1 billion. Enhanced capability will be achieved via prioritized investments focusing on networks, sensors, weapons and platforms. Continued investment in S&T is essential in this time of extraordinarily rapid technological change and to ensure technologically superior naval capabilities will be available when required. The Navy’s Warfare Centers and Navy Systems Commands, along with leading researchers in the Naval Research Laboratory and the Naval Postgraduate School, as well as the nation’s universities and industry, continue to forward fresh and innovative ideas for investigation and development. These will include:

- Integrated Power Systems (IPS).*—Electric propulsion, envisioned for future surface and submarine platforms, will enable integrated powering of all propulsion, combat systems, and ship services, thus enhancing warship capability.
- Unmanned Vehicles and Distributed Sensors.*—Naval UAVs will provide the battlegroup and MAGTF commanders with essential near-real time imagery and data required to support ISR requirements independent of, or in concert with, the use of manned aircraft or limited Joint Theater or National Assets. Furthermore, \$76 million for Unmanned Underwater Vehicles begins to provide similar capabilities in the underwater environment.
- Intelligence.*—Navy and Marine forces will enhance their organic intelligence capabilities by accessing and leveraging National, Theater, Service, and coalition intelligence assets and support through a comprehensive ISR network. Emerging threats and strategic environments demand broadened intelligence capabilities to support forces engaged in combat against asymmetric threats, inter-

national terrorism, military operations other than war, operations in urban environments and IO.

Space.—The Navy and Marine Corps will continue to pursue the maximum use of space to enhance our operational capabilities. We look to leverage existing systems and rapidly adapt emerging technology.

Ballistic Missile Defense.—A viable theater and area sea based ballistic missile defense system is important to assure the safety of U.S. forces and the flow of U.S. forces through foreign ports and air fields when required. Sea based missile defense can also allow us to assist allies and friends deterring coercion and threats. We must solve the technical issues to field an effective system.

KEY INVESTMENTS FOR NETTED WARFARE SUCCESS

FORCENet—the overarching structure for Network Centric Warfare systems, including

- Naval Fires Network (NFN)
- Cooperative Engagement Capability (CEC)
- Expeditionary Sensor Grid (ESG)
- Expeditionary C⁵ Grid (EC⁵G)
- Common geotemporal reference of networked knowledge (4D-Cube)

Information Technology for the 21st Century (IT21)

Navy-Marine Corps Intranet (NMCI)

SSGN

Organic Mine Countermeasures (OMCM)

Maritime Prepositioning Force (Future) (MPF(F))

E-2C Radar Modernization Program (RMP)

Unmanned Aerial Vehicles (UAVs)

Unmanned Combat Air Vehicles (UCAVs)

Unmanned Undersea Vehicles (UUVs)

Advanced Electronically Scanned Array (AESA) Radar

E-2C Radar Modernization Program (RMP)

Link-16 network

Multifunction Information Distribution System (MIDS) data link

Distributed Common Ground Station

Joint Tactical Radio System (JTRS)

Lightweight Mobile Satellite Terminals

Unit Operations Center

Mobile User Objective System

Joint/Fleet Experimentation.—The path to transformation will involve a robust program of experimentation and concept development with new capabilities and operational prototypes while pursuing S&T efforts. We have ongoing initiatives to translate concepts such as the Navy's Network Centric Warfare (NCW) and the Marine Corps' Expeditionary Maneuver Warfare (EMW) into reality. This summer's Millennium Challenge 2002 exercise will include experiments by each Service, coordinated together by Joint Forces Command.

Fleet Battle Experiments (FBEs).—NWDC and the Marine Corps Combat Development Command (MCCDC) develop and refine future warfare ideas, tactics and doctrine in areas such as knowledge superiority and access, time critical strike, organic mine countermeasures, autonomous operations, littoral anti-submarine warfare, platform and war fighter protection, missile defense, enhanced modeling and simulation developments and expeditionary logistics. Navy FBEs and Marine Corps Advanced Warfighting Experiments test these new doctrines and ideas in the field, assess the utility of new technologies, explore new operational capabilities and organizational arrangements, and feed the empirical results back to the development commands. Both Services are collaborating to ensure that Navy and Marine Corps future development and transformation is completely compatible and complementary.

Leveraging Organizational Capital

Organizational Alignment.—Alignment means having all our organizations acting coherently to achieve our overall objectives. To extract the maximum advantage from our resources and provide a high rate of return on our investments, we need to know our core requirements and state them accurately. Our continued success also requires organizational speed and agility to capitalize on new opportunities.

To this end the Navy took significant steps to align its organizations more effectively. The Commander, U.S. Fleet Forces Command (CFFC) was created to inte-

grate policies and requirements for manning, equipping, and training all fleet units. Reorganized directorates tied closely to the fleet now lead the warfare requirements generation (N7) process while the resources and assessment group (N8) validates and prioritizes those requirements in the programming and budgeting process. The Navy has also established advocate organizations for Fleet and ashore readiness (N4), to ensure that readiness issues have a higher profile in the Planning, Programming, and Budgeting System (PPBS) process. The Navy has closely examined organizational alignment options for enhancing delivery of IT, IO and space capabilities to the Fleet. The Department intends to consolidate and align existing space, IT and IO commands to provide this management structure in direct support of our Fleets.

Better Business Practices.—Key to achieving transformation is changing the Department's business practices, finding efficiencies, and moving bureaucracy dollars to the battlefield. To buy greater numbers of ships and aircraft a balance needs to be struck between the competing demands of current readiness, procurement, innovation, and experimentation. Better business practices are essential for freeing up resources for enhanced procurement and transformation. All Navy leaders, uniformed and civilian, are now thinking in terms of maximum productivity, minimum overhead, and measurable output. Every dollar the taxpayers entrust to us for the Nation's defense needs to be spent wisely.

Navy processes and organizations that equip, maintain, train and otherwise support operational forces are beginning to transform in concert with the 21st century Naval Force. These processes and organizations will be agile, responsive and cost effective. They provide for rapid identification, testing and introduction of new technologies to stay ahead of the threat, streamline development cycle times, optimize Human System Integration, and provide customer support second to none. Our future readiness and force structure will introduce new systems using spiral acquisition programs and better business practices that allow for introducing innovative and transformational technology improvements into successive units of similar classes. By implementing these practices we will be able to shift more dollars into combat capability.

The Marine Corps has taken major steps to improve its business practices through the comprehensive implementation of Activity Based Costing and Management (ABC/M) methods at all of its installations. These efforts for achieve efficiencies and enable increased productivity at lower costs. These steps enable more rapid transformation of Marine Corps warfighting enhancements.

We are also working to replace other business processes and to revise the current Program Planning Budget System (PPBS). Efficient organizations are clearly more effective, and we need to work continuously to improve processes throughout the naval services. Prosecuting the war is our first priority, but our area of responsibility includes the business of war and overseeing the vast infrastructure that supports warfighting. We cannot fully prosecute the latter without fully improving the former.

SUMMARY

At the dawn of the 21st century, the Navy and Marine Corps are uniquely positioned and configured to respond to the challenges the Nation faces. Steeped in a tradition of operating deployed, Naval Expeditionary Forces assure access, swiftly responding to threats to U.S. interests often in areas where access may be restricted, withheld, or denied. Naval Forces fight and win; they are capable of initiating and sustaining nearly unlimited combat operations on the sea, land, and in the air without the burden or liability of a logistics tail or host nation support. Once again in Operation Enduring Freedom and "War Against Terror", on station Naval Forces were first to respond, first to fight, and first to secure U.S. interests.

Naval Forces are continually transforming. We are building on a winning team, leveraging both current and transformational capabilities. The ability to transform is at the heart of America's competitive advantage.

We are the finest Naval Force in the world. While we face the challenges of recruiting and retaining the best people, maintaining adequate force structure, recapitalizing an aging infrastructure, and fighting both symmetrical and asymmetrical threats, we are clear of purpose, focused on the future, and confident in our capabilities. By successfully meeting the challenges outlined above, we remain ready to assure allies and friends, deter potential adversaries, and defeat enemies while providing our nation the most flexible instrument of military capability.

The fiscal year 2003 President's budget request continues to build on the improvements funded in fiscal year 2002. With continued strong Congressional support we

will continue this year, and in coming years, the transformation and recapitalization of our Nation's already potent Naval Forces.

Senator INOUE. Admiral Clark.

STATEMENT OF ADMIRAL VERNON E. CLARK, CHIEF OF NAVAL OPERATIONS

Admiral CLARK. Thank you, Mr. Chairman, and good morning, Senator Stevens and other distinguished members of the committee. With your approval, we submitted a formal and a written statement. I have a few brief comments, if that could be made part of the record, sir.

Senator INOUE. Your full statement is made part of the record.

Admiral CLARK. It is a pleasure to be here. I look forward to these hearings because we get to tell our story and have frank discussions about the priorities for our Navy and the naval service.

Mr. Chairman, I would like to align myself with the Secretary's comments regarding the appropriation bill this year. We so appreciate the chance to be here and talk about the priorities and areas where concerns exist. But the early action by this committee, I assure you, would be an incredible signal for the men and women serving on the point. So, I would like to align myself with the Secretary's comments.

I also wanted to align myself with your comments, Mr. Chairman. As you were speaking, I was running down my notes, and I wrote my comments yesterday on the airplane coming back to Washington. And I started out by saying a lot has happened since I was here last year. A lot has occurred since last June when we appeared before you. Certainly 9/11 and all of these events have led us into a period where the leadership is speaking to and about the first war of the 21st century.

Senator Stevens, aligning myself with your comments, I believe it is absolutely true that events since last September have driven home in a very powerful way why we have a Navy, why it is important for the Nation to invest in our Navy.

Certainly the events of 9/11 changed our lives. I was in the Pentagon that day, and we lost 42 members of the Navy family inside the Pentagon. Many people know about that part of it. They are not aware that we also lost 10 members of the Navy family in airplanes that were flying that day that went into the buildings in New York and in the Pentagon. It has changed our life.

Since last year, the U.S.S. *Cole* is no longer in the repair yard. Widely reported, she is back in the fleet.

I just wanted to report to you this morning that the men and women serving in the Navy are responding with pride and dedication and they make me very proud, and I know that you are proud of them too. We appreciate your visits to them. Sometimes we are inclined to use words like these are first-ever kinds of events. I would say that with regard to the service of our people today, they absolutely are following in the example of those that have gone before them. And I am telling members of the greatest—Tom Brokaw's definition of the greatest generation—I am telling all of them they would be extraordinarily proud of their successors. Our young men and women are performing superbly in large part because of the assistance and the support from this committee.

This budget is in my view the best readiness budget that I have ever seen since I have been in the military. This budget follows the priorities, as the Secretary has said, that we have laid out. I am convinced that these priorities were correct, that they are correct. I believe that it is correct, Mr. Chairman, to ensure that we are taking care of the Navy that the taxpayers of this Nation already bought and paid for.

I believe that the readiness budget that we are acting under in fiscal year 2002 and the one that has been requested in fiscal year 2003 will create the foundation in the days ahead that will enable us to continue the kind of performance that we are seeing in Afghanistan. The details of that conflict and our actions over there are well known. I appreciate your comments about them. I will not say more about them this morning unless we want to talk about them in response to questions.

But since 9/11, the Navy—and I am careful to make sure that people understand that we do not do this alone. We do it, first of all, the Navy-Marine Corps team and part of the joint team. I believe, though, that the Navy actions have been central to the Nation's ability, our military's ability, to protect the interest of freedom around the world. So, we are proud to be part of this Navy-Marine Corps team and proud to be appearing here before you today.

The President said we were going to keep the enemy on the run, and it is my conviction and I know that it is the conviction of General Jones that to do that, you need the components of the naval service, that we have got to be out and about, and we are today and we are ready to do that tomorrow.

This budget has involved difficult and tough choices. It does not cover all of the modernization requirements that we have. I would prefer that it did. I would like it to be different than it is. But I want to be held accountable for the priorities that were established in the recommendations that I made to the Secretary of the Navy and the Secretary of Defense. Hold me accountable for those priorities. They are where I believe they ought to be. I believe that the focus of this budget is correct, that we pursue the global war on terrorism, we pursue the necessary and vital changes that were required for people and to support our people and to ensure that the current readiness needs were met.

In our building, transformation is a buzzword. I guess we all talk about transformation today, and sometimes in the past the terms were different. But I just want to say that we are working new operational concepts. But for us the future is about the ability to sustain credible combat power in the far corners of the Earth. I believe that it is absolutely necessary that we remain able to take the sovereignty of the United States of America where we need to take it without a permission slip from some other country and that we are able, Senator Stevens, to conduct the kind of operations that you referred to, certainly unprecedented in our time to conduct operations that are routinely 7 to 100 to 1,000 miles from the ship.

I want to say that the Navy has received most of the press about those kind of operations. I want to say that the Marine Corps F-18s have been flying alongside of us off of those carriers, and we are proud that they are on our team.

So, the future is about being able to sustain that kind of combat power.

This budget moves us to the future. There are key programs involved before you, key aviation programs and key and vital programs in ships, shipbuilding. Certainly DD-X, the Down-select announced this week, is vital to our future, and I believe that DD-X will, in fact, define the nature of the United States Navy and its ships for the next 30 to 40 years. That is my conviction.

In the end, we are here today to decide and to discuss how much Navy our Nation needs to be out and about to deal with the challenges that we face today.

There are words that are well known to us from our past, and they go like this: life, liberty, and the pursuit of happiness. On the Internet today and on billboards around the country, there is a sign going up that shows naval forces at work. And the words are modified a little bit from those that we know so well. They say this: life, liberty, and the pursuit of all who will threaten it. That is who we are and what we are about. That is what our young men and women are about today. They are a proud lot and I know that this committee is proud of them because your actions have enabled them. We so appreciate your support. And I want to say to this committee that I am privileged to serve with an awesome generation of young Americans, and I am privileged to serve our Nation at a time like this.

PREPARED STATEMENT

I thank you again for the opportunity to be here and look forward to your questions, sir.

[The statement follows:]

PREPARED STATEMENT OF ADMIRAL VERNON E. CLARK

Mr. Chairman and members of the subcommittee, I appreciate this opportunity to appear before you. Your support of America's Navy has been vital to accomplishing our missions around the world—including swift and effective response to the attacks of 11 September 2001—and I thank you.

STRATEGIC CONTEXT

The Global War on Terrorism is America's first war of the 21st century. Violent horizons lie before us, harboring profound challenges including the threat of cyberwar, weapons of mass destruction, continued international terrorism, and the havoc accompanying failed states. Importantly, such threats do not replace the specter of state-on-state conflict. They add to the danger and uncertainty, providing new sparks to already combustible situations.

This terrorist-filled world is more dangerous in many ways than that which existed when we faced the global strike and sea denial capabilities of the Soviet Union. We no longer counter a peer adversary that maintains order within its geopolitical orbit. Rather, the international landscape today is comprised of multiple actors whose interests form a complex pattern of interwoven and explosive tensions.

Potential adversaries today include other states, informal alliances of states, and terrorist elements that range from state-sponsored to state-opposed. Such terrorists may be local actors or integrated into global federations dedicated to the export of killing. Catalysts motivating potential enemies include religious fervor, political ideology, aspirations of regional dominance, dedication to fomenting domestic revolutions and, conversely, efforts at sustaining domestic order by deflecting internal tensions outward.

Little is certain in this new world beyond the fact that such tensions can be expected to lead to repeated crises, quite often with minimal warning or predictability regarding size, location, or intensity. It can also be presumed that given America's peerless military power, strikes against our nation, people, or interests will be deliv-

ered in an asymmetric manner, such as the attacks that took place last September in New York and Washington, or the previous October in Yemen against U.S.S. *COLE*.

NAVY'S ROLE IN THE 21ST CENTURY

Forward deployed naval forces will continue to be a vital part of America's defense as we move into the 21st century; a time during which the range of threats will in all likelihood grow in volatility and unpredictability. Thus America's Navy must remain prepared to conduct combat operations anytime, anywhere with maximum effectiveness and minimum risk.

Yet accomplishing our missions has become steadily more challenging. Our Navy's force structure declined 41 percent since 1991, from 538 to 315 ships, while the Global War on Terrorism has increased the call for forward-deployed naval forces. The introduction of a new class of smaller combatant—the Littoral Combat Ship (LCS)—will help ease the strain and could lead to a war-sustaining fleet of approximately 375 ships.

The current pace of operations is very high. Approximately half of the fleet is at sea every day. Nearly one-third of the fleet is deployed forward around the world while the remainder is operating off our coasts, conducting training or homeland defense missions with the United States Coast Guard.

In view of this taxing requirement, we are exploring innovative methods of increasing the presence and striking power of naval forces. One construct is to complement Amphibious Ready Groups with surface combatants and submarines, producing Expeditionary Strike Groups equipped to destroy terrorist elements wherever they may be found.

We are also experimenting with flexible manning techniques to produce greater efficiencies in conducting prolonged on-station missions, such as guarding international straits or other locations of exceptional strategic value.

At home, fleet commanders are taking measures to minimize the loss of readiness that traditionally occurs between deployments. Historically, deployed readiness has been achieved at the expense of the non-deployed segment of our force structure. That is no longer acceptable and, thanks to Congressional support, we have made significant progress over the past several years in correcting long-standing shortfalls in spare parts, munitions, and training.

Fiscal year 2003's budget submission continues that trend, adding \$2.7 billion to manpower accounts, \$2.8 billion to operations and maintenance accounts, over \$1 billion to research and development, and over a half billion dollars to procurement. We have also programmed \$2.6 billion to buy munitions and \$1.3 billion for homeland defense.

Navy transformational concepts

Sustaining warfighting effectiveness in this uncertain strategic environment will require continued global presence by sovereign naval forces that are prepared to counter whatever capabilities the enemy may bring to bear. Quantity has a quality all its own in this regard, and our Navy will remain on-station around the world, prepared to fight and win.

The dynamic and unpredictable nature of potential enemies demands that we continually develop new and more effective capabilities to prevent crises and—should deterrence fail—project offensive and defensive power ashore. The 21st century Navy must be strategically and operationally agile, technologically and organizationally innovative, networked at every level, highly joint, and effectively integrated with allies.

Three core operational concepts are key to achieving Navy transformation: the application of precise and persistent global striking power, the ability to assure access to the littorals and project defense overland, and the capability to conduct sustained operations from sea bases.

Precise and persistent global striking power is the offensive element of the 21st century Navy. Its effectiveness is derived from network-centric operations in which platforms and sensors are fully integrated to form seamless warfighting knowledge. Situational awareness generated from this network provides rich understanding of the adversary that enables the tailored application of power, allowing our forces to sustain the initiative, disrupt enemy timelines, and deliver operational success.

Concurrently, the ability to assure access to the littorals and project defense overland provides battlefield dominance, assuring allies and deterring adversaries. Such battlefield dominance exploits expeditionary sensor grids that sweep from seabed to space, cueing coordinated air, surface and subsurface combatants to neutralize enemy threats. This element of naval power relies upon control of the seas, allowing

us to guard the flow of trade while identifying, tracking, and intercepting threats long before they reach our shores.

Finally, leveraging the mobility and security of ships on the vast oceans in the form of sea basing assures the effective projection of sovereign American power. At the operational level of war, sea basing serves as a secure foundation from which to project expeditionary warfare, while minimizing the requirement to stage vulnerable forces and supplies ashore.

Achieving Navy transformation will include both new procurement and aggressive modernization. Nearly 60 percent of the ships in the Navy today will be in the fleet in 2020. Thus a significant portion of Navy's transformation will occur within existing hulls, placing an emphasis on new systems and capabilities that can be inserted through modernization. These upgraded platforms will complement new ships and aircraft joining our fleet.

Examples of exciting new technologies that will accelerate our transformation toward a fully networked Navy include the DD(X) destroyer and its related family of ships, Joint Strike Fighter, Unmanned Aerial Vehicles, Unmanned Underwater Vehicles, Tactical Tomahawk, Advanced Gun System, Theater Ballistic Missile system, Cooperative Engagement Capability, Navy-Marine Corps Intranet, and SSGN strike submarine, among others. These systems, in turn, will be employed in innovative ways via concepts validated in the Fleet Battle Experiment series coordinated by the Navy Warfare Development Command in Newport, Rhode Island.

As it progresses, the process of Navy transformation will yield a dispersed and networked fleet that enhances deterrence, assures access, conducts precision strikes, gathers real-time intelligence, exercises joint command and control, and leverages the priceless advantage of sea control. In short, it will be a fleet that serves as the leading edge of America's defense—around the world, around the clock.

NAVY READINESS AND PROCUREMENT

As promised in previous testimony, Navy's budget funds manpower and current readiness first and fullest because those accounts are key to mission accomplishment around the world. Our operational success in Afghanistan is a direct reflection of these investment priorities, as supported by Congress.

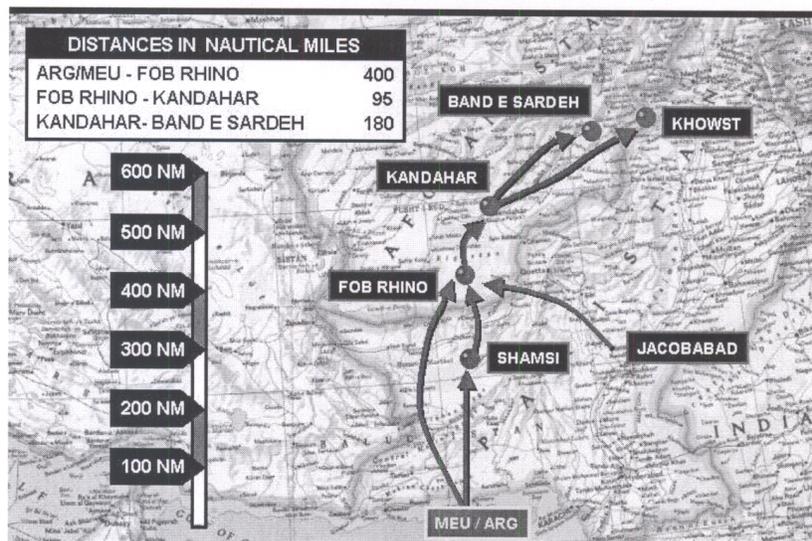
To sustain the size of the current fleet, we would need to buy an average of 180–210 aircraft and nine ships a year. We are currently procuring significantly less than that. The fiscal year 2003 budget will, if approved as submitted, provide just five ships and 83 naval aircraft.

Harvesting efficiencies within our Navy is key to increasing procurement and we will focus a major effort toward that goal over the next two years. Failure to free such resources would have a profoundly negative effect on the fleet.

Naval aviation, in particular, would suffer as that community faces the greatest near-term challenges. Our current aviation force contains the oldest mix of type/model/series aircraft in naval history. Yet these aircraft are being tasked to unprecedented levels in on-going conflict. The F/A–18 force, for example, has been flown well in excess of planned utilization rates and more than 300 F/A–18 aircraft will require service life extensions earlier than planned. The best way to address such problems is to introduce new aircraft into the fleet as soon as possible.

While our surface and subsurface combatant fleet is, on average, fairly young, the rate of ship recapitalization bears watching. The following chart illustrates the dramatic decline in authorized ships since 1980.

SHIP TO OBJECTIVE MANEUVER (STOM)



The impact of the current low procurement rate goes beyond force levels. It adversely affects the stability of our defense industrial base, and we are paying a premium in program cost due to the small number of units being built.

On a more positive note, maintenance and modernization efforts are progressing well due to solid increases in current readiness funding over the past several years. The PB-03 budget requests the following additional dollars over fiscal year 2002's budget: \$804 million for ship operations and maintenance, \$119 million for flying operations and maintenance, \$276 million for combat and weapons support, and \$310 million for base support.

Additionally, the ships and aircraft being developed are superb and will serve us well as the core capability of our force in the coming decades. DD(X), CVN(X), JSF, FA-18E/F, LPD-17 and the VIRGINIA-class SSN present impressive technological leaps in warfighting capability, innovation, and reliability. Program specifics include:

DD(X)/CG(X)/LCS.—Maritime dominance in the 21st century requires a naval force capable of projecting power and defeating anti-access threats. To accomplish these missions, the future surface naval combatant force will consist of four elements: DD(X) advanced multi-mission destroyers that provide precision strike and volume fires; CG(X) advanced cruisers to achieve sustained air superiority against airborne threats and ballistic missiles; agile Littoral Combat Ships to defeat enemy defenses such as mines, small boats, and submarines; and today's AEGIS fleet kept current through the insertion of developing technologies. Cutting-edge systems integral to this family of ships include the Advanced Gun System, Multi-Function Radar/Volume Search Radar, Integrated Power System electric drive, and revolutionary hull forms.

CVN(X).—The fiscal year 2003 budget provides RDT&E and advance procurement for the first CVN(X). CVN(X) will replace U.S.S. *ENTERPRISE* in fiscal year 2014 when that ship is in her 53rd year of commissioned service. Design objectives for the CVN(X) class include a significant reduction of total ownership costs during the carrier's 50-year expected service life, reduced manning, and incorporation of a flexible infrastructure that will allow the insertion of new capabilities as they evolve.

JSF.—The Joint Strike Fighter contract was signed in 2001. It will provide an aircraft with unprecedented stealth and range to the fleet as part of a family of tri-service, next-generation strike aircraft with an emphasis on commonality and technological superiority at an affordable price. The fiscal year 2003 budget supports procurement of the initial variant in fiscal year 2006.

F/A-18E/F.—The F/A-18E/F will replace older F/A-18s and all F-14s. There is extensive commonality of weapons systems, avionics, and software between F/A-18

variants, and the infrastructure supporting the Super Hornet builds upon existing organizations.

LPD-17.—Although we have experienced design and production difficulties with the lead ship, we remain fully committed to this key program. LPD-17 supports vital littoral warfighting requirements and promises relief from the escalating costs of our aging amphibious ships. The LPD-17 class will replace four older classes of ships and serve as a central element of future Amphibious Ready Groups/Expeditionary Strike Groups. We need to accelerate development of these ships as rapidly as design and production facilities will allow.

VIRGINIA-class submarine (SSN-774).—This class will replace *LOS ANGELES*-class (SSN-688) attack submarines as they leave the fleet. SSN-774s are designed for multi-mission littoral operations, as well as traditional open-ocean anti-submarine and anti-surface missions. They will also incorporate new technologies as they become available, ensuring future effectiveness. The fiscal year 2003 budget procures one submarine per year and continues RDT&E. This pace of procurement will have to be increased beyond the current FYDP to maintain the required attack submarine force level over the long term.

SAILORS: OUR MOST VALUABLE ASSET

Winning the Global War on Terrorism is our primary goal, and Navy’s fiscal year 2003 budget prioritizes manpower and current readiness above future readiness and infrastructure needs for that reason. As noted earlier, fiscal year 2003’s budget submission adds \$2.7 billion to manpower accounts over fiscal year 2002 levels and an additional \$2.8 billion in operations and maintenance funding.

Thanks to the unequivocal support of Congress—including increases to base pay and bonuses, retirement reforms, and better medical benefits—Sailors are staying Navy in record numbers. In 2001, we retained 58 percent of all eligible Sailors at the end of their first enlistment, 67 percent of Sailors with 6–10 years of Service, and 83 percent of Sailors with 10–14 years of Service. Additionally, 1,512 more Sailors were advanced in 2001 than the year before.

ENLISTED REENLISTMENT RATES (AS OF 28 FEB 02)

Oct–Feb	Zone A (<6 years)	Zone B (6+ to 10 years)	Zone C (10+ to 14 years)
Fiscal year:			
2000 (percent)	49.7	62.8	81.8
2001 (percent)	58.8	67.6	83.5
2002 (percent)	64.4	75.5	86.2
2001–2002 Comparison (points)	+ 5.6	+ 7.9	+ 2.7

The Navy also met our overall recruiting goals in fiscal years 1999, 2000, and 2001, and this year we are well ahead of the record-setting pace of fiscal year 2001. Thanks to these successes, battle groups are deploying better manned than ever before.

We are winning the battle for people, but important challenges remain. Officer retention in most line communities is below required levels and recruiting shortfalls exist in officer specialty areas and critical enlisted ratings.

We are also dedicated to continuing the fight against attrition. The annual attrition rate for first-term Sailors has been reduced from over 14 percent to 10 percent since 1998, retaining thousands of young men and women for service. Yet we can—and will—do better. Concerned, involved leadership is central to minimizing attrition without compromising standards. To make this happen, I have directed Navy leaders to take every measure to ensure our people succeed and prosper.

Key to achieving that goal is cultivating a command climate throughout the Navy that offers plentiful opportunities, encourages participation, and is conducive to personal and professional growth. We are striving to minimize the increased wartime operational tempo of the fleet via careful planning and innovative training. This is the first time in modern history that the Services have faced a prolonged conflict with an all-volunteer force, and we must protect the integrity of our fleet.

Two initiatives have been launched during the past year to help us fully utilize our Sailors’ potential:

Task Force EXCEL (Excellence through our Commitment to Education and Learning) is making impressive progress in developing processes, policies, and structures to fully realize the capabilities of every Sailor. Seventeen ratings are currently under review to find ways to expand professional learning, earn certifications that are recognized by the civilian community, and enhance personal growth. The goal

is to provide a comprehensive development plan for every Sailor based upon education that takes place in the classroom and on the internet, as part of a culture of continual learning.

Project SAIL (Sailor Advocacy through Interactive Leadership) is a new program that will have a major impact on how the Navy assigns our personnel. Using a team detailing process that includes Sailor advocates, enhanced internet connectivity, and billet incentivization, Project SAIL will strengthen efforts to find the best set of orders for every one of our Sailors, leading to assignments that are both professionally rewarding and personally fulfilling.

The shared focus of these initiatives is an appreciation that combat success in the 21st century will rely heavily on knowledge management derived from a highly educated and motivated volunteer force; a force that is empowered in their career decisions and encouraged to contribute to a climate of warfighting excellence.

CONCLUSION: A COMMITMENT TO VICTORY

Our national leaders have repeatedly told the American people that the war against terrorism will be neither easy nor short. In addition to targeting international terrorist networks, the President has singled out states sponsoring terrorism for military action should they threaten international peace.

This struggle promises to be global in scope and simultaneous in execution. It will require the full might of America's armed forces. In pursuing victory, the United States Navy—forward deployed, highly capable, and poised for action—will play a leading role.

I thank the subcommittee for your continued strong support of our Navy and our Sailors. Working together, I am confident that we will win the Global War on Terrorism, leading to a more stable and peaceful world.

Senator INOUE. Thank you very much, Admiral Clark.
General Jones.

STATEMENT OF GENERAL JAMES L. JONES, COMMANDANT, U.S. MARINE CORPS

General JONES. Mr. Chairman, thank you for the privilege of making a very few remarks in a preliminary fashion prior to answering your questions. I would like to just make three quick points.

The first one is that I would like to reemphasize a point that the Secretary made a few minutes ago about the partnership in the leadership of the Department. It is something that I am very proud of, very proud to be a part of, and it is real and tangible. And I think this partnership is being felt throughout not only the Navy and the Marine Corps, but the civilian sector of our Navy Department.

Operationally, I would tell you that the Navy and the Marine Corps team is stronger than ever before. I value my partnership with the CNO. There is not a day that goes by that we do not check our notes and make sure that the partnership and the team is strong, and we are going to do even more things in the year ahead to celebrate that contribution that we make to the joint effort, but also the power of teamwork that comes from a close association between two very natural allies and very, very longtime friends.

The Marine Corps is moving along on a transformation axis that supports that, the joint warfight. I would just like to comment on four characteristics of that transformation because for me the transformation is more than just leap-ahead technologies. That is certainly one of them. Tilt rotor technology, the dramatic advances that we are making in our communications and intelligence gathering fields, the power of reach-back technology, which allows us to reduce the exposure of our sailors and marines on the ground and at sea. All of those things are very exciting.

There is also an institutional transformation with major manpower reforms. I would submit, Mr. Chairman, and members of the committee that certainly one of the most transformational things that has happened to the armed forces of the United States in the last 50 years has been the all-volunteer force. We are still learning to deal with this very capable force. To the Marine Corps, this means a lot of manpower reforms that focus on our recruiting and retention. We have said it many times, but we recruit marines; we retain families.

Operational transformation. We saw just a hint of how far we have come in a short period of time with the 1st Marine Expeditionary Brigade with two Marine Expeditionary Units in Afghanistan. The headquarters for that brigade, Mr. Chairman, had fewer than 60 people. Ten years ago it would have been 350 people or 400 people. That is the power of the kind of transformation that we are talking about.

It has been reported in the press and it is fair to say that the Navy and Marine Corps tactical aviation integration is going to be something that the future is going to meet and satisfy. We are very excited about the power and the potential of that integration. It is not necessarily new. The Marine Corps provides four squadrons of F-18s regularly to deploy on our big-deck carriers, in addition to its own Harriers on the amphib. We will propose to more fully integrate the carrier airwings with marine aviation. That is good for the Navy, it is good for the Marine Corps, and it is good for the Nation.

And finally, the last area for transformation in the Marine Corps is acquisition and business reforms. An example of that would be the tremendous transformation we are seeing on our bases and stations with regard to public/private ventures to refurbish and modernize our housing. We are talking about tens of thousands of houses that potentially could be built in the very near future at very little expense to the taxpayer using these creative business relationships that we have been able to fashion with our partners in industry.

With regard to the fiscal year 2003 budget, I align myself completely with the Secretary and the CNO. This budget continues to enable our emergence from the years of failure to recapitalize. For the Marine Corps, it adds \$1.3 billion to our military personnel account, a half a billion dollars to procurement and research and development, and another half a million to Operations and Maintenance (O&M). It does reduce our MILCON account by \$98 million from our fiscal year 2002 level, but it is still better than fiscal year 2001 by about 24 percent. So, the trend lines are good. And we are up 20 percent in terms of our funds allowed for family housing, which enables this transformation that I spoke about briefly.

As you know, it also provides for a targeted pay raise, career sea pay, and it reduces the out-of-pocket expense for housing from 11.3 percent to 7.5 percent, and we will achieve zero percent within the next 2 years.

In this budget, we will see 25 percent real program growth over the fiscal year 2001 baseline for the operational forces, and 11 percent real program growth over the fiscal year 2001 baseline for our bases and stations. And that is extraordinarily good news.

PREPARED STATEMENT

So, this budget sustains our modernization and transformation programs. It enables me to sit before you this morning and tell you that it is a great time to be a United States Marine, and we cannot thank you enough, Mr. Chairman and members of the committee, for the assistance that you have given us in enabling this dramatic turnaround.

I would be happy to respond to any of your questions.

[The statement follows:]

PREPARED STATEMENT OF GENERAL JAMES L. JONES

Chairman Inouye, Senator Stevens, distinguished members of the Committee; it is my pleasure to report to you on the state of your Marine Corps. On behalf of all Marines and their families, I want to thank the Committee for your continued support. Your commitment to increasing the warfighting and crisis response capabilities of our Nation's armed forces and to improving the quality of life of our men and women in uniform is central to the strength of your Marine Corps. As a result, your Corps was ready when called upon on September 11, 2001. We thank you for your effort in ensuring that Marines and their families were poised to respond to the Nation's call in the manner Americans expect of their Corps.

The direction of the Corps is confident, clear, and unambiguous. The Corps understands its role as a force in readiness but also realizes that the world is changing. For 226 years, Marines have always been innovators in order to be ready for the next war. To assure success, we continually strive to be capable of rapidly adapting to new circumstances inasmuch as we recognize that the future is unpredictable.

The President's fiscal year 2003 Budget enables the Navy-Marine Corps Team to fight today's war on terrorism and transform itself to be ready for future challenges. This budget funds our 4th Marine Expeditionary Brigade anti-terrorism efforts, includes pay raises and new combat uniforms for our Marines and provides increased health care for our retirees. It also allows us to harness the new capabilities found in tilt-rotor technology and Short Take-Off and Vertical Landing aircraft. We have increased funding for our operating forces in day-to-day operations, training, equipment maintenance, and force protection. Additionally, our bases and stations are sustained by the President's budget, which improves such critical areas as family housing and bachelor quarters. Furthermore, this budget's investments in ground equipment, ammunition and research and development will help us recover from prior year shortfalls.

Marines have a vision for the future, and we are moving forward with the modernization and transformational efforts needed to make this vision a reality. We fully understand that our vision cannot be achieved independently of our sister Services. Each of us has our own critical role to play in providing for our collective security. It is important that each of our contributions be, simultaneously, both unique and complementary. In particular, the Corps stresses the importance of our key partnership with the Navy. The Navy-Marine Corps Team has never been stronger, nor more necessary for our country. In fact, the essence of our combined power is our teamwork.

Americans have relied upon the Navy and Marine Corps Team to protect and promote the interests of the nation since our creation by the Continental Congress in 1775. After helping to win American independence, Naval Services acted time and again to ensure our freedom and set in motion the ascendancy of our Nation as a global power under the banner of democracy and its potential. During the darkest hours of our history, the Navy and Marine Corps Team has remained the most useful and most frequently used expression of our Nation's interests in forward presence and crisis response. Those of us who are privileged to serve in the Naval Services today have inherited a legacy that we are dedicated to preserving. Together we will continue to flourish, due to steadfast appreciation of our heritage and a commitment to a tradition of continuous innovation and change.

Teamwork is the bond that forever joins our Services and is the key to our enduring success. We have progressed from wooden ships of sail, with embarked Marines, to modern networked Naval expeditionary strike forces that are forward deployed and full spectrum capable. We are a combined-arms force capable of ensuring America's access, including sustainable forcible entry operations to distant inland areas and austere locations. Always moving forward, we are incorporating advanced technologies to increase our capabilities to include exploiting the tremendous potential

of sea control and power projection. Our innovation is not limited to equipment and weapons systems but is also reflected in the development of new operational concepts and organizational evolution. When crises emerge, the Nation can depend on the Navy and Marine Corps Team.

Today, I will describe the Marine Corps' relevance to the current security environment as well as our future role as America's sea-based, expeditionary, combined-arms force. I will also address the Marine Corps' role as the Nation's medium-weight expeditionary force, bridging the gap between America's Special Operations Forces and the Army's critical land war-winning capability. The preponderance of this statement will focus on the Marine Corps' transformation plans and our vision for the 21st Century.

THE MARINE CORPS' RELEVANCE: POWER PROJECTION FROM THE SEA-BASE

For the United States to provide its citizens with security and prosperity at home and abroad it must continue to lead the effort in maintaining international stability. One only need consider the events of September 11th, and the fact that 30 percent of the United States Gross Domestic Product is directly related to global trade, to realize that America's well-being is inextricably linked to the international order. America must continue to establish and lead efforts to maintain stability around the world. This challenge requires the integrated application of all elements of national power—economic, political, diplomatic, cultural, intellectual, technological, and military. Working in concert with the other components of national power, our armed forces perform a vital role in establishing and maintaining conditions that directly affect global stability and America's security and prosperity. History shows that our men and women in uniform play a pivotal role in our Nation's international credibility. It is not an exaggeration to claim that our Nation's most important gift to world order is found in the service of our young men and women in uniform. Before anything good happens in the world, they are there establishing the framework for peace and stability.

Inasmuch as global stability is intrinsically tied to America's relationship with other nations in the world community, the United States benefits significantly from military to military relationships around the globe. However, as nations continue to raise issues of sovereignty, especially during a crisis, we must find new ways to conduct our Nation's necessary engagements and have the means to respond to crisis without being excessively restricted by geo-political issues. In the 21st Century, we are likely to see a change in the number and type of large, quasi-permanent American bases around the world as defined by the post-Cold War era. We must begin to develop alternatives to ensure that we are able to maintain our peacetime presence and our crisis response capabilities. 21st Century basing initiatives are issues that will have to be addressed in the near future.

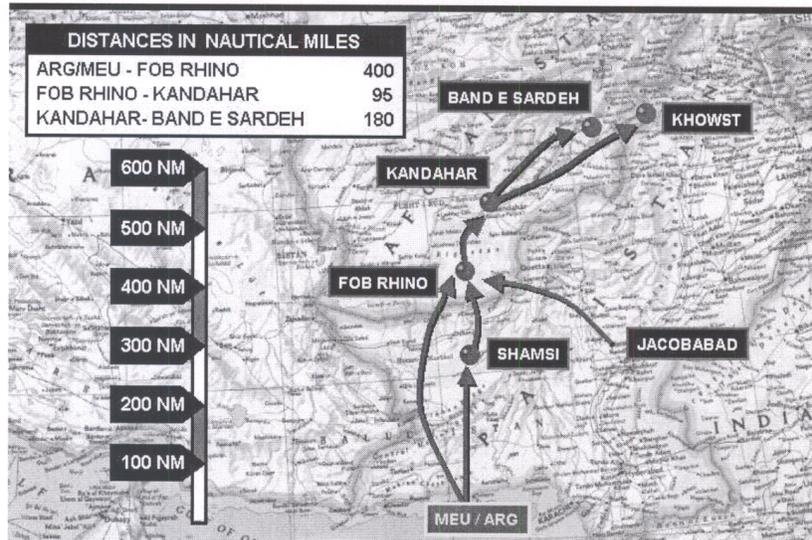
We cannot deter aggression, nor defeat future adversaries, solely with military capabilities based at home. Regional engagement requires presence, and there is no such thing as truly effective "virtual presence." The inherent mobility and flexibility of Naval forces in providing off-shore basing options is an effective counter to increasing limitations to access and basing rights. America's stabilizing influence overseas is contingent upon our ability to deploy, employ, and sustain persistent military forces from the sea. Indeed, the Navy-Marine Corps Team's sea-based power projection capabilities are a cornerstone of our military's contribution to our enduring security and that of our allies.

Sea-based capabilities provided by the Navy-Marine Corps Team are an important means for America to cultivate its relationship with the world, providing the advantage, both in peacetime and in crisis response operations, of being able to control the size of our "footprint" ashore. Sea-basing also provides the operational advantages of force protection, operational maneuver space, and the sanctity of sovereign platforms from which we can engage adversaries.

The Navy-Marine Corps Team's sea-based capabilities have been re-validated over the past several months. In Afghanistan, sea-based Naval forces provided a significant portion of tactical air sorties and the initial deployment of major, sustained ground force presence, reaching over 600 miles inland. [See Figure 1]

Operation Enduring Freedom has also proven the value of the Navy-Marine Corps Team as an important element of a Joint Force.

SHIP TO OBJECTIVE MANEUVER (STOM)



[FIGURE 1]

Important contributions were made through Marine integration with Special Operations Forces, the Army, and the Air Force in the areas of Intelligence, Surveillance, and Reconnaissance capabilities to long-range strike and close air support capabilities. The Marine Corps has demonstrated that the Marine brigade—a flexible, medium-weight, combined arms, expeditionary force—is not only responsive, but also a full and effective partner in Joint and Coalition operations.

THE MARINE CORPS' ROLE: A SCALABLE, SUSTAINABLE, FORCIBLE ENTRY FORCE

The Marine Corps provides our Nation and its Joint Force Commanders the full scope of military capabilities required to respond to the broad spectrum of threats and potential missions that confront America's armed forces today and in the future. For six percent of the Department of Defense's budget, the Marine Corps provides twenty percent of our Nation's ground combat maneuver battalions, tactical fixed-wing aircraft squadrons, and attack helicopter squadrons, as well as one-third of its active duty combat service support.

If there is a lesson to be learned from ongoing operations in Afghanistan, it is that there is tremendous power and capability in the diversity of our armed forces today. Joint Force Commanders must have the fullest possible range of options and capabilities available in order to apply the desired effects, both lethal and non-lethal, in any given scenario. Indeed, the flexibility and robustness of America's armed forces is a product of the varied and unique capabilities each Service contributes to our Nation. Accordingly, our capabilities need to be complementary, not duplicative, if we are to provide the diverse and versatile capabilities needed to confront the uncertain threats of the future. Together, our Joint force forms a mosaic of integrated capabilities to defeat the myriad threats and challenges we may face today and tomorrow. Enhancing these capabilities across the force is in the national interest.

Marine Air-Ground Task Forces have proven their utility in meeting challenges and exploiting opportunities. The versatility of the Marine Expeditionary Brigade is emblematic of the scalability of our Marine Air-Ground Task Forces. In size and capability, these brigades are midway between our "light" Marine Expeditionary Units and our "heavy" Marine Expeditionary Forces. Furthermore, our Marine Expeditionary Brigades can either deploy on amphibious shipping or be airlifted into a theater of operations to link up with equipment and supplies aboard Maritime Prepositioning Ships.

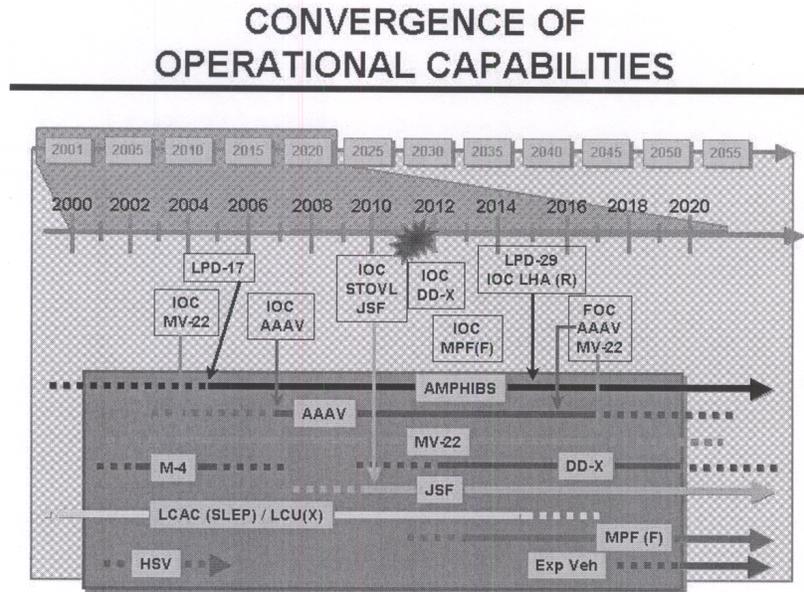
While the global war on terrorism has demonstrated the current capabilities of the Navy-Marine Corps Team, our continuous transformation and modernization

promise even greater future capabilities for the Marine Corps. Transformation is an ongoing process, however, not an end-state. It spans decades of innovation and experimentation. It is also not limited to technology, but includes change in our organizational structure, operational concepts, and business practices.

The Marine Corps has always been at the forefront of transformation and innovation. Throughout our history, the Marine Corps has changed and evolved—from ship security, to naval constabulary, to light infantry, to an amphibious assault force, to an air-ground expeditionary team. In the past, our development of close air support, amphibious warfare, vertical envelopment, Short Take-Off and Vertical Landing technology, and maritime prepositioning have benefited our Joint warfighting capability. Today, the Marine Corps remains true to its warrior culture and continues in a tradition of change. Drawing on our history of transformation, the Marine Corps is moving forward with new concepts, innovation, and exciting experimentation. Our focus is on the creation of new capabilities, which will yield the operational advantages we seek to have in dealing with future conflicts.

THE MARINE CORPS' TRANSFORMATION: CONCEPTS, TECHNOLOGIES, AND ORGANIZATIONS

Although many think of transformation primarily in terms of weapons systems, true transformation results from a synthesis of new technologies with strategic vision, revolutionary operational concepts, and agile, adaptive organizations. Clearly, we must harness the potential military benefits of rapid advances in technology. The V-22 Osprey is but one example of the potential of proven transformational technology. The path to transformation involves a robust program of experimentation with new concepts, capabilities and operational prototypes while actively pursuing forward-looking science and technology efforts. As we experiment and introduce new capabilities, we will rapidly mainstream the changes into our ready forces. [See Figure 2]



[FIGURE 2]

Transformation of Operational Concepts and Better Business Practices

Technological innovation plays a paradoxical role in military transformation. With each problem it solves, technological innovation tends to introduce new challenges and opportunities. Operational concepts can offset these tensions by finding the means to capitalize on technological strengths and also guard against creating new weaknesses. In light of heightened fiscal awareness and the need to be effective with our resources, we must reform our business practices to maximize available re-

sources and develop more expedient means of fielding programs and equipment. With this in mind, the Marine Corps is committed to transforming its operational concepts and business practices.

The ongoing process of conceptual change is embodied in the recent publication of our overarching concept, *Expeditionary Maneuver Warfare*. It is the foundation for the way the Marine Corps will conduct operations in the 21st Century. *Expeditionary Maneuver Warfare* is the union of our core competencies, maneuver warfare philosophy, expeditionary heritage, and the concepts by which we organize, deploy, and employ forces. It emphasizes the unique and proven capabilities the Marine Corps provides Joint Force Commanders and the synergy created when leveraged with the complementary capabilities of other Services and agencies. These capabilities translate into power projection designed to promote global security and reassure our allies and friends, while deterring and defeating adversaries and potential foes.

Central to our conceptual transformation is the potential power represented in a future integrated sea-base. At-sea arrival and assembly, selective off-load, and at-sea reconstitution capabilities stand to revolutionize the way Naval forces project power and influence around the globe. Our evolving logistics concepts promise indefinite sustainment of Marine forces, both afloat and ashore. As well, Marine forces afloat typically rely upon the Command, Control, Communications, and Computer (C⁴) capabilities aboard amphibious shipping to provide critical reach-back connectivity to deployed elements of the Marine Air-Ground Task Force, and communications with Joint and multinational forces. These afloat C⁴ capabilities are crucial to the success of sea-basing and to achieving the full potential of Naval power projection.

The Marine Corps' sea-basing strategy is yet another illustration of continued transformation in operational concepts. Recognizing the increasing limitations on future basing potential of American forces overseas and the simultaneous need for the United States to maintain a forward presence, the Navy and the Marine Corps are developing a forward presence strategy as an extension and augmentation of our concept of sea-basing. Sea-basing is the formation of Joint assets at sea to project and sustain combat power ashore, while reducing or eliminating our landward logistics footprint during combat operations. The sea-based presence strategy boosts forward engagement during peacetime by increasing the number of countries that we may visit without being permanently stationed at large fixed-bases in host nations. Marines can deploy from country to country and advance diplomatic and informational efforts through military-to-military relations, small unit training, liaison exchanges, and exercises. III Marine Expeditionary Force's annual Cooperation Afloat Readiness and Training in the Asia-Pacific region is an illustration of this concept.

In addition to codifying overarching conceptual innovations, the Marine Corps is adjusting its tactics, techniques, and procedures to better support conceptual change. Marine Aviation Weapons and Tactics Squadron-1 is adapting tactics, techniques, and procedures for the employment of aviation operations in urban terrain—a vital, yet challenging environment today and in the future. Advancements have been made in target selection and tracking, weapon selection and employment, friendly unit position identification, command and control, and staff planning. Likewise, the Marine Corps is actively engaged in the development of the underlying concepts of Network Centric Warfare for Naval expeditionary forces. We are exploiting state-of-the-art information and networking technology to improve situational awareness and to integrate widely dispersed sensors, forces, and weapons. Network Centric Warfare will allow commanders to achieve mission objectives rapidly and decisively by concentrating the combined fire and maneuver of Naval forces afloat and ashore at decisive locations and times. Similarly, the Marine Corps led Joint Non-Lethal Weapons Directorate is forging the way for the development of non-lethal technologies, as well as the tactics, techniques, and procedures for effectively employing their effects. Congressional funding of the Non-Lethal Technology Innovation Center at the University of New Hampshire will continue to provide further stimulus for the experimentation and formulation of doctrine that guides the tactical use of these new weapons.

Just as it is transforming its doctrine, the Marine Corps is also transforming its business practices. Our readiness is a reflection of balancing the demands of current requirements around the globe with the imperative to invest and be prepared for the future. This balance can—over the long haul—be achieved only if resources are reallocated from overhead and support activities to our fighting forces. To accomplish this reallocation of resources, we are adopting better business practices to achieve greater cost-effectiveness. There are several different avenues that the Marine Corps is taking to make this happen. We are streamlining organizations to eliminate redundancy and maximize integration. We are also reducing excess support structures to free resources and focus on core competencies.

To transform our business practices, the Marine Corps must increasingly rely on business intelligence and associated technologies promoting access to information. We consider information to be a strategic asset, and by assuring access to information, we will improve the operational agility of the Marine Corps. Our efforts to promote enterprise management of information technology confirm our need for a common infrastructure that includes a shared data environment, realignment and consolidation of many of our information systems, and the search for cost-effective strategies.

Commercialization, privatization, and out-sourcing are among the methods the Marine Corps has used to reduce costs, but ultimately it is competition between public and private sources that has led to increased savings. The Marine Corps has initiated competition between government sources and private sector commercial sources for a broad number of activities, best seen in the Marine Corps' application of such competition vis-a-vis its bases and stations. To operate our 15 major installations—essentially providing the range of support services typical of a municipality—a labor force of approximately 20,000 Marines and 14,000 civilians are employed. One of the processes we have used in these competitions to save money is Activity-Based Costing and Management. This process provided our installation commanders information that enabled them to save over \$30 million last year by analytically measuring the costs of particular work and evaluating the performance of that work.

Another example of turning to the private sector and using competition to bring down costs is the success of our new camouflage utility uniform. The uniform was created, tested, produced, and fielded by the Marine Corps—with the use of a new digital camouflage design technique—through a single source vendor, yielding a product that is superior in quality, comfort, and cost to that in existence today. We are extremely pleased with this innovative uniform that not only costs less in the long run, but is a product improvement benefiting our Marines. All of this was achieved within a one year period.

Just as the Marine Corps' new utility uniform is an example of both tactical and business innovation, so too the transformation of operational concepts and business practices are seen together in our Integrated Logistics Capability. The Integrated Logistics Capability is redefining and realigning our supply and maintenance process by providing our logisticians with greater awareness of equipment status, increasing their capacity to more rapidly and effectively respond to logistical requirements on the battlefield. The simple objective of our Integrated Logistics Capability is to avoid weighing down the warfighters with the requirement to haul, protect, and administer massive amounts of supply material. The foundation of this concept and business practice is a revolutionary change in military methodology: shifting from massive inventories to small inventories. With the use of new technologies and practices, proven in the private sector, the Corps will, in essence, create a “new order” for its logistics enterprise and undertake the revolutionary changes necessary to ensure that it continues to be the premier fighting force in the world. Second Force Service Support Group at Camp Lejeune, North Carolina, is currently testing many of these new processes in a year long “proof of concept” to validate the direction in which we are heading. These efforts will allow Marine logisticians to support the battlefield of the 21st Century with a smaller logistical footprint in a more cost-effective manner.

Transformation and Modernization Through Harnessing Technologies

With the foundation of requirements drawn from its new concepts, the Marine Corps is transforming its weapons systems and assets throughout the five elements of our Marine Air-Ground Task Forces—our ground, aviation, logistics, and command elements, as well as our supporting establishment. The following examples are but a few of our transformational and modernization efforts. Many of our investments involve modernization of existing capabilities vital to effectively and efficiently fulfill our core competencies. A more comprehensive description of the Marine Corps' entire acquisition program can be found in the Marine Corps' *Concepts & Issues: Forging the Future Marine Corps*.

Amphibious Shipping for Sea-basing

We are a maritime nation and we must capitalize on this part of our national character to ensure that we are ready for the challenges that are over the horizon. The requirement for our amphibious shipping remains the linchpin of the Corps' ability to influence the international security landscape, project power, and protect the Nation's interests during peacetime and crises. While it has long been recognized that we require an amphibious ship force structure capable of simultaneously lifting the assault echelons of three Marine Expeditionary Brigades, today's amphib-

ious lift can support only two-thirds of this requirement in certain aspects of the lift footprint. I strongly recommend that we commit to redress this shortfall as a matter of urgent priority.

We are grateful for your support in replacing four classes of older ships with the new LPD-17 *San Antonio* amphibious ship class. Delivery of these 12 ships to the fleet is currently planned to be complete in 2015. However, we remain concerned about further schedule slippage in the LPD-17 program. Such delays compromise our ability to fulfill our global forward presence responsibilities and must be avoided. Similarly, we are concerned with replacing the LHA-1 *Tarawa* class ships. Considering the extended time-frame for ship design, construction, and delivery, we need to ensure now that we are ready to replace the *Tarawa* class when they reach the end of their 35 year service life starting in 2011. [See Figure 3]

Expeditionary Lift (MEB Assault Echelons)

- Five lift fingerprints based on the 1991DoN Lift II Study
- Assumes the 12th LPD 17 class ship delivers in FY15
- *LST 1184 & LSD 39 will decommission in FY02/03*
- *LHA Tarawa Class first decommission in FY11*
- *Current ships have serious problems*

FY	2002	2003	2004	2005	2006	2007	2015
Troops	2.73	2.68	2.68	2.71	2.67	2.66	2.63
Vehicle SqFt	2.10	2.01	2.01	2.08	2.14	2.17	2.48
Cargo CuFt	3.71	3.70	3.70	3.76	3.75	3.78	3.75
VTOL	3.25	3.25	3.25	3.3	3.32	3.35	3.43
LCAC	3.50	3.42	3.42	3.46	3.42	3.54	3.83

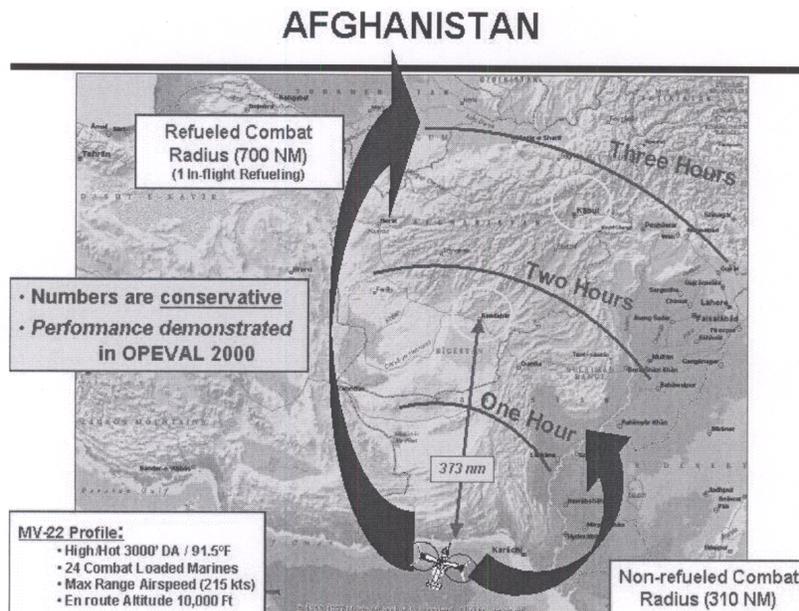
Expeditionary Lift Requirement: 3.0 MEB AE

[FIGURE 3]

The leases of our current fleet of Maritime Prepositioning Ships (MPS) will expire in fiscal year 2009, fiscal year 2010, and fiscal year 2011. The development of advanced Maritime Prepositioning capabilities, High Speed Vessel platforms, and new lighterage vessels, will significantly increase the strength and flexibility of our sea-based expeditionary operations. The marriage of a modern amphibious fleet with modern Maritime Prepositioning Shipping capable of hosting at-sea arrival and assembly of forces will minimize the requirement for access to secure ports and airfields, and give our Nation an unmatched asymmetrical advantage in projecting power.

Tilt-Rotor Aircraft

The V-22 Osprey remains the Corps' number one aviation acquisition priority. Recent actions in Central Asia have only reinforced the immediate need for this truly transformational capability. [See Figure 4]



Tilt-rotor technology holds the promise to revolutionize aviation—we should not be afraid to embrace this promise. Both the Department of Defense’s Panel to Review the V-22 Program and the National Aeronautics and Space Administration’s Tiltrotor Aeromechanics Phenomena Assessment Panel concluded that tilt-rotor technology is sound and that mishaps have been the result of engineering deficiencies that can be solved. The V-22 will radically increase the Marine Corps and Special Operations Command’s operational reach and tactical flexibility. The Osprey’s superior range, speed, and payload will give Marines and Special Operations Forces the ability to accomplish combat missions and other operations from distances previously unattainable, with response times far faster than possible with other airframes. The battlespace of the future will demand capabilities that provide rapid and effective maneuver. Through the use of the V-22’s increased speed and range, we not only improve our ability to influence the tempo of operations, but we provide our forces with greater survivability. These capabilities are the foundation for how we have planned to transform our operational concepts and intend to reorganize our force structure.

We are aware of the challenges associated with the Osprey but are pleased that the Under Secretary of Defense for Acquisition, Technology, and Logistics has announced that a new comprehensive flight test program for the V-22 will start this Spring. This flight test effort will be “event-driven,” as opposed to being “time-driven.” Both the Secretary of the Navy and the Under Secretary of Defense for Acquisition, Technology, and Logistics will periodically review flight test results to assess progress.

Short Take-Off and Vertical Landing Aircraft

In late October 2001, the contract was awarded for the Joint Strike Fighter, signaling a new era in naval aviation. The advantages of a stealthy strike fighter capable of taking off from an expeditionary base on land or at sea, fly in supersonic cruise, accomplish its mission with advanced sensors and weapons, then return to its expeditionary site are dramatic. This aircraft will transform the very foundations of tactical air power. It will provide the reliability, survivability, and lethality that our forces will need in the years ahead. Moreover, the Short Take-Off and Vertical Landing Joint Strike Fighter variant provides operational access to more than three to five times the number of airfields available around the world that are currently capable of supporting our so-called “legacy” aircraft. The Short Take-Off and Vertical Landing Joint Strike Fighter can also operate from both conventional car-

riers and amphibious assault ship decks, effectively doubling the number of shipborne platforms available for operations. As these highly capable aircraft move from sea-based platforms to expeditionary airfields, they can effectively decrease response time for missions by 75 percent and increase time-on-station by 50 percent. These capabilities represent a significant increase in strategic agility, operational reach, and tactical flexibility over conventional aircraft.

Fire Support Systems

Of critical interest to our Marine Air-Ground Task Forces is the status of our fire support systems on land, at sea, and in the air. We currently have an acute shortage of fire support. It is vital for us to move ahead with existing programs to provide our Marines with this important warfighting enhancement. Indeed, the funding, testing, and development of our systems are vital. The Lightweight 155 Howitzer is needed to replace our aging "legacy" field artillery weapons. The High Mobility Artillery Rocket System, moreover, promises to be rapidly deployable and will be a key part of our expeditionary operations, firing both precision and area munitions under all weather conditions, as well as extending our ground-based fire support umbrella to 60 kilometers. In addition to these fire support systems, we need the Ground Weapon Locating Radar to protect our forces against our adversaries' counter-battery fires. We should also continue to invest in Naval Surface Fire Support. Remedying the fire support shortfall we have lived with for much of the last two decades is crucial.

Advanced Amphibious Assault Vehicles

The Advanced Amphibious Assault Vehicle program remains the Corps' highest ground acquisition priority and promises to allow high-speed surface maneuver from ship-to-shore as well as on land. This vehicle will be able to deploy to objectives from over the visual horizon, 25 miles and beyond, and will allow our ships to remain beyond the range of many threat weapons and surveillance systems. It will help off-set an enemy's anti-access strategies and bolster expeditionary operations from the sea. Furthermore, the Bushmaster II 30 mm cannon will give the vehicle a lethal direct fire capability. The Advanced Amphibious Assault Vehicle will be a decisive expeditionary warfare tool for operations in littoral areas world-wide.

High Speed Vessel

High-speed, intra-theater sealift, catamaran vessels provide phenomenal increases in speed and tactical flexibility for our Navy-Marine Corps Team. Building on operational use of the Royal Australian Navy's HMS Jervis Bay, our Joint Venture High Speed Vessel promises to reap new developments that will lead to new capabilities. Additionally, leasing the 331-foot commercial catamaran Austal West Pac Express, III Marine Expeditionary Force has demonstrated the viability of such vessels, using it to transport Marines and their equipment to training exercises through out Asia—lifting 950 Marines and 550 tons of materiel per trip, the equivalent of 14 to 17 military cargo aircraft. The Navy-Marine Corps Team's current requirement is for a craft that can transport 400 tons of cargo, travel 1,200 miles without refueling, and achieve a speed greater than 40 knots. We are confident in the High Speed Vessels capacity to deliver these capabilities and transform our intra-theater mobility.

Tactical Unmanned Aerial Vehicles

Unmanned Aerial Vehicles have already seen extensive action in the war against terrorism and their use is expanding. This technology's potential, combined with its ability to conduct dangerous missions without the risk of personnel casualties, make this a truly transformational asset. The Navy and Marine Corps' Vertical Take-Off and Landing Unmanned Aerial Vehicle Engineering Development Model program is designed to test and evaluate various sensor packages and the Tactical Control System architecture for use in future Tactical Unmanned Aerial Vehicles. In the interim, Marine Corps Pioneer systems will be upgraded to perform Unmanned Aerial Vehicle functions (Reconnaissance, Surveillance, and Target Acquisition). Presently, Marine Corps Unmanned Aerial Vehicles are preparing to deploy to Central Command's area of responsibility.

Aerial Refueling

Replacement of our aging KC-130 Hercules fleet with KC-130J aircraft is necessary to ensure the viability and deployability of Marine Corps Tactical Aircraft Refueling and Assault Support well into the 21st Century. The KC-130J's performance features include increased cruising airspeed, night vision compatible interior and exterior lighting, enhanced rapid ground refueling capability, digital avionics, and powerful propulsion systems. These strengths promise lower life-cycle expenses

and eliminate the need for costly KC-130F/R Service Life Extension Programs. In sum, the KC-130J gives us the aerial refueling capability required to meet our current and future tactical aerial refueling demands.

Maritime Prepositioning Shipping Support Facility

Supporting the Marine Corps' Maritime Prepositioning Shipping, the Blount Island facility in Jacksonville, Florida, is truly a national asset that must be secured for long-term use. Its peacetime mission to support the Maritime Prepositioning Force has been of exceptional value to the Corps, but its wartime capability of supporting massive logistics sustainment from the Continental United States gives it strategic significance. The purchase of Blount Island is planned for fiscal year 2004, when our current lease of the facility will expire.

Command and Control

Command and Control technologies being introduced into Marine operating Forces are key to making Expeditionary Maneuver Warfare a reality. Marine forces once ashore will utilize the Lightweight Multi-band Satellite Terminal, Tactical Data Network, and High Frequency Automatic Link Establishment Radios to link widely dispersed forces into the Network Centric environment. These technologies will result in capabilities that will greatly increase the operational agility of your Marine Corps.

Transformation of Organizational Structure

The transformation of our weapons systems and equipment as well as our operational concepts and business practices is a difficult task. Transforming how we organize ourselves is even more difficult. Nonetheless, building on its institutional legacy of adapting to match the threats and missions of a given time, the Marine Corps is reorganizing its structure. Furthermore, at the core of transforming our organization, is the optimizing of our greatest asset, our Marines.

One of our leading examples of transformational reorganization is the 4th Marine Expeditionary Brigade (Anti-Terrorism). The 4th MEB (AT) combined our Marine Security Guards stationed at America's embassies around the world, Fleet Anti-Terrorist Security Teams, and Chemical Biological Incident Response Force with an organic aviation component, combat service support element, and specialized anti-terrorism infantry battalion, as well as a command element with dedicated planners, coordinators, and liaison officers for anti-terrorism operations. The 4th MEB (AT) has had an immediate impact, deploying to our re-opened embassy in Kabul, as well as supporting anthrax decontamination at the Capitol and security at the Olympics and the State-of-the-Union address. In the near future, all deployable units will deploy with an anti-terrorism capability.

In addition to standing up the 4th MEB (AT), we are looking at other organizational transformation initiatives. We are looking at additional ways to optimize our forces by realigning outdated structures to reflect new realities. Now is the time to consider how to best organize our forces to meet the needs of this transformational era.

Similar self-examination has led to successful change in our supporting establishment. Three illustrations of this are Marine Corps Combat Development Command, the Marine Corps Intelligence Activity in Quantico, Virginia, and Materiel Command in Albany, Georgia. By reorganizing the Marine Corps Combat Development Command we have redefined its role in supporting Marine Operating Forces and the Service Headquarters. It has emerged as the Corps' home for long-range thinking and has taken on the role of coordinating requirements with the Navy as well as facilitating the Marine Corps' relationship with Joint Forces Command. The Marine Corps Intelligence Activity, likewise, has been highly successful in validating our intelligence reach-back concept. Exploiting both new command relationships and connectivity, the Marine Corps Intelligence Activity is providing timely, accurate intelligence to our globally deployed tactical forces. Similarly, by establishing Materiel Command we have created a unity of effort and streamlined processes for the Marine Corps' acquisition and logistics support functions and ground weapons/equipment life cycle management processes. Materiel Command transformation initiatives for materiel readiness improvements and increased visibility of total ownership costs will achieve significant future cost avoidance and savings. This allows the Installations and Logistics Department at Headquarters Marine Corps to more effectively concentrate on policy decisions and support to the operating forces and the regional combatant commanders. In each of these reorganizations, optimizing efforts of the men and women who serve our Corps has been our primary intent.

Our People

Our highest priority remains unchanged: Marines, their families and our civilian workforce. The most advanced aircraft, ship, or weapons system is of no value without highly motivated and well-trained people. People and leadership remain the real foundations of the Corps' capabilities.

It is important to note that the Marine Corps operates as a Total Force, including elements of both active and reserve components. We continue to strengthen the exceptional bonds within our Total Force by further integrating the Marine Corps Reserve into ongoing operations and training. Both Marine Expeditionary Force Augmentation Command Elements, two infantry battalions, two heavy helicopter squadrons, two aerial refueler transport detachments, as well as other units have been mobilized to support Operation Enduring Freedom. Called to duty, over 3,000 Marine Reservists are providing seamless support from operational tempo relief at Guantanamo Bay to augmentation at Camp Pendleton and Camp Lejeune.

Because our people are our number one priority, safety in the Marine Corps is a critical concern. While it is essential to maintaining our readiness, it is also a vital element of the quality of life that we provide our Marines and their families. I am pleased to report that 2001 was a banner year for safety in the Marine Corps. The Aviation community set a record, posting the lowest Class A mishap rate in the Corps' history. Through education, vigilance, and command involvement we reduced privately owned vehicle fatalities 39 percent last year. And overall, we had our second lowest mishap fatality rate in 14 years. These are all very positive signs in our quest to safeguard our most precious assets, our Marines.

One factor contributing to our safety challenge is that we are a young force. The average age of our Marines is 24, roughly six to eight years younger than the average age of the members of the other services. This is part of the culture of the Corps as our unique force structure shows 68 percent of our Marines being on their first enlistment at any one time. The nature of our force structure requires us to annually recruit 41,000 men and women into our enlisted ranks. To fill this tremendous demand, our recruiters work tirelessly and have consistently met our accession goals in quality and quantity for over six and a half years. The performance of our recruiters has been superb.

Retention is just as important as recruiting. We are proud that we are meeting our retention goals across nearly all military occupational specialties. Intangibles—such as the desire to serve the Nation, to belong to a cohesive organization, and to experience leadership responsibilities through service in the Corps—are a large part of the reason we can retain the remarkable men and women who choose to stay on active duty. Concrete evidence of this phenomenon is seen in our deployed units, which continually record the highest reenlistment rates in the Corps. The Selective Reenlistment Bonus Program has been an additional, powerful tool to meet our retention goals. Increases for the Selective Reenlistment Bonus Program, as well as the targeted pay raise initiative, will go a long way toward meeting our retention goals and helping take care of our Marines and their families.

While we recruit Marines, generally, we retain families. The effectiveness of our Marines is dependent, in large measure, on the support they receive from their loved ones. Our families are therefore vital to our readiness. Increased pay, as well as improved housing and health care, directly influence our families' quality of life and, in turn, enhances the readiness of our units. Your support of our families' quality of life has greatly contributed to our retention success. We are extremely thankful for the enactment of much-needed improvements to the TRICARE system for our active duty personnel and for our retired veterans. Thank you, as well, for continuing to support increases in the Basic Allowance for Housing that help our Marines meet the rising costs of rent and utilities within the limits of their housing allowances.

This Committee has provided considerable support to our Marines and their families and the Marine Corps has also improved services to our families in hopes of further enhancing their quality of life. We have established Marine Corps Community Services aboard our installations to better provide for both our Marine families as well as our single Marines, who constitute nearly 60 percent of our total active force. We have also sought to recognize and support our Marines and families with special needs and I am proud to say that both the Marine Corps' Exceptional Family Member Program and the Military Committee for Persons with Disabilities were the recipients of the 2001 S. Robert Cohen Annual Achievement Award for their commitment to facilitating and coordinating support and services to families with special needs.

Similarly, seeking to be more responsive to our Marines and to enhance their career opportunities, we have undertaken a number of manpower reforms to better manage the force. Through the personal involvement of commanders, career plan-

ners, and leaders throughout the chain of command, we have been able to meet our retention goals, stabilize our force, and reduce the burden on our recruiters. We are investing considerable resources to successfully recruit, develop, and retain the civilians who work alongside our Marines. Our strategic plan in this regard is to develop civilian career programs that integrate and advance technical and leadership competencies.

We are also investing in our Marines by improving how we train and educate them. We believe the old adage, “you fight the way you train.” Because of this, our training exercises are becoming increasingly Joint and combined to provide our Marines with the experience that they will need when they are called upon to respond to crises that require them to work alongside our sister services and partners from other nations. Our ability to effectively operate in both joint and coalition environments was clearly evident in the experiences of the Marines of Task Force 58 in Afghanistan. However, we are increasingly finding that the training and mission effectiveness of our Marines is degraded by the many forms of encroachment on our bases and stations. We need your continued support to ensure that the growing complexity and expense of encroachment issues do not curtail our efforts to conduct meaningful training. Encroachment issues will continue to be a 21st Century problem.

Experience, in tandem with education, is the best foundation for dealing with both difficulty and fortuity. Accordingly, we are not solely focused on training our Marines, but on educating them as well. We have expanded our non-resident education programs to ensure that greater numbers of Marines have the opportunity to better themselves. We are also adjusting our policies to better accommodate family realities—such as spouses with careers or children with exceptional needs—when selecting officers to attend various schools that require a change in duty station. We have instituted a “National Fellows program” for competitively selected junior officers and staff non-commissioned officers to experience the corporate world, think tanks, non-governmental organizations, and the workings of Congress. The experiences they receive will broaden perspectives and provide valuable insights that will strengthen our capacity to innovate and adapt in the years to come.

The Marine Corps’ commitment to training and education, as well as our commitment to our “warrior culture,” is reinforced in our recently instituted martial arts program. We have developed a discipline unique to the Corps and we are in the process of training every Marine in its martial skills. This program promotes both physical prowess and mental discipline. Successive levels of achievement are rewarded with different colored belts reflecting a combination of demonstrated character, judgment, and physical skill. This training will benefit Marines in the complex missions we face; especially in peacekeeping and peacemaking operations where physical stamina and mental discipline are vital to success. At its heart, our martial arts training is fundamentally focused on mentoring our young men and women and helping them to understand that the keys to mission accomplishment are often a matter of combining intelligence, strength, and self-control to influence circumstances, rather than simply resorting to the application of deadly force. The warrior ethos we instill in our Marines, transforms them into intelligent and disciplined warriors, and mirrors the Marine Corps’ own transformation in equipment, doctrine, and structure.

CONCLUSION

In summary, the Marine Corps’ transformation is a synthesis of new operational concepts and better business practices, leap-ahead technologies, and realigned organizations. This transformation promises to exponentially increase the Corps’ sea-based capabilities as America’s medium-weight expeditionary force in the years ahead. Our capabilities, combined with those of our sister Services, form an integrated array that provides America with the diversity and versatility she needs to confront different threats and environments and accomplish disparate missions. In close partnership with the Navy, we are proud of what our Corps contributes as America’s forward engagement and expeditionary combined-arms force. We are grateful to you for your leadership and for the unwavering support you provide to your Corps of Marines.

Senator INOUE. Thank you very much, General Jones.

Before we proceed, Senator Hutchison, would you care to make an opening statement?

Senator HUTCHISON. No, thank you, Mr. Chairman. Just to say that I really appreciate very much your being here and I think you are doing a superior job, all of you.

Senator INOUE. Before proceeding, Mr. Secretary, may I assure you—and I believe I speak for all members of the committee—that your recommendation and suggestion will be considered very, very seriously. We have done it in the past and we feel certain that we can do it again.

Secretary ENGLAND. Thank you, Mr. Chairman.

Senator INOUE. Your recommendation will be considered, sir.

Secretary ENGLAND. Thank you very much, sir.

SHIPBUILDING

Senator INOUE. I believe all of us here are concerned about shipbuilding. Can you give us your picture as to what we can foresee today and in the future on shipbuilding?

Secretary ENGLAND. Yes, sir. Thank you, Mr. Chairman.

In the fiscal year 2003 budget, we have five new ships and we have two very large conversions of our SSBNs to SSGNs, so ballistic missile submarines to conventional land attack submarines. Those two conversions will cost approximately \$1 billion and they are new ships to us. They will be new ships, and they do increase our number of ships in the force because otherwise they would have been retired. So, that is a commitment of \$1 billion we put into those modifications rather than a new ship, but it gives us significant capability.

Also this year we added to our current shipbuilding accounts \$400 million. We added the \$400 million because, as you know, in prior years we had large prior-year bills. In fact, in the budget this year we have put in, I believe, \$645 million for prior-year shipbuilding accounts. So, we have \$645 million to pay off prior-year shipbuilding bills, and in addition, then to try to eliminate that problem in the future, one of the steps we took was to add \$400 million to our current programs to fully fund those programs. But that \$400 million and the \$645 million for prior-year shipbuilding, that is another \$1 billion. So, there is another ship we did not build or put into the budget because we wanted to cure this problem going forward and we had prior-year bills.

Now, at the same time, as the Senator mentioned, and as the CNO commented, we let the contract for DD-X. That is a vitally important program for the Navy. And as you commented, Mr. Chairman, it is not the number of ships we build it is the capability that we provide for our naval forces, and it is very important for us to move forward into the new ships for the future for the next 30 or 40 years. So, DD-X is a foundation program for us.

Now, as we go forward, across our Future Years Defense Program (FYDP) planning, we increase the number of ships. Now, in the past, that was also the plan, but it never materialized, but I am confident that this time it will materialize because we have “filled all the other buckets.” That is, we have fully funded our readiness. We have fully funded our spares. We have fully funded our accounts, so in the future, we should be able to count on that money being available; that is, we should not have to take money

out of shipbuilding to pay other bills because this year we have fully funded all those other accounts.

So, in my view, this is a foundation year for the Navy. Fund the Navy we have today, do it fully, start the new programs. And we are also looking at other types of ships as we go forward because technology is making other types of ships available to us, and we have studies underway in terms of other initiatives we can take. So, I can assure you that shipbuilding is very important to this leadership team, and we understand the need to build more ships, but we also understand the need to build the foundation and to build the right ships as we go forward.

So, that was our rationale. That is how we spent our money this year, Mr. Chairman, and I will tell you I am convinced that we made the right decisions for the future of our great Navy.

SECURITY POSTURE

Senator INOUE. We are most pleased that the U.S.S. *Cole* will be placed back on the inventory of active ships. Are we going back into Yemen? If so, are you satisfied that the fleet and the men are prepared?

Secretary ENGLAND. I will let the CNO answer that directly, but I can tell you that we will in every case, no matter where we put our ships, wherever we port them, wherever we visit, security is our number one priority. So, everywhere in the world, we make sure we have security people on shore, on ship, and security around our ships. So, in every case that is our number one priority. I will let the CNO specifically address Yemen, sir.

Admiral CLARK. Thank you, Mr. Chairman. I can report to you, because I discussed this with my component commander in the region within the last 2 weeks, they have sent teams over to analyze the security posture in Aden. The decision to put a ship into Yemen would be made by the theater commander, General Franks. But it clearly would be made with the recommendation of his Navy component commander, and as I indicated we have discussed these issues.

There has been no decision nor recommendation to my knowledge—no recommendation to my knowledge, certainly no decision—to move back into the utilization of Yemen as a refueling port. I will say that for the record I want it to be clear that the security posture—and this reinforces the Secretary of the Navy's (SECNAV's) comments—used throughout the world has been beefed up in every port of call that we make and rightly so in the environment that we are living in. So, a decision to utilize that port facility will be based upon the assessment of the threat and the assessment of the security structure that is able to be put in place. In order to go into any foreign port, you have to have the cooperation of the host nation, and so those evaluations and assessments to date have not led to a recommendation or a decision to continue or to return to the utilization of that port.

One thing that has changed a great deal—and I am not going to say too much in an open forum about how we do this. I do not want any potential enemy to have a leg up or to know the details of what we are doing. It is a matter of open record—part of the budget—that we have committed significant funds to improve our security

posture and the ability to provide mobile security forces for our ships around the world. So, that is where we stand today, sir.

AAAV PROGRAM

Senator INOUE. I thank you very much.

General, the Afghanistan war has affirmed your expeditionary requirement for a high-speed ship-to-shore vehicle. However, the program slated to fulfill this requirement, the Advanced Amphibious Assault Vehicle (AAAV), has faced a few challenges I have been told. What is the present status of that program?

General JONES. Sir, the AAAV program is actually in my opinion a very, very successful program. We voluntarily recommended a slip to fix a few things, but all of a minor nature. It was 2 years ago an award-winning program. It won the Packard Award. The Secretary is very, very familiar with this program. It is transformational, and from the Marine Corps' standpoint, the biggest transformation is the speed in which it will transport sailors and marines from ship to shore and also its onboard weapons system will be superior to anything we have seen in a long time. I am very optimistic that the program will arrive on schedule and that the technical problems have been overcome.

We have to be careful though, with how rapidly we acquire the AAAV because it is an expensive program, but over time it will significantly overhaul one of the important legs of your Marine Corps' expeditionary capability.

Senator INOUE. Well, I am pleased to know that it is on track. We have been receiving word that you had problems.

General JONES. This was voluntarily done because it was prudent. We have had such great success with the service life extension program of our Amphibious Assault Vehicle (AAV), the vehicle that we will retire. By replacing the suspension system with the Bradley system and replacing the engine in the AAV, we have achieved phenomenal success, extending that vehicle's service life so we can take the time that we need to make sure that when the AAAV comes on line, it is perfect.

Senator INOUE. Thank you.

Senator Stevens.

NORTHERN EDGE EXERCISE

Senator STEVENS. Thank you very much.

Admiral, first let me congratulate you for the Northern Edge exercise. I have had good reports coming out of that. I assume you have too. It was again a very successful exercise. As I said, I do not know if you have had any reports back from Northern Edge. Would you care to comment on that?

Admiral CLARK. Yes, sir, I sure would. I have heard reports back. This is an operation with the Abraham Lincoln battle group, as a matter of fact, and it is part of a joint task force exercise that is being conducted off the waters of Alaska with the Air Force, and there are some Army units also involved. This is a final certification exercise for our Navy units, and the reports I am receiving are that the exercise is going very, very well.

Senator STEVENS. Thank you very much. I think that the joint operation of the Army and the two operations of the Air Force and

Navy air really give us a significant exercise at this time of year in particular.

General Jones, we are about ready to have a next phase in the V-22. How soon are you going to let me fly it?

General JONES. Sir, the good news is that the V-22 has been approved for a return-to-flight status. The Secretary and I attended the briefing to Secretary Aldridge, and it was a very proud moment I think in the Pentagon to be able to sit there and see all the good work that has been done in the past couple of years to make the engineering fixes to the V-22 that needed to be done. We are very grateful for the teamwork and the support that outside agencies like the National Aeronautics and Space Administration (NASA) and the independent panel performed for us and very satisfied, as the Secretary alluded to, with the industrial response.

The return to flight of the MV-22 is currently planned for late May, and the CV-22s return to flight will be scheduled for July of this year. We would be happy to have the distinguished Senator fly just as soon as we get a couple of test flights done just to make sure everything is just the way we want it and we get everything just right.

Senator STEVENS. Where is it testing? Down in South Carolina?

General JONES. At Patuxent River, sir.

Senator STEVENS. Patuxent.

General JONES. Yes, sir, so very close by.

Senator STEVENS. Well, that is good.

General JONES. Yes, sir.

Senator STEVENS. I shall pursue you.

General JONES. I will eagerly await that pursuit, sir.

Senator STEVENS. This represents the major change in technology in the last half a century, and if you validate it, I think it is going to change the course of aviation not only in this country but in the world because it is a new concept and it gives us the advantage of helicopter lift and medium distance as far as fixed wing is concerned. It should change the investments we have to make in airfields. It should change the way we deploy commuter aircraft in the future. It is very important, I think, to the future of aviation that we prove that that is a very successful new technology.

General JONES. Sir, the Secretary and I recently visited the plants where they are producing the aircraft and the changes that they have made to it, and they have completely redesigned and re-engineered the nacelles. The Secretary is much more knowledgeable in this than I am, but even an infantry officer understands the tremendous changes that have been made and the spirit in which we have done this, the teamwork and partnership with industry. The Naval Air Systems Command (NNAVAIR) has been very helpful to us. All in all, it has been a lot of hard work, but I think, Senator, you are absolutely correct that this is transformational not only militarily but also to our commercial industry.

Senator STEVENS. Well, we thank you for all you are doing to make it succeed.

General JONES. Thank you, sir.

EA-6B PROGRAM

Senator STEVENS. Admiral Clark, can you tell us what this analysis of alternatives for the EA-6B is, and what do you really want to do with that? Should we look, by the way, for a modified version of the F/A-18 in the near term?

Admiral CLARK. The analysis was concluded this year and it is under review right now. But fundamentally, Senator, there are a half a dozen options that we could proceed with to replace the EA-6B.

I believe that there is an increased sense of urgency to move down this path for this reason. Since we commenced the analysis of alternatives, the demand on this airframe is as high as it is for anything that we fly in the United States military. Of course, you are aware, I know, that both the Air Force and the Navy fly this aircraft.

What is going on right now is the review. In fact, I met with the Chief of Staff of the Air Force this week to discuss this issue and the road ahead and to figure out with the Air Force and the Marine Corps, who also flies this platform, what the right answer is for us. The acquisition executive will make the decision. I will make a recommendation. I believe that a variant of the F-18 will be a strong contender to—

Senator STEVENS. I do not think we want to talk about the long range, but on an interim basis.

Admiral CLARK. On an interim basis, I cannot answer the question if it will be interim or long-term or if it will be a large-bodied aircraft. Frankly, these are the issues that have to be resolved.

But I will tell you this, that this is the way I see it, that we will need this kind of capability from aircraft carriers, and that would lead me to believe that we would seek to get an approach that would be economically feasible and, of course, everywhere we can get to fewer variants of aircraft, we are trying to do that. It is a more efficient and efficient way for us to field the Air Force.

So, it is under review, and I expect that we will be moving toward decisions in the near term. But it is a decision that involves three services and not just us.

PRECISION MUNITIONS

Senator STEVENS. Mr. Secretary and Admiral, we have been having some reports that the current reserve of precision guided missiles is fairly low. Are you concerned over this low inventory? Should we be doing anything in the supplemental to give you a chance to catch up? Are the people who are in training getting sufficient training in the use of these ordnance systems if the reserve is so low?

Secretary ENGLAND. Senator, we did use more precision munitions than we thought in Afghanistan, considerably more because up until Afghanistan—in Desert Storm about 20 percent of our munitions were precision. In Afghanistan it was about 80 percent. That caught us a little bit by surprise, frankly, in terms of our build rates for precision munitions.

However, we do have money in the supplemental for precision munitions. We also in our fiscal year 2003 budget this year added

\$1 billion for precision munitions. I do not want to talk numbers because of the classified nature of the numbers, but we are now building those munitions at a very high rate. And I believe the three of us are comfortable that we have now funded those programs and we are now basically at maximum rate for those munitions. So, they are coming on line very rapidly. That is no longer a concern, but we do need the funding, obviously, in the supplemental and in the fiscal year 2003 budget. That expenditure actually goes up in the out-years on our precision munitions.

Senator STEVENS. Do those two bills, the supplemental and the fiscal year 2003 bill, meet your needs, Admiral?

Admiral CLARK. Yes. I believe it provides the correct way ahead. I would like to say that part of this is brought about by a change in direction. I will tell you that the Navy changed its approach and its inventory objective over the course of the last 2 years to become a more precision force. That is the answer for the future, not just so that we can see the cross hairs and report it on television and, you know, we enjoy looking at it that way. The reason is because one precision round is equal to numerous general purpose rounds. So, we opened up a line this last year to start improving the delivery of these systems.

I believe that the action taken in the budget and the supplemental puts us on the right path. Again, I would say to you that this is a discussion that is taking place with the Chief of Staff of the Air Force, as well as the Commandant of the Marine Corps. And this budget fundamentally commits another \$1 billion to precision munitions, and it is the right answer and it is where we ought to be.

PHILIPPINES

Senator STEVENS. Gentlemen, the chairman and I and the staff have just returned from a trip to the Pacific, including a visit in the Philippines where we went to the 60th anniversary of the beginning of the Bataan March, and we were made aware of the feelings of the Philippine community concerning the fact that in the past Philippine citizens were permitted to attend Annapolis or West Point. This Nation has a unique relationship to us, particularly to our generation, and after withdrawal of Subic, I guess that privilege was canceled.

I would like to urge you to look into that matter and reconsider it. We do not want an answer now. But there were very few, but very meaningful members of their Filipino community attended our academies. The former President, Fidel Ramos, was a graduate of West Point. There were a series that were graduates of Annapolis that continued their roles in the Philippine military, and it is something that I think would be very significant to renew that relationship. But again, I do not want your answer. I just would wish you would take that suggestion back, and I think it would be made by both of us. I think I am speaking for both of us.

Secretary ENGLAND. We will get back to you on that subject, Senator.

Senator STEVENS. Let me just make a short statement, Mr. Chairman, and that is after these two trips we have taken, I am convinced that our military in this war against global terrorism is

going into a wholly new role, and that is to deal with the support factor in many nations of the world to assist them to rid themselves of terrorism. We saw a great example of that in the Philippines and our people are doing an excellent job. They are not in the forefront. They are in the background advising, training, introducing people to new technologies and new systems.

But it does mean that we have got to project that in what you are talking about now too. I want to see new aircraft carriers, Admiral, but I also would like to make sure that we are integrating into those all of the systems of the Navy, the use of these Unmanned Aerial Vehicles (UAVs) and the use of small squads trained, be they marines or others, to immediately assist in areas where we are called upon to dispatch assistance to help put down the people who are trying to really destroy the governments of our allies abroad.

There is no question about it. Their targets are our allies. I cannot think of one single nation that is threatened today that is not threatened because they are our friends. Under the circumstances, I think it brings about a need for a great change in the planning of use of our forces to prevent crises rather than to go in after a regional war has broken out.

So, I would commend to you thinking about that, and I think we ought to have some chance to sit down and talk to you and the Chairman and the Joint Chiefs and see what we might do to fund some special program to develop an inter-service unit or units that would respond to these needs.

General Worcester in the Philippines has what I consider to be sort of a prototype of that operation, and he is extremely successful. If you have not had a briefing of some of the things he did there in the Philippines, you should get it because he demonstrated to us he was really ahead of the curve, ahead of all of our thinking on this matter. A very brilliant young general.

But I commend to you the concept that we should fund some special inter-service units. I do not think they would be Marines or Army or Navy or Air Force. They need them all when we send advisors into these countries.

Lastly I hope we can restore International Military Education and Training (IMET) this year. Everywhere we went, IMET was an issue in the Pacific, and it is unfortunate that we have lost IMET in so many instances. So, I hope that will be done.

Thank you very much, Mr. Chairman. I do not know if you all would want to comment. I am not trying to cut you off, but I do not seek comments. General.

General JONES. Sir, I would like to underscore just some of the points you made because they are fundamental to who we are and what we are going to be 20 and 30 years from now. We learned that lesson after World War II and we did very well for a long time, and then we took our eye off the ball and we made it very difficult for some of these countries to take advantage of some of the things we can offer. To me it is a short-term view if we put too many roadblocks in, in terms of access to our schools, not just the academy but the professional schools that each of the services have like command and staff college and our top level schools.

In my travels, I meet a lot of senior military officials, and invariably they come up and they find a way to tell me that they graduated from the National War College or they graduated from the Naval Academy or they are wearing Army jump wings or they have been to Air Force schools. This really ties the community together.

I have made a study this year of how many marine corps there are and riverine forces there are in the world. There are about 37 of them. Half of them are in South America. This year in July we put out an invitation to host the leadership of each country that claims to have a riverine force, to include the Russians and the Vietnamese. And they have accepted, and they are going to come to Camp Lejeune, North Carolina for a week. We have 25 countries that have agreed to send their senior leader, their commandant or equivalent to have, for the first time, a reunion of expeditionary forces, forces that are naval infantry. To me, this is a very powerful community that can develop. I know the other services have similar programs, but it is the first time for naval infantry.

These associations and our outreach to them have an exponential benefit. It is not measured in the number of people that we put into it, but the quality of the training, the quality of the education we are able to provide, and the lifelong associations pay off in so many ways years down the road that it is well worth the investment.

Senator STEVENS. I am taking too much of your time, Senator Cochran, but I have made a suggestion that we consider opening up platoon-level training opportunities for military forces that would be engaged in riot suppression. One of the problems that led to the suspension of IMET for the Philippines was such an endeavor in East Timor, and it led, as we all know, to really sad circumstances. But those people had not been trained to deal with a riot or a rebellion of that type, and the result was disaster. We should be extending the training not only to the senior officers but to some of the key people that are involved in the overall concept of riot suppression.

General JONES. One of the things these gentlemen are most interested in is exactly that question, and they have asked us if we would introduce them to the nonlethal weapons technologies that we have been perfecting. The guidance from the Congress was that the Marine Corps would take the lead in the joint program, and we have done that now for several years. So, we will be providing demonstrations to probably over 30 nations who will come and study these techniques.

Senator STEVENS. Thank you very much. It is nice to have you all back again. Will we see you all next year? Will you all be back next year?

General JONES. God willing, sir.

Senator STEVENS. Lately, with time passing so fast, there have been so many people stepping out and we get replacements that we did not expect.

Admiral CLARK. I expect to be here next year, Senator.

General JONES. In the Pentagon, we take it a day at a time, sir.
Senator INOUE. Senator Cochran.

DD-X PROGRAM

Senator COCHRAN. Mr. Chairman, thank you.

Mr. Secretary, I made some comments about the DD-X program in my opening statement. I wonder if you could give the committee the benefit of your expectations for this program.

Secretary ENGLAND. Well, as I commented, Senator, this is the foundation program for the Navy as we go forward. There are really potentially three different ships in this umbrella program. The first one is DD-X, which is the fire support ship, but with very unique features, which is one of the reasons Northrop-Grumman won that competition. But it is also a cruiser missile defense ship, and also potentially the technology would go into our littoral combatant ships and we are looking at that right now.

Senator COCHRAN. Specifically, could you tell us, for the civilians in the audience, what littoral ships are?

Secretary ENGLAND. Well, these are ships that we are looking at. We are studying this class of ships. So, this would be a class of ships that would operate very close to the shore and would be used for a variety of missions. So, it could be anti-submarine. It could be ship-to-shore support. It could be special forces putting our marines ashore, so a wide variety of likely high-speed vessels smaller than most of the ships we have now, but very high-speed, very agile. The requirements are being worked in terms of exactly what that would be, but conceptually it would be a smaller ship much faster, very agile, and be able to handle a wide range of missions. And it would be larger numbers than what we have in our other ships today. So, we would be looking at larger numbers of those ships.

We are looking now in terms of how we would initiate and fund this program because this is a very high priority for the CNO, for our naval forces, and our Commandant. So, we are now, as part of the fiscal year 2004 budget discussions, trying to come to grips with how we would initiate this program quickly and also very quickly bring it on line.

When I said this was a year of foundation building for our Navy as we go forward, this is one of the ships we are looking at in terms of our new Navy, along with the DD-X that was just awarded yesterday and a derivative of that for our missile defense ship, which would be a cruiser type ship, hopefully using the same sort of hull form.

So, this is a very important program for our Navy as we go forward. Numbers are important. Everyone counts our ships every year, but what is important to our Navy is the capability that we actually put afloat, and it is important that we move into the new technologies and into these new programs and then accelerate those programs as rapidly as we can.

Senator COCHRAN. Admiral Clark, as you know, the shipbuilding rates have the potential to drop the number of ships in our fleet well below the current goal of 310 ships. In your statement, you indicated the current low procurement rate "adversely affects stability of defense industrial base, and we are paying a premium in program costs due to the small number of units being built."

My question is, if funding were available for shipbuilding for more ships, how could it be spent most effectively in the near term in your opinion?

Admiral CLARK. Senator, in my previous visit before this committee and again today, I want to be a champion for an improved partnership with industry, and I believe that you do that by solidifying the investment streams and leveling the investment streams. The Secretary has laid out the importance of DD-X and LCS, the littoral combatant ship, and the follow-on cruiser that is going to be a ship that we are going to have to have as we face the threats of the future.

And I would just like to say, with regard to LCS, I view the asymmetries that are out there in the world today—an enemy will try to exploit the asymmetries that we have. And we need a ship that can deal with those near-land asymmetries, and that is, as the Secretary described, near-land anti-submarine warfare, mine warfare, and the ability to deal with the surface threat that will exist in the near-land area.

I think the way we deal with this—and frankly, this is what the Secretary and I are attempting to do—is to redirect resources to ensure that we meet what I believe is the requirement for us to have the Navy of the future. I have talked about numbers, but notionally. What I have talked about more importantly is that we need a level investment in the shipbuilding arena to deal with industrial base issues. We did a war game with the shipyards. They have indicated that if we could level and get on a level investment stream, that they could produce between 10 and 20 percent more effectively. But to do that, we have to have a mechanism that allows us to have level investments.

You know, when we buy a carrier, we spike the Shipbuilding and Conversion, Navy (SCN) account. My view is we need to be investing \$12 billion a year in new construction in the shipbuilding business. That is what we need to support the Navy that we need in the future. So, what we can do in the short term to get to that is to find the resources to make a commitment to that and that will make us a better partner.

Now, having said that, there are areas that if we had more resources, we would have been pushing different investments. But we established the priorities that we laid out in this budget and we had to take care of the current readiness challenges first or we would not be able to execute the missions and the tasks that we are taking on today in Afghanistan.

Now, that leads you to several ships, and I submitted an unfunded list up here, DDGs on that list. I would like to have an LPD as soon as possible because Jim Jones needs that for his Marine Corps to replace ships that are currently 36, 37, 38 years old that need to be replaced. We need to get to two submarines a year as soon as we can, but we did not have the resources to do it in this budget.

FIRE SUPPORT

Senator COCHRAN. General Jones, in your statement, you said this, “we have an acute shortage of fire support.” My question is,

if we choose to address this problem in this committee this year, what specific programs should we consider funding?

General JONES. We do have a shortage of fire support from both our sea platforms and also our internal Marine Corps assets. How we got there is a matter of record. Years ago, the Marine Corps terminated its reliance on heavy artillery. We went to the M-198 which has been a good field artillery weapon but not a very good expeditionarily-deployable weapon. It is time to replace it and the lightweight 155 is now on the doorstep in the final stages of its development and ready for production.

This program has had its share of ups and downs but all development programs have this, problems associated with technology. We have identified the problems. We fixed them and we are on the verge this year of bringing this program home to where we can significantly make up for a portion of the significant shortfall that we experience in fire support systems on land. We also are going to do it on land by bringing on a new mortar, and the combination of those two, plus our organic air power, will fix that problem for us.

Admiral Clark and I have talked about the shortfall at sea, and we are optimistic that, although it is still a ways off, with this new class of ships and the potential for precision weapons coming from the sea over extremely long ranges, that the expeditionary forces of the future will have that sea-based and land-based fire support that they will critically need in the years ahead that we do not have right now.

LPD-17 AMPHIBIOUS SHIP

Senator COCHRAN. Thank you.

Admiral Clark, the Gulf Coast shipyards at Northrop-Grumman has, Pascagoula, Gulfport, New Orleans, are now cooperatively engaged in the LPD-17 amphibious ship production. Could you give us your view of the program's progress and could you also comment on the proposed LPD-17 and DDG-51 swap between Northrop-Grumman Ship Systems and General Dynamics?

Admiral CLARK. Let me start with the swap and just say that the acquisition executive has been working on a program. It has been reported in the press. In fact, there is another report in the press this morning about the swap. And this is an effort to work out arrangements within industry to posture cooperating shipyards so that they can again get themselves in the best posture to most effectively and efficiently produce product. I am a supporter of that. If that can be arranged, I think that would be good for the Navy and has the appearance of being good for the shipbuilders. That is something that, again, is being worked by the acquisition executive, and perhaps the Secretary would like to comment on that.

With regard to LPD-17 itself, I have said several times and I would reiterate again today—I alluded to it just a moment ago—we need LPD-17. In January, I was in the Indian Ocean visiting our sailors. I had the chance to see 20,000 of our sailors operating over there off of Afghanistan. I was on a ship that was built in the 60s. That ship is too old. The ship is older than most of the people serving on it, and it is full of marines. And that ship needs to be replaced.

There were issues about LPD-17 and the maturity of the program and its readiness to proceed 1 year ago, but I am happy to report that progress is being made and I am hopeful that we are going to see a great improvement in the delivery of LPD-17 in the future—in the near future. We need that ship. We need it to be able to accomplish the mission in the global war on terrorism that I was talking about in my opening statement.

If we are going to take the fight to the enemy—and General Jones and I both believe that this is a requirement for our Nation—the requirement to get a permission slip to go someplace is a problem. What we bring to the task is that we can take marines and we can have the kind of combat reach and demonstrate the kind of flexibility in combat operations that we have seen in Afghanistan with the United States Marine Corps. To do that in the future, we need LPD-17 and we need it as rapidly as we can deliver it.

Senator COCHRAN. General Jones, can you give us your impression or view of the importance of LPD-17 and these types of amphibious ships?

General JONES. Yes, sir, I can. It is a personal view. My son is a second lieutenant in the Marine Corps stationed at Camp Pendleton. In July of this year, he will deploy with the 11th Marine Expeditionary Unit. One of the ships that he will be on will be the U.S.S. *Denver*. Captain Jones, me, in 1975 was the Commanding Officer (CO) of troops aboard the U.S.S. *Denver*, and it was old then.

So, I have shown him where my stateroom was, and he is trying to maneuver so he can get those spacious quarters for himself and five other lieutenants that will be crammed in there.

But it is time to get on with this because the sea-basing aspects of what the Nation is going to be able to do in the future in response to the threats that are facing us today and will face us in the future all have maritime solutions to them. Admiral Clark referenced this earlier in his remarks, and I would like to underscore that the sea-basing of American forces is an answer to the sovereignty issues that will face us again and again when it comes time where we want to do things in our national interest or in the interest of our allies. A single country can deny the United States basing, overflight rights, operational employment for many, many months and impair us from achieving our objectives. Not so on the seas.

So, those investments in the sea-based platforms—and I am talking about not only the ships that we have that must be modernized because I think they will continue to be the core of our naval capability, but also very, very progressive, new ideas like the high-speed vessel that the Marine Corps is currently leasing in Okinawa. We anticipate avoiding \$10 million in fiscal year 2002 transportation costs by not having to use strategic airlift to haul marines from Okinawa to mainland Japan or Okinawa to Guam or Okinawa to the Philippines with this very, very high-speed capable ship. It is a commercial ship right now and we have leased it for 3 years, but it is showing tremendous dividends on how we can, from a sea base, project our forces so they can arrive and be immediately em-

ployable, sustainable, and persistent in the pursuit of our national objectives.

So, I am very, very much in favor of the directions that our Secretary and our CNO have advocated and the priorities in which they are stating them.

SEABEES

Senator COCHRAN. Thank you.

Admiral Clark, one of the units that we have based in Mississippi, the Seabees of the Atlantic fleet, are in Gulfport, Mississippi, and they have been deployed to Afghanistan. They provided services in Kandahar and at Guantanamo Bay, Cuba, also because of the housing there of al Qaeda detainees or whatever they are. The whole point of this is that there is a lot of stress on the availability of people and equipment and the like. Does this budget provide funding requests to ensure that the Seabees can continue to perform their mission and they can get where they are going and get back safe and sound?

Admiral CLARK. It does, Senator. Thank you for the question.

I just completed a major review of the Seabee structure about 45 days ago. Frankly, I was looking at what the posture needed to be in the future. A lot of people are unaware, but the Seabee rotations in the past have been 7 months out and 7 months back, the heaviest rotation schedule that any of our people operate under. I changed that to improve it this past year. That necessitated changes in our basic structure and the support facilities that are going to be required for them in their home base.

My review points out and what I was able to discover is that we need all the engineers that we have. A lot of people are unaware of how many Navy, part of the naval team, people were operating in Afghanistan. At one point we had over 1,500 people on the ground, including our Seabees. And they always get called.

What is not in the budget is the out-years and that has to be fixed in fiscal year 2004 and we intend to do that.

Senator COCHRAN. General Jones, your experience with the Seabees I know is obvious. Do you have any comments about the question that I asked of Admiral Clark?

General JONES. Only to reinforce the tremendous need for that kind of unit. My first real experience with the Seabees was in northern Iraq in 1991 where we were tasked with bringing half a million Kurdish refugees out of the Turkish mountains. Without the Seabees, it would have been an impossible humanitarian task. So, I applaud their work.

They are definitely one of the most employed units that we have, and I think Admiral Clark and I have talked with the Secretary about really looking at the total number of engineer units we have in the Navy and the Marine Corps, making sure that we use them well and we do not overuse them because they are really ridden hard and put up wet most of the time.

DDG PROGRAM

Senator COCHRAN. Mr. Secretary, my final comment and question. I apologize for taking more than my share of the time here.

The swap that I mentioned between Northrop-Grumman and General Dynamics, the DDG program. What is your reaction to that? Do you have any comments you would like to make on it?

Secretary ENGLAND. First of all, it is important. It is something that we would like to do. It is not essential. We do believe it is a win-win for all the parties involved, and to be successful, it is going to have to be a win-win for all the parties.

It is important because it does reduce the risk of the LPD-17 program. Northrop-Grumman has done a very good job of a program that was in trouble and they have been coming along. Now we are actually building the ship. So, they have done a good job bringing it along. But the current plan is that the second ship we would build at Bath, so we would start the learning curve all over again. That obviously introduces risk into the program.

So, by doing the swap, we end up stabilizing the base at both yards, which is obviously desirable. Again, as the CNO commented earlier, it would be good for the industrial base to stabilize that at each yard. It would give the Navy some efficiencies also. So, in our judgment, this is in the best interest of all three parties, but we need to negotiate to a solution.

As Senator Stevens said, we are fortunate. We are blessed. We have a great Assistant Secretary of the Navy, Mr. John Young, who has been working this problem for the Navy. I believe that that will come to a satisfactory conclusion, but it still has to be negotiated. In negotiations, anything can happen, but we are hopeful that will come to a satisfactory conclusion.

Senator COCHRAN. Thank you.

Mr. Chairman, I have a couple of other questions on the Landing Craft Air Cushion (LCAC), and their usefulness, the 155 Howitzer that General Jones mentioned, and the composites that are being explored for use in our Navy, a shipbuilding issue, to Admiral Clark for the record. Thank you very much.

Senator INOUE. Thank you very much.

Mr. Secretary, Senator Hutchison had to leave, as you note, and she had several questions she would like to submit. All of us have questions.

Secretary ENGLAND. Absolutely.

PERSONNEL RETENTION AND RECRUITING

Senator INOUE. But may I, before closing congratulate you on your first term retention record, 64 percent. I think it is the first time the Navy has done that. But my concern is how are you doing with the critical skills like pilots and maintenance personnel and nurses and such.

Admiral CLARK. We have always had a challenge in retaining people. And thank you, Mr. Chairman, for highlighting this. Can I give you an updated number?

Senator INOUE. Please.

Admiral CLARK. The number for the month of March, first term retention, was 71 percent.

Senator INOUE. Good heavens.

Admiral CLARK. Never in our history have we had this kind of retention. We have cut the recruiting goals this year. The Secretary just approved the second reduction this year. The first reduction

was over 4,000 that we reduced and we just reduced another 1,500. I anticipate we are going to have to do it again.

In pilots in the recruiting side, we have already recruited everybody for 2002, and we are over 80 percent in 2003. We do need to improve our retention in pilots. It is improving, and it has been improving over the course of the last year. I want to make sure that I highlight that those numbers are also reflective of the record we set in the year ending last September. So, these figures have improved since 9/11, but we had already established the best performance we had ever seen for the year that concluded in September. So, we are improving in our retention in pilots, but we can even do better there. We have not achieved the level of success across the board on the pilots and the officer programs that we have on the enlisted side, but we are doing dramatically better.

Senator INOUE. Well, once again, congratulations.

Admiral CLARK. Thank you, sir.

Senator INOUE. If I may add to Senator Stevens' report on our trip to Asia. I came back with certain conclusions. Number one, terrorism is alive and doing well, and that not all terrorists have beards and turbans. When one considers the potential in Indonesia, there are more Muslims there than all of Arabia combined.

Secondly, I think that we should recall that not too long ago the Singaporean government uncovered a plot to destroy the American Embassy there, and they had in place, in stock 100 tons of explosives. And when one considers the Oklahoma bombing involved just 3 tons, you can imagine what 100 tons would have done.

I cannot say enough about the force we have in the Philippines assisting the Filipinos. I hope that we will not think of terrorism as just out in Arabia. It is all over the world, and I am happy that our troops are there to provide the security that we need.

One final thought about Singapore. I think Singapore demonstrates the desire of Asia to have our presence there. They just constructed the Changi Naval Base to our specifications. In fact, I looked at it with some nostalgia because they will be able to accommodate the largest carrier there, and I do not think Pearl Harbor can do the same thing. In fact, the Changi Naval Base, in order to accommodate our interests, built a baseball field, and it should be noted that they do not play baseball in Singapore. It was just built for American forces. So, it just demonstrates the desire that the people of Asia have for our presence there, and I hope we will keep that in mind.

With that, any more questions?

Senator STEVENS. I have two comments, Mr. Chairman. Senior Minister Lee, as a matter of fact, is in town from Singapore, and he I think demonstrates the type of friendships available in that part of the world.

General, the Seabees and some of your people have worked on a small road in Metlakatla, an Indian reservation in our State, and I think that type of training brings home to a lot of people how qualified they really are. And I want to thank you for that.

Admiral Clark, your comment about retention. Have you still got the stop loss policy on as part of that? Because they cannot leave.

Admiral CLARK. No. The policy was an Office of the Secretary of Defense (OSD) policy, but I believe we had the smallest number of

all the services that we had held and we have reduced that to a very, very small number today. It is reviewed on a 30-day basis to make sure that we are not keeping anybody. I can get you the number. It is a very, very small number.

Senator STEVENS. I think it is marvelous and it demonstrates really the commitment of this new generation. As the Secretary said, they are extremely committed. Everywhere we went, I cannot tell you how much we were impressed with those young men and women and how on the alert they really were.

Admiral CLARK. The Secretary says the number is 170, an extremely small number.

Thank you for your comments on our people. I like to tell folks you can tell how it is going. You look for the twinkle in their eye. They are extremely proud of what they are doing, and when you go out there and see them and talk to them, I know that you were able to witness that. They so appreciate it when they get a chance to meet with senior officials from our Government and from the Congress.

I would like to pass along that one of the things that has happened over the course of the last couple of years here is that there are a lot of variables that have caused us to have this kind of success. But this gets back to the signals from the Congress. The actions taken, the increases in the budget that is existing in fiscal year 2002 and the projections in fiscal year 2003—our people are watching these indicators all the time, and they are evaluating these measures taken as a strong support of the people of the United States and the United States Congress. And it means a great deal to them.

Secretary ENGLAND. Let me make one comment.

Senator STEVENS. Mr. Secretary, I have got to comment about that because when we were overseas, if we got mail once or twice a month, we were lucky. These kids are in touch by Internet with their sweethearts and boyfriends and mothers and fathers and classmates every day. They are as well informed as any Americans I know, the ones we saw right out in the field with the ships. It is a new world for them. They know what they are doing, but they are also keeping up with the homeland in a way that no deployed forces have ever had the opportunity to do. So, I commend you not only for your people but for the way you are providing them with a means of access and connection to maintain their connections with their families at home.

Secretary ENGLAND. One comment on retention, if I could. I would be derelict if I did not comment on this. While it is true, the pay, the benefits, and all that that the Congress provided is very important to our people, I will tell you what is also equally important, and that is the respect they have for the leadership, and that is the two gentlemen sitting here at this table. I mean, their leadership goes a long way to these retention numbers, and we should not overlook that. We have magnificent people. The strength of our military for 226 years has been our people. Our technology is important, but it is our people that make the difference. The leadership that we have, in my judgment, is a crucial difference, and that is part of the reason we have continuing high retention in the Marine Corps and an increase during Admiral Clark's reign here. I

will tell you a lot of the credit goes right here to the gentlemen at this table next to me.

Senator STEVENS. If I can continue to interrupt.

Senator INOUE. Please.

Senator STEVENS. I hope we can see more reports of people being recognized for what they have done. One of the things we did note when we came back—the chairman noted it in his comments when he came back—was the lack of recognition of distinguished and outstanding service and courage on the part of some of these people. There were very few medals that we found that had actually been issued.

Now, I know sometimes we wait until they come home. But it means a great deal not only to the people who are there to know that their colleagues have been recognized for real acts of true heroism, but also it means a lot to people at home to know that you know what they are doing.

I hope you are moving in, as the Air Force and the Army both are, to try to recognize people on a timely basis. You do not have to wait until they get home now. Their people see it on the Internet the minute they get them.

Secretary ENGLAND. We agree.

Admiral CLARK. May I just comment on that? The Secretary is now being modest. We have taken action to delegate the authority to make those kind of awards in the Operation Enduring Freedom so they do not have to wait until they get home. The commanders have been given the authority to take action on the scene.

Senator INOUE. Great.

Senator Cochran.

Senator COCHRAN. I have nothing further, Mr. Chairman. Thank you for your generous allocation of time.

Senator STEVENS. We envy you. That is the trouble. We keep you around because we envy you. We wish we were having the experiences you are having now.

Senator INOUE. I just want to make an observation before we adjourn. I have been on this committee for over 30 years, and if it were not for Senator Cochran, the LPD-17 would be ancient history. And if it were not for Senator Stevens, the Osprey would not be flying. So, I hope that the generations that will be using the LPD-17 and the Osprey would remember that these two fellows did it. I can tell you, if it were not for their persistence, you would not have it. That is for certain.

ADDITIONAL COMMITTEE QUESTIONS

With that, once again, I thank you, Secretary England, Admiral Clark, General Jones.

[The following questions were not asked at the hearing, but were submitted to the Department for response subsequent to the hearing:]

QUESTIONS SUBMITTED TO GORDON R. ENGLAND

QUESTIONS SUBMITTED BY SENATOR KAY BAILEY HUTCHISON

U.S.S. "INCHON"

Question. Last year the Air Force announced that it would suddenly and prematurely retire a large portion of its B-1 fleet. Several communities were faced with the immediate loss of hundreds of jobs. Commendably, the Air Force stepped up to the plate and made those communities whole by shuffling aircraft and missions around. After creating a similar scenario, by announcing the sudden retirement of the U.S.S. *Inchon*, the Navy has done little to make Naval Station Ingleside whole. As things stand today, south Texas will lose nearly 700 sailors and their families. What is the Navy doing to keep the base operational pending a new mine warfare ship?

Answer. Naval Station Ingleside has been identified as the future home of Commander Mine Warfare Command. It presently serves as the home for the Navy's Center of Excellence for Mine Warfare. In that capacity, there are numerous transformational initiatives and systems, which might be suited for assignment to Naval Station Ingleside. The Navy remains committed to development of a dedicated MCS platform to replace U.S.S. *Inchon*. This MCM initiative, coupled with future initiatives and requirements, should be considered for location at Ingleside, Texas.

Question. The head of Naval Mine Warfare Command, Admiral Ryan, informed my staff last month that the Navy was looking within its fiscal year 2002 budget with the hopes of identifying \$15 million needed to lease a catamaran. This innovative vessel would be used as an experimental, interim mine-warfare command and control ship. It is my understanding that the Navy is having difficulty identifying those funds. What is the status of this initiative?

Answer. The Navy is considering the potential lease of a commercial derivative ship to support various transformational efforts and experimentation with respect to a future variant of a Mine Warfare Command and Control ship (MCS). The existing Mine Warfare Command & Control ship, U.S.S. *Inchon* (MCS 12), is scheduled to decommission in June 2002.

The leased ship may be able to play a significant role in the validation of future organic mine warfare systems, and mainstreaming mine warfare. This leased vessel will also allow the Navy to gather significant data and experience with a new hull form for other ship designs and conduct additional naval experimentation.

If this commercial derivative ship lease is pursued, the estimated lease cost is about \$10 million/yr, plus \$6 million/yr operating cost and \$5 million/yr manpower cost. In the first year, about \$10 million of non-recurring startup costs are also required. The Navy is looking to start this commercial derivative ship leasing effort in fiscal year 2003. However, there is a \$28 million shortfall in the fiscal year 2003 budget. No fiscal year 2002 funds are required for this effort.

JOINT STRIKE FIGHTER (JSF)

Question. I have read, with great concern, a number of reports that the Navy is contemplating a 30 percent reduction of JSF procurement. JSF is a tri-service program involving the Air Force. Have you determined what affect a 30 percent reduction in Navy and Marine Corps procurement would have on the Air Force's estimated costs?

Answer. In response to Defense Planning Guidance the Department of the Navy has been hard at work on a study to analyze efficiencies and effectiveness of integration of Navy and Marine Corps tactical aviation. While a final decision to reduce the number of Joint Strike Fighters (JSF) procured has not been made, it is among the options the Department is considering. The JSF will be a more reliable aircraft than the aircraft it will replace, and when coupled with precision munitions, will be a more effective weapons system. These increases, in reliability and effectiveness, may enable the Department of the Navy to reduce the overall number of JSFs it requires.

Impacts to the U.S. Air Force and other potential buyers are also being examined in the study and will be an important part of any decision. It would be inappropriate to comment further until that review is complete.

Question. Navy sources are quoted as saying that any cuts will not take effect until after 2012. Does it make sense to cut a program as it is entering its most economical production period? Wouldn't such a move dramatically escalate the per-unit cost by forcing the Navy to amortize the cost of developing JSF over fewer airframes?

Answer. In response to Defense Planning Guidance the Department of the Navy has been hard at work on a study to analyze efficiencies and effectiveness of integration of Navy and Marine Corps tactical aviation. Impacts to future buys are being looked at in the study and will be an important part of any decision. It would be inappropriate to comment further until that review is complete.

MILITARY CONSTRUCTION

Question. I am particularly troubled by the Administration's decision to defer, potentially, hundreds of military construction projects. The publicly stated rationale—a desire not to construct new facilities at bases that may soon be closed—is unsatisfactory. Are we to assume that the projects included in the budget are for facilities that the Pentagon has already determined will not be closed?

Answer. No, the fiscal year 2003 military construction request seeks to improve the living and working conditions for our Sailors, Marines and their families in the immediate future. The analysis of the force structure requirements, resulting infrastructure requirement, and Base Realignment and Closure 2005 recommendations is just now beginning.

Question. I am very concerned about the aging infrastructure of our military posts. What is the shortfall of your Sustainment, Restoration and Modernization (SRM) account for the Navy? Does the proposed supplemental budget from DOD address those shortfalls adequately?

Answer. The Department of Defense goal is to fund Sustainment Restoration and Modernization to reach a recapitalization rate of 67 years by fiscal year 2010. The Department of the Navy (DON) will achieve this goal by the end of the FYDP. The DOD fiscal year 2002 supplemental budget request did not include additional DON funds to accelerate achievement of the 67 year recapitalization rate.

 QUESTIONS SUBMITTED TO ADMIRAL VERNON E. CLARK

QUESTIONS SUBMITTED BY SENATOR DANIEL K. INOUE

SHIPBUILDING REQUEST

Question. Admiral Clark, many of the reviews emerging from the Department of Defense last year differed in the number of ships necessary to fulfill Navy requirements. Recommended numbers ranged from 310 to 370 vessels. Have you determined the actual number of ships required?

Answer. The Quadrennial Defense Review (QDR) assumed a Navy force structure of about 310 ships. However, since that report, the Navy is developing a new concept of how we should operate to meet the demands of the post-9/11 environment that requires about 375 ships.

The proposed concept of operations employs new formations known as Expeditionary Strike Groups, nominally consisting of three amphibious ships and three surface combatants. The additional ships consist primarily of the new Littoral Combat Ship (LCS), a member of our surface warfare family of ships and additional combat logistics ships to support the larger and more dispersed force.

We project that we will need the same number of carriers, cruisers, destroyers, and support ships as in our force today. The number of submarines and expeditionary warfare ships is under study.

NETWORK-CENTRIC WARFARE

Question. Admiral Clark, you have described network-centric warfare as a pillar of the Navy's plan for future war fighting. It aims to link together ships, aircraft, and installations so that they may share information across platforms. As you continue to "network" these countless systems, what is being done to prevent outsiders from gaining access to the precious information that will be shared among these platforms?

Answer. Our Information Assurance (IA) program provides a comprehensive defense-in-depth strategy comprised of multiple layers of security mechanisms operated by trained system administrators, operators and Information System Security Managers (ISSM). This strategy includes:

Firewalls

Located at Network Operating Centers (NOCs) to screen and protect all information traversing the network

Standardized firewall configuration and operating policy

Public Key Infrastructure (PKI)

- Improved access control to network
- Encryption of data as it transits the net
- Provides authentication and ensures information integrity

Intrusion Detection Systems (IDS)

- IDS installed at all NOCs
- Installing IDS software at the desktop

On-Line Vulnerability Assessment

- Determines the computer security status of all deploying Battle Groups
- Confirms equipment and software correctly configured
- Provides systems administration training
- Full spectrum "Red Team" operations to test and certify equipment and personnel

Information Assurance Vulnerability Advisories (IAVA)

- Expedites awareness and correction of network vulnerabilities

Education and Training

- School House Training
 - Information System Administrator Course—trained technicians to administer information systems
 - Network Security Vulnerability Technician—trained technicians to secure information systems
 - Advanced Network Analyst—trained technicians to manage information systems
 - Information System Security Manager—trained technical managers to oversee information systems
- Other training
 - "Fly Away" training teams to provide underway refresher training
 - CD-ROM based course on Operational Systems Security and user training

Another challenge is our reliance on commercial products which we do not control from a design sense, but can only influence. National Security Telecommunications and Information Systems Security Policy 11 (NSTISSP-11) requires all Commercial Information Assurance products procured by Department of Defense to be evaluated through the National Information Assurance Partnership Program. Influence with the commercial sector in meeting this requirement will greatly contribute to the strength of products available and the security posture of the Naval networks.

MILITARY PERSONNEL FISCAL YEAR 2002 SUPPLEMENTAL

Question. Admiral Clark, what is the Navy's plans to review Reserve Component mobilizations, and, where appropriate, reduce the levels of personnel called up to Active Duty to meet the funding levels in the fiscal year 2002 Supplemental?

Answer. Navy has demobilized to 9,400 Reservists, as of April 30, and is demobilizing to no more than 7,800 Reservists by June 30, in order to meet funding levels in the fiscal year 2002 supplemental. In doing so, we have retained the priorities of direct support to the warfighter, anti-terrorism/force protection, and intelligence.

Question. Do you anticipate any funding shortfalls in the personnel accounts due to mobilization?

Answer. An additional \$171 million is required to fully fund pay and allowances and per diem costs for mobilized reservists.

QUESTIONS SUBMITTED BY SENATOR THAD COCHRAN

Question. Mississippi has made significant advances in composite technology applications in support of our warfighters. Our industry and research institutions provide cutting-edge components for space, air, marine and ground systems. One of our pioneer firms, Seemann Composites, is currently competing for development of an Advanced Composite Sail to be installed on Virginia Class submarines. Could you give us your views on the role of composites in naval warfighting systems?

Answer. The U.S. Navy has been investigating potential applications and developing the technology associated with transitioning composite materials and structures to surface ships and submarines for many years. Composite structures offer the potential to significantly reduce weight, life cycle costs and acquisition costs while also providing increased survivability due to improved electromagnetic signatures and resistance to weapons effects. The Office of Naval Research along with the U.S. shipbuilding industry has spearheaded this effort and the transition of composites technology to the fleet is occurring now. There are a number of examples

of composites applications. A composite mast structure has been installed on the U.S.S. *Radford* for the past five years. This successful proof-of-concept helped support the incorporation of dual composite masts for the currently under-construction LPD 17 class ships. A composite helicopter hangar is being considered for demonstration on the DDG 51 FLT IIA. Most design work and testing has been successfully completed; long-term fatigue and some fire testing remain. Once all design and testing is successfully completed, and if sufficient funding is provided, a shipboard demonstration may be conducted. Also, an advanced sail program is investigating composite applications for the *Virginia* class submarine. Most significantly, DD(X) will possess a stealthy composite deckhouse with planar arrays and multi-spectral signature reduction.

Question. Could you give us an update on the progress of the Advanced Composite Sail program?

Answer. The Navy plans to install an Advanced Sail, in lieu of the current standard steel sail, on the *Virginia* class submarines starting with the fiscal year 2006-authorized hull (hull 8). In March 2000, the Navy determined the Advanced Sail needed to be constructed of composite material to maximize weight margin available for future payloads. As a result, the Composite Advanced Sail program was initiated within the advanced submarine system development budget (PE 603561N) to reduce risk by (a) selecting a single composite vendor early in the development process, (b) validating design criteria and requirements for thick section marine composites and (c) advancing the state of the art in design of thick-section marine composites.

The Composite Advanced Sail program has narrowed the field of potential vendors to two: Goodrich Engineered Polymer Products in Jacksonville, Florida and Seemann Composites, Inc., in Gulfport, Mississippi. Each of the vendors was tasked to build a large fabrication demonstration item to prove their ability to accurately produce large, doubly curved, complex composite structures. These items have been delivered and are being evaluated to support selection of a final vendor by October 2002.

The first draft of the Design Criteria and Requirements document has been issued based on initial results of small component testing. This document identifies the design loads, production test methods, modeling methodologies and analysis methods needed to design and build the *Virginia* Class Advanced Sail. Also, the state of the art in composites is being advanced by characterizing a wide range of commercial off-the-shelf materials in a statistically robust manner.

In parallel, the internal sail systems arrangement has been approved as part of the new design SSN R&D effort. A final hydrodynamic shape has been selected and small-model hydrodynamic testing and evaluation is underway.

QUESTIONS SUBMITTED BY SENATOR CHRISTOPHER S. BOND

Question. The F/A-18E/F Super Hornet is the Navy's next generation strike fighter and will provide naval aviation with an affordable multi-role aircraft for decades to come. Fiscal year 2003 will be the fourth year of a five-year Multi-Year Procurement (MYP) for 222 aircraft. The current fiscal year 2003 President's Budget requests 44 aircraft which is 4 short of the 48 planned for in the Multi-Year Procurement. This shortfall comes after a cut of 3 aircraft in fiscal year 2001. How do we leverage the savings and economies of scale of a Multi-Year Procurement if we keep cutting the purchase of the aircraft?

Answer. The F/A-18E/F multi-year procurement contract provided the Navy with 7.4 percent savings when compared with single year contracts for 222 aircraft. Although actual multi-year savings increase and decrease with quantity variation, the 7.4 percent savings rate remains the same. Savings are calculated based on a comparison between single and multi-year procurements of equal quantity (i.e. 222 aircraft procured for 5 years at once or 222 procured in single year increments). If the quantity is decreased/increased, it is changed for both single and multi-year cases. Regardless of quantity variation, the Navy's commitment to multi-year procurement will always generate savings and economies of scale over single year procurements.

Question. Can't we get some discipline in the acquisition process to free up funds for recapitalization? Why can't we limit ourselves to one new system in each functional area? Why so many IT systems? Can we divest from Navy Marine Corps Internet (NMCI) since it hasn't delivered? What programs could we get rid of in order to free up funding for readiness accounts?

Answer. There are several processes and controls that are used within the acquisition lifecycle process that enable us to identify additional funds for recapitalization, or reinvestment into legacy systems.

First, the acquisition process itself has a rigorous set of milestone program reviews which every program must pass through to ensure that required analysis and planning have been completed and that appropriate management controls are in place.

Second, a number of initiatives are underway to reduce Operating and Support (O&S) costs during the program life cycle. Some of the more visible initiatives are as follows:

—*Reduction of Total Ownership Cost (R-TOC)*.—This initiative, established under Section 816 of the Fiscal Year 1999 National Defense Authorization Act, requires the Services to designate R-TOC pilot programs. These programs were given a stretch goal of reducing O&S cost by 20 percent by fiscal year 2005 based on an fiscal year 1997 baseline. Through aggressive management actions and innovative approaches, the Department of the Navy (DON) pilot programs project a cost avoidance of over \$712 million in O&S cost by fiscal year 2005 compared to a base amount of \$5,652 million. The successful process they used was to establish baseline costs, identify cost drivers within the baseline, develop cost reduction initiatives, and develop metrics to measure progress toward stated goals. Besides the initial cost avoidance made available by the pilot programs for recapitalization, the lessons learned are available for use on other programs. These pilot programs were able to test various cost reduction strategies before applying these techniques Service-wide.

—*Cost As an Independent Variable (CAIV)*.—Similar to commercial Target Costing, CAIV has served as one of the Department's key methodologies for reducing total ownership cost of weapons systems over the past six years. It is applied during concept and development phases, when there is the greatest leverage over life cycle costs, and it sets aggressive but achievable cost targets for all phases. It uses rigorous trade-offs with continuous user involvement to arrive at an acceptable balance of cost, performance, and schedule, thus enabling the production of an affordable system which meets the warfighter's needs. When properly applied, CAIV is a disciplined acquisition management process that will reduce the life cycle cost of systems, thereby freeing up funds for recapitalization. All defense programs must have a plan in place to implement CAIV by the end of fiscal year 2002.

—*Performance Based Logistics (PBL)*.—The objective of PBL is to better integrate logistics and acquisition to reduce the demand for logistics and make the logistics support system more effective and efficient. Numerous contracts have been awarded to provide logistic support for weapons systems that have enhanced performance, reduced logistic support, and lowered costs. A direct result of PBL will be reduced O&S costs, improved performance for the warfighter, and freed up funds for recapitalization. PBL is the preferred product support strategy for DON programs. PBL will be implemented on all new programs and all fielded Acquisition Category I & II programs once the Business Case Analysis indicates it provides the best value to the warfighter.

—*Business Initiatives Council (BIC)*.—The Under Secretary of Defense (Acquisition, Technology and Logistics) along with the Business Initiatives Council, is soliciting and reviewing proposals for additional initiatives to reduce the cost of current operations to create further opportunities for additional investment in modernization of our forces. By aggressively working to reduce the out year support costs, the Navy and Marine Corps are creating the conditions for shifting these savings from the support line to force recapitalization and modernization.

The quantity, scope and timing of requirements which are identified for new systems to satisfy make it unrealistic to be limited to just a single new system. The nature of the acquisition and requirements processes does not allow for the development of a system to be constantly revised as each new need is identified. Once a system plan reaches the designated milestone point, further modifications are costly and greatly retard the process.

The current process is greatly decreasing the number of redundant systems, and encouraging new systems to include as many related areas of effect as possible. As a result of our recent alignment initiatives, the Warfare Integration and Assessment Division, N70, is serving as a horizontally aligned reviewer of all warfare programs and proposals within N7. N70 purposely inserts itself into the plans of the requirements sponsors and acts as the impartial observer to identify redundancies and encourage, and at times require, separate warfare sponsors to work together on programs, both to reduce the number of personnel and funding needed for a finished product, as well as ensuring that the Navy gets a system which will be robust, effective and meet warfighting requirements.

The number of Information Technology (IT) systems began to increase in the early 1980s as a result of the microcomputer revolution. Microcomputers provided powerful yet inexpensive alternatives to the centralized mainframe culture, which supported relatively few systems. Decentralized Department of the Navy (DON) management encouraged eager and innovative users to take advantage of this capability, providing commanders the opportunity to rapidly develop and deploy automated solutions to manually-performed operational tasks. The result was a vast and disparate array of specialized IT systems and applications supporting the full spectrum of the Department of Defense's (DOD) specialized warfare and mission support areas. Our transformation imperative is reversing this trend as initiatives such as Navy Marine Corps Intranet (NMCI), Information Technology for the 21st Century (IT21), Enterprise Resource Planning (ERP), and Internet and World Wide Web technologies (Task Force Web, Extensible Markup Language (XML)) are now enabling the Department to streamline business processes and rationalize current IT systems into a smaller cross-functional portfolio.

The Navy Marine Corps Intranet (NMCI) effort is well underway and has shown much progress since the contract was signed in October 2000. To date, the NMCI Information Strike Force (ISF) has assumed responsibility for 48,000 seats and has transitioned or "cutover" over 4,000 seats. Approximately 63,000 seats have been placed on order with approval for an additional 100,000 expected soon.

Significantly, it was through the NMCI contract that the Navy was able to cut post-September 11 information technology reconstitution time by more than half.

If the Government decides to divest itself of the contract and cancels its requirements for all services in program years, the contractor will be paid a cancellation charge not over the ceiling specified below as applicable at the time of cancellation.

(Dollars in millions)

Fiscal year	Can- cellation Charge	Last Notification Date
2002	\$85.4	1 October 2001.
2003	251.4	1 October 2002.
2004	536.9	1 October 2003.
2005	549.1	1 October 2004.

Claims could include:

- Reasonable nonrecurring costs that would normally be amortized;
- Non-depreciated costs of facilities acquired or established for the conduct of work;
- Cost incurred for the assembly, training and transportation to the job site of a specialized work force; and
- Cost not amortized because the cancellation precluded benefits to contractor or subcontractor learning.

We have added significant funding to Navy readiness accounts over the last two budgeting cycles. While we had to make some tough choices as we developed the recently submitted budget, based on Navy's performance to date in the Global War on Terrorism, I am convinced that we have readiness funding about right and we are now watching to see the result of our increased funding before adding additional money to these accounts.

Our priority is to continue to sustain the gains we've made in the readiness accounts as we recapitalize our Navy.

BUDGET SHORTFALLS

Question. With significant budget shortfalls over the last 10 years, what impact has there been on modernization and recapitalization? Is the force the size it needs to be, and is it as modern as it needs to be? What is the impact on near term readiness—and does PB03 budget submission properly balance the need to modernize with current readiness?

Answer. Over the past decade, budget shortfalls have had a significant effect on Navy modernization and recapitalization programs. The 1997 Quadrennial Defense Review (QDR) attempted to balance the force structure needs of the present with the challenges of the future. Although the QDR did not specify a total inventory, it did specify a minimum of 12 Aircraft Carrier Battle Groups and 12 Amphibious Readiness Groups. These force structure reduced our battle force inventory from approximately 370 ships, to 310.

In order to maintain this inventory a recapitalization rate of 8 to 10 ships per year is required. The actual recapitalization rate experienced the last 10 years is

an average 5 to 6 ships per year. In the long run this level of investment will deplete the inventory to about 240 ships.

We are constantly reassessing our force structure and the requirements to modernize the force. Conflicts, such as Kosovo and the ongoing global war on terrorism, only intensify that process. We have already put considerable resources into addressing the issues to ensure overall numbers of ships, aircraft, submarines, munitions and personnel are sufficient to meet our strategic and operational commitments around the world. The Department remains committed to continuing full support of major transformational programs, like the Joint Strike Fighter, CVN(X), SSGN conversion, and DD(X), while continuing efforts to advance new technologies for weapon systems that create the "Navy after next" for the new millennium.

The 2001 Quadrennial Defense Review (QDR) assumed a Navy force structure of about 310 ships. However, since that report we have developed a new vision of how the Navy should operate to meet the demands of the post-9/11 environment, that requires about 375 ships.

The new concept of operations will change the way we deploy our surface ships to maximize our capability and reach. Developing capability improvements brought to the force by programs such as cooperative engagement capability (CEC), electronic warfare aircraft (E-2C) radar modernization program (RMP) and net-centric warfare (NCW) will reduce the required number of surface combatants assigned to individual Carrier Battle Groups (CVBGs), allowing surface combatants to be assigned to Amphibious Ready Groups (ARGs), designating them as Expeditionary Strike Groups (ESGs). These new formations nominally will consist of three amphibious ships and three surface combatants. Additionally, the Navy is looking at independently deploying missile defense Surface Action Groups (SAGs) and strike SAGs. By reallocating surface combatants, we will empower our Amphibious Ready Groups with more capability across a greater range of conflicts, thereby increasing our ability to respond with combat credible force in more places simultaneously. Our most potent strike force remains the Aircraft Carrier Battle Group, but for many situations an Expeditionary Strike Group will provide the appropriate level of combat power.

We intend to increase the reach of our net-centric warfighting capability by developing and fielding the Littoral Combat Ship (LCS), a small, high-speed ship. Each LCS will have a focused mission capability—(countermine, anti-submarine warfare and anti-swarming boats in near land areas) that could be plugged into each platform depending on the needs of a given theater. Our plan is to build this ship in sufficient numbers to maintain a quantity of LCSs forward deployed in major theaters to augment the Aircraft Carrier Battle Groups, the Expeditionary Strike Groups and the Surface Action Groups. The Navy is currently working on the development of the operational requirements document for the LCS.

The fiscal year 2003 budget, guided by the defense strategy outlined in the latest Quadrennial Defense Review continues to build a force that is relevant to threats associated with the War on Terrorism, and fulfill our future worldwide security commitments. The fiscal year 2003 budget request offers substantial improvements in combat capability, enriches the quality of life for our people, incorporates technological innovations more quickly and improves business practices, all of which help to manage and mitigate risk during these uncertain times. The fiscal year 2003 budget request adequately addresses our near term risk through investment in people and readiness, while our transformation and recapitalization efforts in the budget address emerging threats in the future. Our preparation for the future will enable Naval forces to concurrently project power abroad, and at the same time provide security to the homeland.

Question. What are your concerns for near-term readiness? Who set the requirement for near-term readiness, and who validates it? Is the requirement being met? If there are shortfalls, are they being represented in your budget submission for PB 03?

Answer. My concerns for near-term readiness revolve around our ability to meet the near-term readiness goals I established including expected Status of Resources and Training System (SORTS) goals for naval units as they approach deployment dates. The Deputy Chief of Naval Operations (Fleet Readiness and Logistics) validates our readiness goals. In the past, we have understated the requirement and then underfunded the understated requirement. Through a concerted fleet and OPNAV effort, we have identified what I believe to be the correct requirement. While we had to make some tough choices as we developed the recently submitted budget, I am convinced that recent additions in readiness funding have been correct. We are now watching to see the result of our increased funding before adding additional money to these accounts.

Question. What is the “right size” for the fleet? What is your rationale for determining the needed force structure? What logistic support is needed to support the force structure you envision? Is your current logistic force adequate to meet that need?

Answer. The Quadrennial Defense Review (QDR) assumed a Navy force structure of about 310 ships. However, since that report we have developed a new vision of how the Navy should operate to meet the demands of the post-9/11 environment, that requires about 375 ships. The new concept of operations will change the way we deploy our surface ships to maximize our capability and reach. Developing capability improvements brought to the force by programs such as cooperative engagement capability (CEC), electronic warfare aircraft (E-2C) radar modernization program (RMP) and net-centric warfare (NCW) will reduce the required number of surface combatants assigned to individual Aircraft Carrier Strike Groups (CSGs), allowing surface combatants to be assigned to Amphibious Ready Groups (ARGs), designating them as Expeditionary Strike Groups (ESGs). The ESGs will retain the traditional combined arms assault capabilities provided by the Marine Expeditionary Unit (MEU), and will be complemented by the strike and sea control capabilities provided by Aegis surface combatants in the near term, and DD(X) in the outyears. These new formations nominally will consist of three amphibious ships and three surface combatants. Additionally, the Navy is looking at independently deploying missile defense Surface Action Groups (SAGs) and strike SAGs. By reallocating surface combatants, we will empower our Amphibious Ready Groups with more capability across a greater range of conflicts, thereby increasing our ability to respond with combat credible force in more places simultaneously. Our most potent strike force remains the Aircraft Carrier Strike Group, but for many situations an Expeditionary Strike Group will provide the appropriate level of combat power.

We intend to increase the reach of our net-centric warfighting capability by developing and fielding the Littoral Combat Ship (LCS), a small, high-speed ship. Each LCS will have a focused mission capability—(countermine, anti-submarine warfare and anti-swarming boats in near land areas) that could be plugged into each platform depending on the needs of a given theater. Our plan is to build this ship in sufficient numbers to maintain a quantity of LCSs forward deployed in major theaters to augment the Aircraft Carrier Strike Groups, the Expeditionary Strike Groups and the Surface Action Groups. The Navy is currently working on the development of the operational requirements document for the LCS.

This concept of operations (CONOPS) envisions that these newly defined groupings of ships may be more widely dispersed for operations against terrorism and for normal peacetime missions. This may mean that our current combat logistics force is too small to adequately cover the needs of our Global CONOPS. We are still studying the exact number and type of logistics replenishment ships as well as alternative logistical CONOPS that we will need. We will continue to need about the same number of carriers, submarines, expeditionary warfare ships, cruisers, destroyers, and support ships as in our force today.

Question. What is the “next step” for fleet realignment?

Answer. The next step for fleet alignment is currently being studied by Commander, Fleet Forces Command (CFFC). The expected completion date is September 2002.

This alignment study is considering the roles of the CFFC and the Fleet Type Commanders (the Commanders of the Air, Surface and Submarine Forces) as they evolve from the October 1, 2001 posture into one of several alternative futures. The goal is to integrate policies and coordinate requirements so that we most effectively man, train and equip the warfighting forces. The new alignment will take into consideration the revised Unified Command Plan.

Question. What do you envision as a future alternative to the Vieques training area in Puerto Rico? What future requirements do you have to provide equivalent training for deploying forces?

Answer. We expect the Center for Naval Analysis study on the future of Navy training to provide insight into the best alternatives for quality Navy training as a whole. After we have an opportunity to receive and evaluate the study, we will be shaping the way ahead for the 21st century. In the interim we are addressing the shortfall in training capability, capacity, and flexibility within the Atlantic Fleet area by improving our training infrastructure at multiple sites.

QUESTIONS SUBMITTED BY SENATOR KAY BAILEY HUTCHISON

T-45 TRAINING AIRCRAFT

Question. Given the importance of training Naval aviators in aircraft equipped with all glass, digital cockpits, why has the Navy been so slow to equip a second, undergraduate pilot training facility with adequate aircraft?

Answer. Naval Aviation is a key component of the Navy's capability to support our Nation's strategy and goals. Inherent to maintaining a strong Naval Aviation structure is the development of new Naval Aviators. The T-45 is a critical element to that process. Navy is more than adequately meeting pilot training requirements and the development of new Naval Aviators with the current configurations of T-45 aircraft. The retrofit of the T-45A to the T-45C glass cockpit is a focal point for the Navy's ongoing budget reviews and funding prioritization.

Question. If the start of the T-45A to C cockpit upgrade program could be brought forward a year, would this be of benefit to the Navy?

Answer. In light of competing priorities for resources, the President's budget represents the best balance of resources to requirements. However, if additional funds were provided, acceleration of the T-45A to C cockpit retrofit would provide upgraded capabilities to the existing T-45A aircraft.

QUESTIONS SUBMITTED TO GENERAL JAMES L. JONES

QUESTION SUBMITTED BY SENATOR DANIEL K. INOUE

Question. General Jones, what is the Marine Corps' plan to review Reserve Component mobilizations, and, where appropriate, reduce the levels of personnel called up to Active Duty to meet the funding levels in the fiscal year 2002 Supplemental? Do you anticipate any funding shortfalls in the personnel accounts due to mobilization?

Answer. The Marine Corps has reviewed operational requirements based on the current situation and identified personnel reductions equaling 11.6 percent of activated Reservists. These personnel will be demobilized by June 30, 2002. The Marine Corps is committed to supporting Joint and CINC staffing needs during this activation and is actively engaged in identifying future needs, and an attendant plan to support these needs for the long term Global War on Terrorism.

The Marine Corps Reserve component mobilization requirement is adequately supported by the fiscal year 2002 Supplemental.

QUESTIONS SUBMITTED BY SENATOR THAD COCHRAN

Question. I understand that the U.S.S. *Bataan* Amphibious Ready Group LCACs that just returned from Afghanistan delivered record amounts of cargo from ship to shore. This effort highlights the need and value of LCAC and its Service Life Extension Program. Can you give us your assessment of how the LCACs are performing in support of the War on Terrorism?

Answer. The LCAC, an essential platform in projecting decisive military power ashore, performed superbly while deployed with the U.S.S. *Bataan* Amphibious Ready Group supporting OPERATION ENDURING FREEDOM. LCAC 89 was equipped with the improved Deep Skirt, just one portion of the equipment upgrades provided through the LCAC Service Life Extension Program (SLEP). This single upgrade provided significant LCAC performance improvements, enabling the craft to run through various sea states, load conditions, beach gradients, and landing zone configurations. Use of the Deep Skirt allowed for quicker ship-to-shore movement of equipment by one to two hours and allowed operations to continue under adverse weather and sea state conditions that would have placed a non-Deep Skirt configured LCAC at risk.

The LCAC is currently undergoing a SLEP initiated in fiscal year 2001 to ensure the viability of the LCAC into the future. LCAC SLEP encompasses the following:

- Replacing obsolete electronics with a new command module, introducing open architecture to facilitate low cost, commercial off-the-shelf insertion as technology continues to evolve.
- Replacing the buoyancy box that will solve corrosion problems while incorporating hull improvements.
- Incorporating enhanced engines that will provide additional power, capable of lifting all required Marine Corps loads, in hotter climates and higher sea states.

—Replacing current skirt design with Deep Skirts that will increase craft performance under all operational conditions.

To support the Marine Air Ground Task Force (MAGTF) of the next 20 years, the LCAC must be able to operate with heavier loads, at faster speeds and greater distances, under adverse conditions, and with higher reliability. For these reasons, the LCAC SLEP is critical to projecting combat power ashore from over-the-horizon.

Question. Do you feel that the installation of Deep Skirts, which increase LCAC performance and decrease maintenance, would enhance your deployed forces capabilities?

Answer. The Deep Skirt greatly increased LCAC performance under all operating conditions, significantly enhancing the LCAC's capability and improving the overall capability of our deployed forces. The Deep Skirt will replace the current skirt as the craft undergo the LCAC Service Life Extension Program.

LCAC 89 deployed with the U.S.S. *Bataan* Amphibious Ready Group during OPERATION ENDURING FREEDOM, was equipped with the improved Deep Skirt. This single upgrade provided significant performance improvements, enabling the craft to operate in various sea states, load conditions, beach gradients, and landing zone configurations. Use of the Deep Skirt demonstrated quicker ship-to-shore movement of equipment by one to two hours and allowed operations to continue in adverse weather and sea state conditions that would have placed a non-Deep Skirt-configured LCAC at risk.

The Deep Skirt required less maintenance than the standard skirt currently in use. No repairs were required during 150 hours of operation by LCAC 89 outfitted with the Deep Skirt. The Deep Skirt's improved performance and decreased maintenance requirements have passed engineering tests and most importantly, have met the Fleet's requirements during OPERATION ENDURING FREEDOM.

Question. In your statement, you state that the Lightweight 155 mm Howitzer is "needed to replace our aging 'legacy' field artillery systems". I understand that the Lightweight 155 mm Howitzer will make a major impact on improving your outdated artillery capability. Can you provide the Committee with an update on the program?

Answer. The LW 155 mm Howitzer program has made tremendous progress over the past year. All eight of the Engineering and Manufacturing Development (EMD) weapons have been delivered, all the required safety testing has been successfully completed, and the program is on track to support a low rate production decision later this year. During the battery training for the upcoming Operational Assessment (OA), more than a thousand rounds were fired over a 3½ day period and numerous emplacements, displacements, and movements were conducted. Timelines for the key operational requirements were routinely met and the exercise was completed with no significant problems or mechanical failures of the howitzers.

The prime contractor has its U.S. supply team in place and is producing two pilot production weapons prior to the start of the Low-Rate Initial Production (LRIP) phase. The first of these pilot production weapons is undergoing integration and assembly in Hattiesburg, MS and will be delivered in August 2002 for testing prior to the planned October 2002 production decision. The Marine Corps fully supports the need to replace its heavy and aging M198 artillery systems with the LW 155 mm Howitzer, as does the Chief of Staff of the Army, who sees the LW 155 mm Howitzer system as a key component of the Army's Interim Brigade Combat Team.

Question. How does the new howitzer compare to your existing legacy systems in terms of survivability, lethality, and mobility?

Answer. The Lightweight (LW) 155 mm Howitzer is much more survivable, lethal, and mobile than the M198 Howitzer legacy system it is replacing. A cost and operational effectiveness analysis showed the LW 155 mm Howitzer had approximately 25 percent more combat vehicle kills, a five-fold increase in its counter fire exchange ratio and a 70 percent increase in howitzer survivability. Because of its lighter weight (6,000 lbs. less than the M198) and independent suspension, the LW 155 provides a 35 percent improvement over the M198 in percentage of terrain traversed. The LW 155 is the only towed howitzer to have successfully traversed the demanding Rock Ledge Course at Yuma Proving Grounds, which is representative of the type of terrain found in places like Afghanistan.

QUESTIONS SUBMITTED BY SENATOR CHRISTOPHER S. BOND

Question. General Jones, I understand the Marine Corps is pursuing participation in the Air Force's proposed multi-year procurement contract for the KC-130J tanker aircraft. How important is the KC-130J to Marine Corps operations, and what are the benefits of participation in the multi-year?

Answer. The KC-130J is a force multiplier and immensely important to the United States Marine Corps. The KC-130 provides the only organic capability to refuel fixed-wing and vertical lift (helicopters, MV-22) aircraft in flight. The KC-130 also provides the Marine Corps the capability to rapidly insert and sustain combat forces and the ability to refuel ground and aviation assets at remote, austere landing zones, enabling power projection and decisive combat operations at increased ranges. Marine KC-130s make up almost half of the DOD tanker inventory capable of refueling rotary wing assets. Its combat performance during Operation Enduring Freedom is a testament to its unparalleled utility to the Marine Corps and DOD.

Benefits of the Multiyear Procurement (MYP) are quantified in the form of substantial cost savings for the USAF (\$420 million/13.6 percent) and the USMC (\$235.2 million/12.6 percent). This MYP makes it possible for the USAF and USMC to acquire aircraft at an economical production rate and within the fiscal constraints of the Department's Future Years Defense Plan (FYDP).

This MYP will purchase 64 aircraft (40 USAF CC-130Js, 24 USMC KC-130Js) over the period fiscal year 2003 through fiscal year 2008. The USAF and USMC will take delivery of these 64 aircraft during calendar years 2005-2008, at a combined rate of 12, 16, 18, and 18 aircraft per year (respectively). The total cost of this MYP is estimated to be \$4.29 billion (USAF: \$2.66 billion, USMC: \$1.63 billion).

QUESTIONS SUBMITTED BY SENATOR KAY BAILEY HUTCHISON

Question. Two important Marine Corps programs have been receiving a great deal of press lately: the V-22 and the H-1 Upgrade programs. Would you give us an update on the status of the H-1 program? Would you give us an update on the status of the V-22 program?

Answer. In response to the H-1 Program Nun-McCurdy breach, the Under Secretary of Defense for Acquisition, Technology, and Logistics certified the H-1 Program as of critical value to the Marine Corps and justified its further development. On May 2, 2002, Under Secretary of Defense for Acquisition, Technology, and Logistics approved the restructure plan for the H-1 Upgrade Program. The revised Acquisition Program Baseline will correct existing cost and schedule deficiencies in the program. All five EMD aircraft are now in flight test status and will be located at Naval Air Warfare Center Aircraft Division (NAWCAD) Patuxent River by the end of May 2002. The flight profiles for envelope expansion have been determined and the Bell, NAVAIR Test Team has begun flying envelope expansion events.

The V-22 has had multiple separate investigations and engineering, software, and design reviews. The results of the investigations and reviews have been addressed by the V-22 Program Office (PMA-275) using a systems engineering approach which has led to a comprehensive "event driven" test schedule. The Under Secretary of Defense, Acquisitions, Technology and Logistics, Mr. Aldridge, approved the acquisition strategy and acquisition program baseline which reflected the restructured program on May 6, 2002. Developmental test flights are projected to begin in May 2002. We expect to begin operational flights in fiscal year 2004.

Attached is the executive summary of the report to Congress on the status of the V-22 Program in response to Section 124 of the National Defense Authorization Act for Fiscal Year 2002.

EXECUTIVE SUMMARY

In response to Section 124 of the National Defense Authorization Act for Fiscal Year 2002, the Defense Department submits this report on the status of the V-22 Program. The report organizes the response into four general areas: Aircraft flight control system (software and hydraulics); recommendations of the Panel to Review the V-22 Program (April 2001); recommendations of the NASA Tiltrotor Aeromechanical Phenomena Independent Assessment Panel (November 2001); and status of waivers to the Joint Operational Requirements Document (ref: Operational Evaluation Phase I, 1999).

Responding to the recommendations of the two CY 2000 mishap investigations, as well as several internal and external reviews conducted over the past year, the Department has reduced production and defined a new plan that is "event driven" as opposed to "schedule driven." Key to the plan is completion of ongoing laboratory flight control system tests and software upgrades, verification of all flight crew procedures, and a comprehensive developmental flight test program that will thoroughly assess the aeromechanical issues and reliability issues raised. The developmental testing will be followed by operational flight tests that will demonstrate the improved capabilities and suitability of the aircraft, and address the tactics, techniques and procedure issues raised by the various reviews and the original flight

test program. The plan also establishes a high-level readiness review preceding each step. Finally, the plan calls for a series of aircraft block upgrades with the highest priority software and safety improvements going into the developmental test aircraft in time for first flight. Important reliability and maintainability modifications are included in a Block A upgrade which will be the configuration for the first operational aircraft. Further aircraft capability, maintainability and availability enhancements are in Block B and subsequent.

To assess the flight control system, the program conducted a substantial series of nominal and degraded mode tests in the integrated avionics and flight control software test facilities, including pilot-in-the-loop simulation to evaluate and validate all related crew emergency procedures. The program has updated the flight control computer software to correct deficiencies including those that were factors in the December 2000 mishap. Further, the program has modified the flight control hydraulics system to correct mission reliability problems in preparation for return to flight. Of the seventy-one "specific" Blue Ribbon Panel and seventeen "high priority" NASA recommendations, only eight are germane to resumption of developmental test flights. Of that number, all are complete as recommended. Of the remaining recommendations, all but four are either complete, or included in the test plan, the aircraft block upgrades or the logistics support plans. The four recommendations that are not accepted are listed below and discussed in detail in the report: Replacement of the planned aircraft ground maintenance trainers with simulators; adoption by the Director, Operational Test and Evaluation organization of standard risk categories; replacement of the Unified Numbering System by the Work Unit Code system for logistics; and provision of development funding reserves for the Program Manager.

Of the twenty-two requirements-related waivers granted to the program for the Phase I Operational Evaluation (OPEVAL) in 1999, all but four are no longer valid, having been removed by changes to the requirements or subsequent improvements to the aircraft. The four issues are: (1) provision of an interim (vs. production representative) hoist; (2) a basic equivalent (vs. fully equivalent) Ground Collision Avoidance Warning System; (3) lack of a defensive weapon system; and (4) lack of anti-ice capability. None of these issues is planned to be resolved before the start of OPEVAL Phase II tentatively scheduled for fiscal year 2005. The Services are reviewing the option of delaying these requirements consistent with program plans.

In summary, the V-22 program reviews have been comprehensive, the organizational, technical and programmatic issues are adequately addressed and the plan represents a rational approach to return to flight testing and program recovery.

SUBCOMMITTEE RECESS

Senator INOUE. Our subcommittee will stand in recess until Wednesday, May 8, and at that time we will hear from the defense medical programs. Thank you very much.

[Whereupon, at 11:38 a.m., Wednesday, May 1, the subcommittee was recessed, to reconvene at 10 a.m., Wednesday, May 8.]

DEFENSE APPROPRIATIONS FOR FISCAL YEAR 2003

WEDNESDAY, MAY 8, 2002

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 10:05 a.m., in room SD-192, Dirksen Senate Office Building, Hon. Daniel K. Inouye (chairman) presiding.

Present: Senators Inouye, Stevens, and Specter.

DEPARTMENT OF DEFENSE

HEALTH AFFAIRS

STATEMENT OF HON. WILLIAM WINKENWERDER, JR., ASSISTANT SECRETARY OF DEFENSE FOR HEALTH AFFAIRS

ACCOMPANIED BY:

LIEUTENANT GENERAL JAMES B. PEAKE, MC, USA, SURGEON GENERAL OF THE ARMY AND COMMANDING GENERAL, U.S. ARMY MEDICAL COMMAND

VICE ADMIRAL MICHAEL L. COWAN, MC, USN, SURGEON GENERAL OF THE NAVY AND CHIEF, BUREAU OF MEDICINE AND SURGERY

LIEUTENANT GENERAL PAUL K. CARLTON, JR., USAF, SURGEON GENERAL OF THE AIR FORCE

OPENING STATEMENT OF SENATOR DANIEL K. INOUYE

Senator INOUYE. I would like to welcome all of you to our hearing this morning to review the Department of Defense medical programs including the defense health program. When we put our soldiers, sailors, airmen and Marines in harm's way, the medical medics are deployed and are part of the fight. So we thank them for their very important work.

In light of that, I would like to commend the department's medical services for their response to our country's crisis on September 11th and their ongoing service in support of the war efforts against terrorism. From the moment of attack, the medics' role has been diverse and profound, providing services ranging from care to injured to identification of remains, to testing of thousands of anthrax specimens, and for their recognition of supporting the war around the world, we applaud their efforts, serving jointly to meet the medical needs of our warfighters in this conflict.

I would also like to congratulate the department for submitting for the second consecutive year a budget request for the defense health program that takes into account realistic cost estimates.

With this budget the committee will not expect to see a supplemental request in fiscal year 2003 for this program. Senator Stevens and I, and all the members of this subcommittee put great value in military medicine. We look forward to a frank and open discussion this morning with our panels on the fiscal year 2003 budget request and in particular, the status of the TRICARE for Life benefit, which began this year.

Furthermore, we understand that recruitment and retention of medics, both officer and enlisted, is increasingly a challenge for all the services. I would like to hear from you on your efforts to address this growing problem.

Joining us this morning we have the Assistant Secretary of Defense for Health Affairs, Dr. William Winkenwerder, and we welcome you, sir, for your first appearance before the subcommittee. Your credentials are quite impressive and we look forward to hearing from you. From the Army, Surgeon General James Peake. Welcome back again. From the Navy, we have Admiral Michael Cowan. We also welcome you to your first hearing with us. Your career is quite distinguished and we look forward to working closely with you throughout your assignment. And finally, Air Force Surgeon General Paul Carlton. I am informed that this is probably your last appearance before the subcommittee since you will retire this fall, and I thank you for your service to the Air Force, the country, and your assistance to this committee. Thank you for a successful and distinguished career, sir.

Before we start, may I call upon my co-chairman for any opening remarks. Senator Stevens.

STATEMENT OF SENATOR TED STEVENS

Senator STEVENS. Thank you very much. I join the chairman in welcoming the Secretary to this subcommittee in his first appearance here. Mr. Secretary, you will find this subcommittee has been consistently more supportive, more responsive and sympathetic to the needs of military medical programs than any other committee at any time. But because of that support, I think you will also find that we are diligent and relentless in our monitoring the success or effectiveness of programs that you and your surgeons general administer.

In my experience, there are few elements of military life that contribute more to quality of life, retention and satisfaction of military personnel and their families than medical care. And as concerned as our subcommittee is, there is growing concern about the rate of growth of military medical costs. No item in the department's budget grew by a greater percentage this year than the medical programs. Controlling that rate of growth while maintaining access to quality care will likely be, and I believe it is your greatest challenge.

We welcome the opportunity to join you in trying to solve these problems, but welcome you also for your hearing and your presentation of your plans.

Unfortunately as I told you, I am being called to another meeting in just a few minutes, but Mr. Chairman, I will return if it's possible and as quickly as possible. I look forward to your testimony,

Generals, and I will read it, and I regret missing any of it. Thank you.

Senator INOUE. Thank you very much. Senator Stevens, as you know, is going on an important mission of peace, and I hope you succeed.

So, may I first call upon the Assistant Secretary of Defense for Health Affairs, the Honorable William Winkenwerder.

Dr. WINKENWERDER. Mr. Chairman, Senator Stevens, and other members of the subcommittee, I want to thank you for the opportunity to appear before you today. As you have requested, I will provide a brief verbal statement and then submit my written comments for the record.

Senator INOUE. The full statement is made part of the record, sir.

Dr. WINKENWERDER. First I wanted to say, I certainly welcome your support and the support this committee has provided over the past years, but also welcome your monitoring. I think that's part of your responsibility and we welcome that. You are also, I think, very unmarked in identifying the issue of medical costs and rising medical costs is a real significant challenge for us and I hope to be able to elaborate further on some of our strategies for dealing with that issue during this hearing.

At the outset I want to take just a moment to acknowledge the heroic and exemplary contributions our military healthcare professionals are making around the world today. Our military medics are engaged in a number of diverse and challenging activities in support of the war on terrorism both here and abroad.

In Afghanistan and elsewhere, the United States and coalition medical professionals provide lifesaving care to our troops and allies in a very austere battlefield situation. In the United States, our healthcare professionals work closely with other Federal agencies and the Office of Homeland Security in shaping our capabilities to respond to biological and chemical warfare threats here at home. And of course we continue to provide the finest medical care every day throughout the world for our active duty personnel, their families, and our retirees and their families.

Everything we do within the military health system is designed to support our warfighters, from preventive medicine activities to complex multispecialty care requirements for our most severely ill or injured patients. This support system includes the design and operation of TRICARE. TRICARE was designed to improve continuity, quality and access to care we provide our beneficiaries in both military hospitals and the clinics, and the \$7 billion in care we purchase through the private sector every year.

This effort has been very successful. Virtually every indicator of success has moved in the right direction in the past few years, including increasing beneficiary satisfaction, increased perception of quality of care, more timely access, and increased use of preventive services.

Cost growth has remained within or less than the overall increases in healthcare costs seen in the private sector without increasing out of pocket costs for beneficiaries, and that is an accomplishment. As you know, the private sector trends are in double digit figures now.

And we have implemented a new set of healthcare benefits, particularly TRICARE for Life, which includes a prescription drug benefit for our Medicare-eligible beneficiaries, the first such benefit for seniors in America, and it's working very well.

We're proud of these successes and yet, there is still room for improvement. As we move forward, we are building upon both the successes and the lessons learned from the past 7 years of TRICARE. Over the years, we have added many new requirements on the existing contracts. Often, our requirements were prescriptive, maybe too prescriptive, added costs, and did not provide the proper incentives for either optimal system performance or contractor innovation.

The next generation of TRICARE contracts will provide these incentives, adopt the best practices employed in the private sector, and invite greater competition from the health care marketplace. Financial incentives are a powerful tool to enhance contractor performance. In the next set of contracts, I plan to retain financial risk-sharing elements and fee-based rewards that recognize various elements of outstanding performance, including customer satisfaction and provider satisfaction.

Finally, I will insure that our new contracts enhance quality and continuity of care for our beneficiaries while minimizing any disruption in beneficiary services. Our actions will continue to improve the healthcare delivery system for our patients, improve the predictability of our healthcare budgets, and establish the military health system as one of the preeminent health systems in this country.

I believe that's a realistic goal for us to shoot for. We have the opportunity to be a model for the rest of the nation, and I am committed to seeing this happen. I want to assure the committee that I will continue to consult with you regularly as we proceed in the development of our TRICARE contracting strategy.

The President's budget request for defense health care for fiscal year 2003 is based on realistic cost estimates for providing healthcare benefits to DOD eligible populations and improving medical readiness. It includes appropriate growth assumptions for both pharmacy and private sector health costs to reflect our recent experience, which as I alluded to earlier, mirrors the private marketplace.

As we strive to raise the performance of our health system, we also are reaching out to other Federal agencies to improve collaboration and coordination. In particular, we are working more closely with the Department of Veterans Affairs, (VA) and with several agencies at the Department of Health and Human Services, including the Centers for Disease Control (CDC), the Food and Drug Administration (FDA) and the National Institutes of Health (NIH). All of those other agencies are important to the way we do business and contribute to our success.

We recognize that each service member actually begins his or her life as a veteran of military service on their first day of active duty. Through the Department of Defense (DOD's) collaboration with VA, which has a strong historical foundation, much has been accomplished, but there is much more to do—greater VA participation in TRICARE networks is a goal for us, simplified billing procedures

for shared services, increased cooperation on our capital asset and construction plans, greater joint activity in the area of pharmacy and pharmacy benefit management, and Information Technology (IT) improvements that will permit appropriate sharing of electronic records. The focus of these efforts will be to identify those opportunities that are congruent with our respective missions at DOD and VA, and those opportunities that will benefit both the beneficiary and the U.S. taxpayer.

Just recently we had a meeting of senior people, including the Deputy Secretary of VA, McKay, Under Secretary Chu, myself and others, and we signed some agreements that we believe are very important that relate to a common billing agreement among both departments and also a long-term IT strategic plan. We are at this time passing along the records of approximately 3.6 million veterans over the last 10 years so that those clinical records will now be available for the VA, so it will enhance the easy availability of clinical records. And there is much more to come.

Protecting the health of the deployed military is a paramount concern to the Department. To insure proper and continued attention to this issue, I recently established and am just announcing more publicly here today the Deployment Health Support Directorate under the Deputy Assistant Secretary of Defense reporting to me for force health protection and medical readiness. This office is charged with understanding how the Department of Defense can best support the health and medical needs of our warfighter both before, during and after military deployments.

This office will serve as a conduit through which commanders and service members can contribute to deployment health policies and practices, and build a bridge from experiences of the past to battlefields of the future.

Finally, to elevate the performance of our health system, we must continue to retain and recruit the best qualified medical professionals and provide a clinically rewarding medical practice environment. We have initiated several efforts to better understand the reasons that service members have for staying or leaving, and what factors would convince one to remain in the military health system. We are evaluating approaches to insure that we attract and retain the best people, including improvements in the ways in which we administer pay and share personnel resources across the three Services, and I am prepared to talk about the steps that we are asking the Congress to take today.

PREPARED STATEMENT

As the military health system continues to meet its many missions and challenges, I am certain we will emerge even stronger. I thank you for this opportunity to appear on behalf of the military health system, the 8.3 million people we represent, the extraordinary men and women who make it the vibrant, innovative and high quality system that it is. I look forward to answering your questions. Thank you, sir.

[The statement follows:]

PREPARED STATEMENT OF WILLIAM WINKENWERDER, JR.

Chairman Inouye, Senator Stevens, and Distinguished Members of the Subcommittee, thank you for this opportunity to appear before you today to discuss the Military Health System.

The terrorist attacks of September 11th and the bioterrorist incidents that followed in October have awakened us all to a very real threat of terrorism. Since September 11th, we have re-examined the primary responsibilities of the Military Health System, refined our priorities and mapped a course that we must pursue in order to protect the health of our men and women in uniform. Our vision is to establish the Military Health System as the premier healthcare system in the country, one that meets all wartime and peacetime health and medical needs for the active military, retirees, their families, and other beneficiaries. To achieve this vision, I have established four priorities for 2002:

- Improve Force Health Protection and Medical Readiness
- Improve Performance of the TRICARE Health Program
- Improve Coordination, Communication, and Collaboration with Other Key Entities
- Address Issues Related to the Attraction, Retention, and Appropriate Training of Military Medical Personnel.

I have also set specific objectives to successfully address these priorities, and we have instituted a focused planning process to monitor our progress.

Achieving our vision requires more than just the traditional focus upon preventive medicine and the delivery of restorative healthcare. To meet the health and medical needs of our entire beneficiary population while meeting our requirements for the force health protection of our active duty personnel, we must continue to improve and seek to optimize our integrated system of healthcare. This integrated system consists of uniformed, civil service and contract medical personnel working together to improve the health of our beneficiaries across the country and around the world.

This system must rapidly identify and mitigate potential health threats, and provide preventive measures and education to preserve the health and vigor of our population. Should these measures fail, we must be prepared to treat disease and restore the sick and injured to health through use of the most efficacious treatments that medical science can offer. The need for an effective, integrated system also extends beyond the period of active service, for those in need of rehabilitation following injury or illness, and for the care of our retired beneficiaries who have honorably served their country. All the while, we must continuously improve the quality of care we provide, the safety and satisfaction of our patients and exercise fiscal stewardship in managing the system.

We must use the concepts of evidence-based medicine to ensure that patients receive treatments that are effective. We must continue to contribute to the body of medical knowledge by participating in scientific research, particularly in our knowledge of hazards of the battlefield, chemical and biological terrorist threats, and the operational environment.

As we face the threat of terrorism, it is more important than ever that we ensure effective coordination and cooperation with other federal agencies and organizations with necessary expertise. These include the Congress, and especially the Departments of Veterans Affairs and Health and Human Services.

Accomplishing this vision will require that we create and maintain high quality information systems, that we attract and retain high quality medical professionals, that we provide the necessary tools and training for our personnel, and that we maintain our commitment to achieving the vision.

MILITARY HEALTH SYSTEM FUNDING

In the President's Budget Request for fiscal year 2003, the DHP submission is based on realistic estimates of providing healthcare benefits to DOD eligible populations. It includes inflation assumptions for pharmacy of 10.5 percent plus anticipated program growth for an overall increase of 15 percent from fiscal year 2002 program. Private sector health costs have been inflated at 7 percent to reflect our recent experience: anticipated program growth brings the overall rate of change to 12 percent from fiscal year 2002. We will manage the healthcare system to improve performance and contain the healthcare costs within budgeted amounts. We will make prudent decisions that result in effective performance. We seek your assistance in making permanent the contract management flexibility you provided in the National Defense Authorization Act for Fiscal Year 2002 and in alleviating the restrictions on moving resources across budget activity groups. The Department must have the freedom to move funding in response to where healthcare is received, either within the military healthcare facilities or through the private sector.

The President's budget for the DHP consists of the following amounts:

	<i>Millions</i>
Operation and Maintenance (O&M)	\$14,360
Procurement	279
Research, Development, Testing & Evaluation (RDT&E)	67
Total	14,706

O&M Funding by Budget Activity Group

	<i>Thousands</i>
Direct Care	\$4,070,811
Private Sector Care	7,159,674
Consolidate Health Support	809,548
Information Management	666,709
Management Activities	221,786
Education and Training	350,092
Base Operations/Communications	1,081,651
Total O&M	14,360,271

In addition to the DHP budget, the Military Health System is supported with \$6.0 billion for Military Personnel (MILPERS) and \$0.165 billion for Military Construction. The fiscal year 2003 total unified MHS budget is \$20.9 billion.

The DOD Medicare Eligible Retiree Health Care Fund is projected to provide an additional \$5.7 billion for the healthcare costs of Medicare-eligible beneficiaries, \$4.3 billion for private sector care, \$0.8 billion for direct care (O&M), and \$0.6 billion for MILPERS.

This budget request reflects implementation of accrual financing for the healthcare costs of Medicare-eligible beneficiaries, including their new TRICARE for Life benefits. This will entail both payments into the fund (\$8.1 billion) to cover the government's liability for future healthcare costs of current military personnel and receipts from the fund (projected \$5.7 billion) to pay for care provided to eligible beneficiaries. Our budget reflects a decrease to the DHP appropriation to account for the payments from the Fund and an increase to the military services' Military Personnel accounts to cover the Department's normal cost contribution. This alignment ensures consistency with the accrual funding for the military retirement pension costs under Title 10, chapter 74. We ask your help in modifying NDAA 2001 and 2002, which currently direct that the Defense Health Program make the annual contribution to the accrual fund. We recommend that the Military Personnel accounts make these payments. They have received increases for this purpose in the fiscal year 2003 Budget Request.

FORCE HEALTH PROTECTION AND MEDICAL READINESS

Even before the events of September 11th, Secretary Rumsfeld's Quadrennial Defense Review asserted that both terrorism and chemical and biological weapons would transform the strategic landscape for the Department. The MHS has underway numerous activities to ensure that preparedness, including formation of a high-level working group with Department of Health and Human Services representatives to improve collaboration on defense against biological and chemical terrorism. Deliberations continue on DOD policies regarding re-introducing the anthrax vaccine immunization program as a result of the FDA approval of the renovated vaccine manufacturing facility and the Institute of Medicine report that certified the safety and effectiveness of the vaccine. The MHS has also placed renewed emphasis on training military healthcare personnel in recognizing symptoms of and refreshing treatment plans for exposure to chemical and biological agents. One of the first objectives we set in this regard is the requirement for all medical personnel in the Military Health System to complete training appropriate for their medical skills.

We are actively developing Investigational New Drug (IND) protocols and guidelines for possible use during the war on terrorism, to include protocols on smallpox vaccine, pyridostigmine bromide (PB) tablets, botulinum toxoid vaccine, and anthrax vaccine post-exposure with antibiotics. The MHS is developing and implementing a seamless system of electronic healthcare and surveillance data, integrating the entire spectrum from fixed facility systems to field hand-held technology. The deployment health system is maturing in response to a growing array of acute and chronic deployment health concerns, with recent added emphasis on environmental and occupational health surveillance. Earlier this year, we published new clinical practice guidelines for post deployment health and management, that provides our clinicians

with important information on how to manage health care delivery for military personnel who return from a deployment and have health concerns.

We continue to expand and improve both the vaccine healthcare center network to support our world class vaccine safety assessment program, and the deployment health clinical center network to provide multidisciplinary evaluation and treatment of service members with deployment related health problems.

TRICARE

This military health system (MHS) program benefit provides an essential link between medical readiness and everyday healthcare delivery. Meeting the force health protection responsibilities of the MHS depends upon the success of TRICARE in providing both quality healthcare and challenging clinical experiences for military healthcare providers. Important to this success is a stable financial environment. The President's fiscal year 2003 Budget Request for the DHP provides that stability.

TRICARE Contracts.—TRICARE's success also relies on incorporating best business practices into our administration of the program, specifically our managed care contracts. Our new generation of TRICARE contracts will encourage best business practices by our contractors without over-direction by the government. We also are working with the Department of Veterans Affairs to make sure our future TRICARE contracts provide appropriate opportunities for VA participation in provider networks. We have listened to the advice of industry and our beneficiaries on how to structure these contracts and we are confident that the design will help us to continue providing high quality care. We enter this new generation of contracts with a commitment to our beneficiaries to further raise their satisfaction and to ensure continuity of quality services. We place a great deal of importance on contractor customer service performance—to include positive and negative financial incentives—to ensure that our beneficiaries are provided the kind and type of information and services they seek in a timely and accurate manner. Also, we will continue to partner with The Military Coalition and National Military and Veterans Alliance, who collectively represent the interests of more than four million current and former military personnel. This partnership ensures that we really know what our beneficiaries feel and think about the TRICARE Program. Their feedback helps us to better address the concerns and needs of our beneficiaries.

TRICARE for Life.—Implementation of TRICARE for Life has proceeded exceptionally well. As in all new program startups, we have experienced some problems. Nevertheless, we aggressively handle each one until we reach a satisfactory resolution. Since the October 1, 2001, start date, we have processed over twelve million claims and the overwhelming majority of information we receive is that our beneficiaries are extremely satisfied with TRICARE for Life. They speak very highly of the senior pharmacy program as well. This program began April 1, 2001, virtually problem-free. Since October 1, 2001, through April 15, 2002, 8.2 million prescriptions have been processed through the TRICARE retail pharmacy networks and the our National Mail Order Pharmacy program, providing over \$415 million in prescription benefits for our age 65 and over beneficiary population for the fiscal year.

Examples of the problems we identified and addressed with the initial implementation of TRICARE for Life include a group of 185,000 beneficiaries inadvertently excluded from the initial data match with CMS to verify Medicare Part A and B coverage. This problem did not involve denial of benefits for these beneficiaries. Rather, Medicare could not forward their claims automatically to TRICARE for the first 60 days. We have corrected this problem.

Another example involves approximately 4 percent of potentially eligible TFL beneficiaries who have not revalidated their military benefits eligibility status as required every four years. This affected only family members, as retirees retain eligibility without periodic revalidation. The failure to revalidate eligibility (sometimes referred to as obtaining a new ID Card) resulted in claims being denied. We implemented several changes to address this issue:

- We determined that the potential for these individuals to be eligible is so high that TRICARE began paying claims for these beneficiaries February 15, 2002. Concurrently we are notifying each beneficiary through personal letters and Explanation of Benefits messages that they must revalidate their eligibility. We will continue paying claims for these individuals through August 1, to allow them ample opportunity to update their eligibility.
- The Defense Manpower Data Center developed a letter that beneficiaries may sign and return to validate their continuing eligibility. This eliminates the need to travel to an ID card issuing facility to obtain a new ID card. In the meantime, DOD will track these beneficiaries and use every reasonable means to assist them with this process.

—In addition to contacting individual beneficiaries, we will renew our efforts through the media, caregivers, beneficiary organizations, and other organizations to inform all beneficiaries about their TRICARE for Life opportunity.

Sub-acute and Long Term Care.—The reform actions implemented through NDAA 2002 ensure availability of high-quality sub-acute and long-term medical care and services for all DOD beneficiaries in the most efficient manner. The new authority to provide home healthcare and respite care for qualifying active duty family members supports readiness through the improved quality of life for special needs families. Alignment of the TRICARE benefit and payment system for skilled nursing facility and home health care with Medicare will greatly improve coordination of benefits for our age 65 and over beneficiaries and simplify authorization and provision of medically necessary sub-acute and long-term care for all.

Portability.—The TRICARE National Enrollment Database (NED), implemented July 2001, provides health coverage portability to all TRICARE Prime enrollees. NED provides a standardized beneficiary-centered enrollment process and eliminates the procedural and automated systems' disconnects that existed throughout the military health system, including the contractors' systems, prior to the implementation of the NED.

In our continuing efforts to improve and optimize our military health system, the military services have developed and submitted plans to invest the fiscal year 2001 and fiscal year 2002 optimization dollars provided by Congress. Service health leaders developed the MHS Optimization Plan in 1999 setting forth an overarching five-year strategy to guide health system improvements to achieve a more efficient, cost-effective, world class integrated health system. The foundation of the optimization plan is population health improvement and prevention. A Special Assistant for Optimization was established at the TRICARE Management Activity to assist in integration of these efforts. A MHS Population Health Improvement Plan and Guide has been published which provides our clinical staffs with guidance for most efficiently managing the health of our beneficiaries.

We remain focused on the quality of care delivered within military treatment facilities and by our TRICARE providers. We have established performance measures for our facilities—and measuring ourselves against national benchmarks for outcomes and utilization. We will establish a Quality Forum this year to better integrate our delivery system and truly become a quality-driven organization.

Finally, there is a renewed focus on customer service and satisfaction in TRICARE. Our medical and line leaders regularly review customer satisfaction measures from around the country. We are assessing improvements in satisfaction with access, quality and staff courtesy. We introduced TRICARE On-Line in several pilot sites to further empower our patients, and simplify the interaction with the health care system—to include on-line enrollment and appointing services. In our next generation of TRICARE contracts, we are seeking to appropriately incentivize contractor performance and innovation on behalf of the patient.

COORDINATION, COMMUNICATION AND COLLABORATION

The MHS has built many strong relationships among other federal agencies—including the Congress—professional organizations, contractors and beneficiary and military service associations. These relationships facilitated the MHS's ability to respond in the aftermath of the terrorist actions of last fall. The MHS role in the new homeland security responsibilities will span an array of federal, state and local agencies and will demand effective cooperation among all involved. Our close working relationship with beneficiary associations and our contractors can be credited for the smooth implementation of TRICARE for Life.

DOD's collaboration with the VA dates back many years and much has been accomplished. We have eight joint ventures throughout the country providing coordinated healthcare to VA and DOD beneficiaries. We have over 600 sharing agreements in place covering nearly 7,000 healthcare services. However, all of these agreements are not fully utilized. Eighty percent of VA facilities partner with us through our TRICARE networks. It should be noted, that the level of participation by VA within the TRICARE networks varies. Our reserve components capitalize on education and training opportunities with over 300 agreements in place. DOD, VA and the Indian Health Service collaborate in the Federal Health Care Information Exchange (formerly known as the Government Computerized Patient Record) which will enable DOD to send laboratory results, radiology results, outpatient pharmacy, and patient demographic information on separated Service members to the VA. Before fiscal year 2005, we expect not only to have the ability to transmit computerized patient medical record data to VA but also to receive this information from VA. While we have achieved many successes, it is time to reinvigorate these collabo-

rative efforts to maximize sharing of health resources, to increase efficiency, and to improve access for the beneficiaries of both departments. The focus of our efforts is to move the relationship with the VA from one of sharing to a proactive partnership that meets the missions of both agencies while benefiting the service member, veteran and taxpayer.

Our vision of DOD/VA coordination is a mutually beneficial partnership that optimizes the use of resources and infrastructure to improve access to quality health care and increase the cost effectiveness of each department's operations while respecting the unique missions of the VA and DOD medical departments. Our guiding principles include collaboration; providing the best value for the taxpayer; establishment of clear policies and guidelines for DOD/VA partnering; and fostering innovative, creative arrangements between DOD and VA. As DOD and VA move toward a more proactive partnership, we have established short-term goals to be accomplished during this fiscal year. These include establishing solid business procedures for reimbursement of services, improving access to health care through VA participation in TRICARE, examining joint opportunities in pharmaceuticals, facilitating healthcare information exchange, and establishing a long-range joint strategic planning activity between DOD and VA. We will accomplish this through the VA-DOD Executive Council, where senior healthcare leaders proactively address potential areas for further collaboration and resolve obstacles to sharing.

Concurrent with these ongoing efforts, DOD actively supports the President's Task Force to Improve Health Care Delivery to Veterans announced by President Bush on Memorial Day 2001. DOD has provided office space, administrative support and functional experts to ensure the Task Force accomplishes its mission of developing recommendations to improve quality and coordination of healthcare for our nation's veterans. I will continue to work closely with my colleague, Dr. Gail Wilensky, to ensure the success of the Task Force in meeting their objectives; and we look forward to the Task Force's recommendations.

MILITARY MEDICAL PERSONNEL

The Quadrennial Defense Review directs development of a strategic human resource plan to identify the tools necessary to size and shape the military force with adequate numbers of high-quality, skilled professionals. The MHS depends on clinically competent, highly qualified, professionally satisfied military medical personnel. In developing the MHS human resource plan, we have begun several initiatives to determine retention rates, reasons for staying or leaving the service, and what factors would convince one to remain in the military.

At the request of Congress, we commissioned a study by the Center for Naval Analyses (CNA) to examine pay gaps, retention projections, and the relationship between pay and retention. We acknowledge the significance of the findings. The CNA study shows a relationship between pay and retention—although it points out that there are factors other than pay that affect retention. A typical military physician—for example, a general surgeon with 7 years of service—receives one-half of his or her income in “incentive pays.” CNA estimates the “pay gap” for the surgeon is currently \$137,000, or 47 percent. The challenges of military service can be unique and tremendously rewarding personally and professionally. We know that financial compensation is not the sole determinant of a medical professional's decision to remain in the service or to leave. We can never expect to close the pay gap completely. However, we are concerned by the CNA findings and are analyzing them now. The ability to shape military medical staff size and mix with appropriate pay and other human resource management tools are critical to meeting our mission requirements.

We will simplify the health professions' compensation system to place more management authority within the Department. The rapid pace of change in the civilian healthcare personnel market, which competes directly with our military accession and retention programs, requires flexibility in the management of pay for optimum effectiveness.

Additionally, we are expanding our use of the Health Professions Loan Repayment Program (HPLRP). The President's Budget provides funding for an increase of 282 scholarships. In addition we are exploring ways the Department can maximize use of incentives in the efforts to optimize the accession and retention of appropriate personnel to meet mission requirements.

MILITARY HEALTH INFORMATION SYSTEMS

We leverage advances in information technology to contribute to the delivery of quality care, patient safety, improved system management and ease of patient access to healthcare. An essential element of quality remains the assurance of the credentials of the health professionals practicing in our health system. We have now

in operational testing at ten military medical facilities a single database that supports the management of the professional credentials for active and reserve component health personnel across all services. We anticipate that this system, the Centralized Credentials Quality Assurance System, will begin full deployment to all sites in the very near future. We plan to explore the potential for integrating this system with the Veterans Administration's credentials system, VetPro.

The Theater Medical Information Program, nearing implementation, supports the medical readiness of deployed combat forces. This system will aggregate medical information from all levels of care within the theater thereby supporting situational awareness and preventive medicine needs for operational forces. Medical data generated at battlefield locations will be transmitted to a central theater database, where the command surgeon will have a comprehensive view of the theater medical battlefield and be in a better position to manage the medical support to all forces. This system serves as the medical component of the Global Combat Support System and has an integrated suite of capabilities that includes the Composite Health Care System II. User testing will be conducted this summer during Exercise Millennium Challenge and initial operational test and evaluation is scheduled for later this year.

The Military Health System has successfully created an electronic computer-based patient record. The Composite Health Care System II (CHCS II) generates, maintains and provides secure electronic access to a comprehensive and legible health record. CHCS II merges the best commercial off-the-shelf applications on the market into a single integrated system capable of worldwide deployment both in fixed facilities and in the field environment, as part of the Theater Medical Information Program. The Composite Health Care System II will undergo formal operational test and evaluation this summer. Once completed, a worldwide implementation decision will be made.

The Executive Information/Decision Support Program assists health managers at all levels throughout the MHS. This program provides an exceptionally robust database and suite of decision support tools for health managers. It supports managed care forecasting and analysis, population health tracking, MHS management analysis and reporting, Defense medical surveillance and TRICARE management activity reporting. The data repository began operating in fiscal year 2001.

The Defense Medical Logistics Standard Support Program reflects how information technology and business process re-engineering can lead to significant return on investment and tremendous user satisfaction. This program provides responsive medical logistics support to all military services. Electronic catalog sales have grown from \$204,000 in April 1999 to over \$23.2 million in fiscal year 2001. The prime vendor section of this program has grown to electronic sales of \$1.3 billion in fiscal year 2001. More importantly, it has reduced procurement lead times from up to 45 days to 2 days or less, reduced medical logistics inventory by 85 percent and allowed a 95 percent fill rate with delivery in less than 24-hours. This program is the first in DOD to receive Clinger-Cohen Act certification.

TRICARE Online uses the Internet to assist our beneficiaries gain access to the Military Health System. It is an enterprise-wide secure Internet portal for use by all DOD beneficiaries worldwide. It provides information on health, medical facilities and providers, and increases patient access to healthcare. Beneficiaries may create their own secure health journals securely on this site, TRICARE Prime patients may make appointments with their primary care providers, and all beneficiaries may access 18 million pages of health and wellness information. This system is scheduled for worldwide deployment later this year following operational testing now underway.

We believe that our medical technologies can be helpful to the Department of Veterans Affairs and together we are exploring joint technologies as a means for closer collaboration.

As the MHS pursues the many initiatives outlined above, it will become even stronger. The Military Health System's continued mission-oriented focus on its primary responsibilities has further cemented its world-renowned stature as a leader in integrated healthcare.

Again, I thank you for this chance to speak with you about the Military Health System and the exceptional people who make it the vibrant, innovative, comprehensive system that it is.

Senator INOUE. Thank you very much, Mr. Secretary. We will be asking questions after we are done with the speakers. I will now recognize Lieutenant General Peake.

General PEAKE. Mr. Chairman, thank you very much for the opportunity to represent Army medicine before the committee today.

Last week two soldiers were posthumously awarded the Medal of Honor, one an Army dentist recognized for his actions in the South Pacific, which makes 52 Army medical personnel inducted into that hall of heroes.

One of the many Medal of Honor recipients that I was chatting with there came up to me and said, you know, the medic in my unit deserved that more than I did. The tradition of heroism continues today in Afghanistan and around the world, and the medic will be recognized by medals and decorations that will be determined in the near future, but hopefully the not too distant future.

I can tell you today that it is appreciation by those young soldiers who have come back through the hands of medics to places like Walter Reed, who have had extremities saved, whose lives have been spared because we have quality people to do that. Those soldiers I visited at Walter Reed were wounded on a Monday, and telling the story of their journey to a forward surgical team in Afghanistan, to the combat support hospital in Uzbekistan, air evac to be reoperated on in Landstuhl, Germany, and at Walter Reed by Saturday night. They and their families appreciate that kind of care. It is a pretty direct contribution to our country and for this effort, taking care of those in harm's way.

I visited the National Library of Medicine last week, a magnificent institution that is part of the National Institutes of Health. It serves the Nation and really serves the world. It started as the Library of the Army Surgeon General, as a cross-referencing system that has been the information enabler of medical research, the Index Medicus. It came about because an Army doctor had \$82,000 appropriated for the Surgeon General's Library, and began that cataloging effort, a value to the nation.

Today the Armed Forces Institute of Pathology is another such world class national, international asset, with collections of pathologic specimens that go back to our Civil War and with recognized scientific and educational leaders that will leverage that scientific repository. They have leading edge forensic identification and that is called upon in virtually every major disaster, the September 11 terrorist attack now not even the most recent.

But September 11 sure did highlight the value of our men and women. Response right here with environmental teams from our Center for Health Promotion and Preventive Medicine, now commanded by Brigadier General Bill Bester, the expertise of our experts in infectious disease in dealing with things like the anthrax letters, our folks were proud to contribute in such an important and visible effort.

But that enthusiasm for our contribution is part of our culture. I would like to read just a short extract from an e-mail from one of our surgeons to the colonel who trained him in surgery. It says, "I did an awesome case yesterday on a Special Forces soldier who had blown off a drop zone during a jump and did his PLF, a parachute landing fall, into the tail end of a truck. He came in shock with a rigid abdomen. He had a huge liver laceration, the biggest and deepest I have seen.

I took your advice and packed him immediately, and did a modification of your temporary abdominal closure, and it worked like a charm. I had to take him to the Hospital Militaire for Intensive

Care Unit (ICU) care, and then brought him to meet the Air Force critical care team that took him to Brooke Army Medical Center. All of the adjuvant stuff recently had made me forget how cool it is to be an Army surgeon.”

Well, that one came from Honduras, it’s not just in Afghanistan. We are engaged all over the world in taking care of soldiers and looking after our forces. The Hospital Militaire is a Honduran hospital where he had built a relationship with the physicians there. That ability of military medicine to bring people together in a positive way is important.

Admiral Cowan and I recently spent some time together in Malaysia, where the medical leaders of 26 Asian Pacific countries gathered. That meeting was run by Major General Nancy Adams, who has done a superb job of medical leadership in that region, in sharing American values and opening constructive dialogue in places like China and Vietnam. Kosovo, Bosnia, Afghanistan, our combined laboratory in Thailand, are all places today where that medical coalition plays out to benefit soldiers directly, and the ongoing missions on a broader scale.

The foundation for our ability to contribute in these many ways comes from our direct care system. That is not only our force protection platform and our training base, but also the basis for the delivery of arguably the finest health benefit around, the TRICARE benefit that Dr. Winkenwerder spoke about. The tremendous steps forward to fulfill the promise of TRICARE for Life resounds in every single retiree group with whom I meet, and it is well recognized also by those on active duty today.

TRICARE Prime Remote for family members, now implemented with interim rules, a pharmacy benefit that was put in place on time on target last April by the TRICARE Management Association (TMA) team, all have been important success stories in this story.

All of that said, we can’t sit still. My Chief, General Shinseki speaks eloquently and more importantly, is aggressive in his leadership to transform the Army and insure relevance to meet the missions of the 21st century, of leveraging the technological promise of doing things better. We in medicine must keep up with that vision, linking our battlefield medics more easily, pushing our research base for things like fiber bandages, blood substitutes on the battlefield, and the next generation of vaccines for diseases that we will not face at home but present threats to our soldiers deployed. We keep proactively detecting the emergence of new diseases. Understanding things like mad cow disease. Engineering the best business practices for the delivery of population health. All of these things have a positive spin-off in the care of soldiers and their families and for being models for the Nation.

PREPARED STATEMENT

Again, I thank you for the opportunity to appear here today. We really appreciate this committee’s support for the care of soldiers so consistently and over so many years, sir. And more importantly, our soldiers and their families appreciate it. I look forward to your questions.

[The statement follows:]

PREPARED STATEMENT OF LIEUTENANT GENERAL JAMES B. PEAKE

Mr. Chairman and Members of the Committee, I am Lieutenant General James B. Peake. I thank you for this opportunity to appear again in front of your committee. It is my privilege to serve as the 40th Army Surgeon General.

This morning I would like to discuss the opportunities and challenges that face the Army Medical Department (AMEDD) as we provide medical support to the force. As we all know, the terrorist attacks of September 11, 2001, have dramatically changed America and the world. On that day Army medics were front and center providing quality and compassionate health care to their fallen comrades at the Pentagon. Today as I speak, Army medics are providing that same quality and compassionate care in support of Enduring Freedom and many other operations around the world to include our homeland. The AMEDD is uniquely capable of supporting these operations. The depth, breadth, and flexibility of our capabilities based medical force enable us to place an integrated health care delivery system any place in the world. Stories of how our combat medics are providing life saving care to injured soldiers in Afghanistan—followed by rapid evacuation to an Army forward surgical team, to a deployed combat support hospital and back to Landstuhl Regional Medical Center or Walter Reed Army Medical Center—demonstrates how well we take our combat casualty care from point of injury back to the United States for tertiary care. Today we have similar medical systems established in Bosnia, Kosovo, Philippines, and Kuwait.

While all of these have been considerable challenges, we have met our October 1, 2001, NDAA commitment to military retirees age 65 and over by implementing TRICARE Plus and continue today to ensure our military families receive quality, seamless healthcare as their family members deploy to fight this war.

The September 11, 2001, attack on America resulted in the Army expanding its focus by programming resource requirements to the protection of the homeland, while sustaining the transformation process to ensure continued dominance across the full spectrum of operations anywhere in the world. The AMEDD's resource priorities for both the fiscal year 2004–09 Army and Defense Health Program (DHP) will focus on the key capabilities necessary to fulfill the obligations to the Army and its family. They will also be consistent with the Quadrennial Defense Review (QDR) guidance and the Chief of Staff, Army Vision: Readiness, People, and Transformation. All of these resources support the three fundamental components of our mission: Deploying a Trained and Equipped Medical Force; Projecting a Healthy and Medically Protected Force; and Managing the Health of the Soldier and the Military Family.

Deploy a Trained and Equipped Medical Force

Medics in support enable the Soldier to be on point for our Nation. In October 2001, we began a new era of Army Medicine. Army Healthcare Specialists, active and reserve, now attend a 16-week training program at the Army Medical Department Center and School. This new Medical Occupational Specialist (MOS) is the 91W. Training is focused on emergency care, primary care, medical force protection, and evacuation and retrieval. All medics now graduate with National Registry Emergency Medical Technician certification and will require routine revalidation of their critical medical skills. Over the next few years we will be transitioning all of our health care specialists to this enhanced standard.

Army graduate medical education (GME) programs are the keystones to the quality of Army medicine. Our GME programs include military-unique aspects of a given specialty, which prepares physicians for the rigorous demands of practice in a wartime or contingency environment. Residents receive orientations and lectures concerning war zone injuries, trauma and military deployments. Additionally, they attend formal training that includes a centralized combat casualty care course, advanced trauma life support, and medical management of chemical and biological casualties. After completing an Army graduate medical education, a physician is uniquely qualified to deploy at all levels within the theater of operations to support the military medical mission. We now place board certified physicians in our brigade and division surgeon positions to ensure our divisional soldiers receive the highest levels of care regardless of where they are in the world.

We must ensure that the infrastructure and the capabilities of the institutional AMEDD are robust and are leveraged to meet our obligations to operational forces. We do this through comprehensive, planned support to Power Projection Platforms, by deployment of a trained and expert medical force through professional officer filler system (PROFIS) and assignment rotations, and by targeted new initiatives that can fill operational medical gaps anywhere in the world as well as in support of homeland defense requirements.

To have a capable and ready Army medical force, we must have the ability to recruit and retain quality, highly skilled health care professionals. We are 8 months into what is projected to be a long war on terrorism, a war that will take us around the globe and will require the sustained efforts of our entire military—active and reserve. Without the ability to recruit and retain these vital health care professionals we face personnel shortages that could prove harmful to our deployment platform. For example, we continue to explore all sources to accomplish the recruitment of sufficient nurses to support all of our current missions. Unfortunately the nurse shortage that is being experienced generally is also being experienced within the Army Nurse Corps. We are particularly concerned about our Nurse Anesthetists and our Operating Room Nurses who are critical for our deployment mission.

Our Reserve Medical Forces are valued members of the Army. This is particularly true of the AMEDD where in 2002, 63 percent of the total medical force is in the Reserve Components. Ensuring that all reserve forces are medically prepared, and that Soldiers are healthy, is a critical issue for the Army. The Federal Strategic Health Alliance (FEDS-HEAL) is an important program to assist in providing medical and dental care to reserve forces. We must ensure that our reserve members are medically and dentally ready, so when called upon they can immediately deploy and fulfill their vital role as part of the AMEDD.

Medical evacuation of casualties from the battlefield has been one of the AMEDD's modernization priorities for several years and it remains so. Clearing the battlefield serves as a critical enabler for the combat commander, allowing him to concentrate on the prosecution of the mission. Air evacuation is the fastest and most flexible method, and the AMEDD has been working with the aviation community to improve the UH-60 Blackhawk and create a state-of-the-art evacuation platform—the HH-60L.

We have a balanced AMEDD Investment Strategy (AIS) that accelerates the provision of AMEDD capabilities to transition to the Interim Force and provides a bridge to the Objective Force. Concurrently, we must also ensure that the AMEDD's obligations to maintain the capability of legacy medical units through the recapitalization are met.

Wherever possible, we are incorporating acquisition and fielding strategies that extend our purchasing power, with priority given to earliest deploying units and those that are likely to be called upon for Small Scale Contingencies (SSC) and Homeland Defense. I want to provide the U.S. Army Reserve with medical equipment sets that are operationally capable of responding to homeland or SSC requirements. We are also improving our worldwide posture by ensuring that medical materiel in Army prepositioned stocks is modern, complete, and properly maintained.

Another AMEDD modernization effort is exploratory work on the next generation of medical shelter systems. These systems will have multi-functional design that will allow for quick reconfiguration for multiple medical applications. At home or abroad, across the spectrum of conflicts and full ranges of environments including chemical and biological scenarios, these shelter systems will improve the quality of care for our patients.

To promote tactical mobility, the AMEDD is working with the Transportation Corps to define medical requirements for trucks in the Family of Medium Tactical Vehicles (FMTV). The FMTV-LHS consists of a truck with a pneumatic load-handling system that will be used to transport current and future deployable medical systems. Tactical mobility will be a critical factor on the battlefields of the future and the medical force must be able to keep pace with the maneuver elements.

The United States Army Medical Research and Materiel Command has awarded a four year, \$13.95 million contract to the American Red Cross for a hemostatic dressing using the blood clotting agents fibrinogen and thrombin, shown to be much more effective at stopping massive bleeding than traditional gauze bandages. There are estimates that a bandage like this could have saved 3,000 to 7,000 lives in Vietnam. We expect to obtain FDA approval and have the product in the field by 2006. Blood substitutes and freeze-dried blood should allow the medics to carry the replacement blood needed to stabilize patients.

Currently, in our field hospital in Uzbekistan, a system for concentrating air for hospital oxygen is being used in support of Enduring Freedom. This system avoids transporting heavy canisters of bottled oxygen, eliminating the requirement to transport some 17 tons of hazardous material from a Combat Support Hospital's basic load. Further development of digital radiography is a medical readiness enabler. Digital x-rays allow facilities near the front to have images without heavy film developing systems. The Digital Imaging Network-Picture Archiving and Communications Systems (DIN-PACS) provides us with reliable and consistent management of digital images within and between medical treatment facilities, avoiding film-based environmentally hazardous chemical processing and improving access

and relative standard of care rendered to our patients. Teleradiology enables the secure transfer of images between fixed facilities and with deployed units for reach-back support, and helps the Army compensate for the continued attrition of radiologists by leveling digital workloads across wide geographic areas.

Using new technologies, digitization, and enhanced mobility to achieve a lighter, faster, more responsive medical capability will ensure that military medicine is there to support the deployed service member.

Project and Sustain a Healthy and Medically Protected Force

We must provide the capability to train, project and sustain a fit and healthy force that is protected against disease and non-battle injury. We must continue to develop and sustain effective disease- and injury-prevention programs that increase productivity and improve the health and fighting strength of the force. We must improve and streamline rehabilitative services for injured and ill soldiers to expedite return to full duty status. A good example of this is our Center of Excellence for Land Mine Injuries at Walter Reed Army Medical Center. We are able to take soldiers who have been wounded in Afghanistan to WRAMC and provide comprehensive reconstructive surgery and rehabilitative services in one stop.

Finally, we must continue to develop and maintain surveillance programs and databases to monitor the health and medical readiness of the force. We must be able to reliably detect and assess threats to health from the environment this includes the timely identification of infectious diseases, chemicals, climatic extremes, and other hazards. We have done this in Operation Enduring Freedom by sending in our Special Medical Augmentation Team-Preventive Medicine (SMART-PM) to collect, analyze, and summarize occupational and environmental health exposure surveillance data.

Among the lessons learned by military medicine from the Persian Gulf War is the importance of Force Health Protection and the need for attention to it before, during, and after the deployment. It is the leverage of information and information systems that will allow us to take this core competency of military medicine and make major advances. We continue to work towards a longitudinal and queryable digital patient record that will facilitate this proactive approach.

Environmental monitoring entails knowledge of potential health threats in the air, water, and soil to which our service members are exposed. Army Preventive Medicine Units are currently assessing the occupational and environmental health risks to our force in Afghanistan, Bosnia, Kosovo, Kuwait and numerous other locations throughout the world. For example, our medics are monitoring our troops for altitude sickness; a health threat when fighting at high altitudes in Afghanistan. There are also some age-old diseases that we continue to combat such as tuberculosis and malaria that have the potential to affect the combat readiness of our troops and newer ones like HIV that we continue to research and study as we plan for future operations. While some of these medical threats might not be of interest to the U.S. population, they are important to the military. We place U.S. Forces in areas where these diseases pose serious threat to our Soldiers.

Our abilities are not limited to surveillance of our military personnel. When an anthrax laced letter was opened in Senator Daschle's office the U.S. Army Medical Research Institute of Infectious Disease (USAMRIID), one of only two Level D Laboratories in the Nation, immediately provided the expertise to confirm that it was indeed anthrax. The Center for Health Promotion and Preventive Medicine provided a SMART-PM to developed strategies along with the CDC and EPA to confirm and document the presence of anthrax contamination in the U.S. Capitol building. The SMART-PM assisted in the sample planning and interpretation of analysis for over 20,000 samples for *Bacillus anthracis* collected in over 30 buildings. The Armed Force Institute of Pathology processed over 4,000 environmental and clinical specimens for study and or confirmation of anthrax from the National Capital Region.

Manage the Health of the Soldier and the Military Family

The healthcare of the soldier and the military family is a component of the Chief of Staff of the Army's Well-Being Initiative, and is our Priority One "must fund" DHP requirement. We are expected to have, and our beneficiaries deserve, a world-class system that supports peacetime and wartime contingency requirements, and we will achieve that in several ways. The President's fiscal year 2003 Budget ensures adequate funding for our health care system as it accounts for the cost of inflation and health care growth experienced throughout the health care industry. Our military medical readiness is inextricably linked to the direct care system. Our Army hospitals are the training bases and staging areas for deployment of world-class health care capability to support our soldiers anywhere in the world. Full funding to sustain this capability is essential. Historically, the DHP has survived

through supplementals and large year-end reprogrammings. This cannot continue. We need to establish and sustain the DHP at the appropriate funding level, as requested in the President's Budget, to ensure we can provide the excellent health care benefits that you have legislated for our soldiers. Through optimized clinical and business practices supported by a fully funded Defense Health Program, we can deliver the best possible medical care to our soldiers, family members and retirees, while ensuring an ability to support our military force in operations around the world.

I am programming targets for local investment in capital expense equipment to allow these expenditures to be programmatic rather than opportunistic. We must continue to comprehensively monitor resource requirements for the enhanced benefits authorized by the Fiscal Year 2001 National Defense Authorization Act (NDAA) and those authorized in the Fiscal Year 2002 NDAA, and include these requirements in our DHP submission. Additionally, we adequately program resources to support Occupational Health mission requirements.

I expect maximum utilization of our direct care system and I have charged my regional medical commanders with optimizing the productivity and utilization of our hospitals and clinics consistent with sound business practices. Investment capital will be targeted for business plans that meet strict return on investment criteria. Regional and local medical commanders will allocate sufficient resources for planning and execution of AMEDD obligations for deploying and deployed forces. This includes health and logistics support to Power Projection, installation protection, and facility expansion requirements. Any proposed new or expanded missions, to include advances in medical practices and technology, will be validated and approved prior to consideration for funding.

Physical facilities also have a key role in optimization. We need to systematically invest in the sustainment and recapitalization of our medical, dental and research facilities in order to meet the expectations of our customers and provide only the most modern health and research environments for our beneficiaries and staff. We also can use those investments to re-look our mission and our partnership opportunities with the VA, HHS and other health resource partners. One excellent partnering example currently exists at our new Bassett hospital replacement in Fairbanks, Alaska, where we are sharing our new building and other resources with the VA as part of the Alaska Federal Health Care Consortium. Other recent examples of target investment include the new James K. Okubo Health and Dental Clinic at Fort Lewis, Washington, serving both soldiers and their families in a new, modern outpatient setting close to home and workplace. These predictable developments contrast with unpredictable new mission requirements like Europe's Efficient Basing initiative or the Land Partnership Program in Korea. We need to be able to place the needed healthcare facilities in the right place at the right time to support the CINCs. It is imperative that we are able to provide these facilities in a timely manner.

The increased capacity in the military treatment facilities should reduce the cost of our TRICARE contracts. The competitive salaries packages available for civilian healthcare employees improve our ability to recruit and retain the best personnel in a competitive labor market. A final benefit of these investments is improved staff and patient satisfaction.

There are systems issues that enable us to optimize health care delivery. The AMEDD has been at the forefront of the Department of Defense in reengineering supply chain management, leveraging into strategic partnerships with the military services, the Defense Logistics Agency, and the Department of Veterans' Affairs to increase purchasing volume and obtain the best value. We have also invested in technologies such as Digital Imaging Networks, Point of Use systems, and pharmacy robotics to improve productivity, accuracy, and cost accounting. The AMEDD has embraced acquisition reform and electronic commerce initiatives to reduce paperwork, improve responsiveness, and enhance delivery of the healthcare benefit.

Army Medicine is more than an HMO. We follow in the proud tradition of such soldiers as Captain Ben Salomon, an Army dentist killed on Saipan in July 1944, the first dentist to receive the Medal of Honor. Our system of integrated care, teaching medical centers to outlying health clinics, schoolhouse to research and development, form the base for supporting the Army across the world and across the spectrum of conflict. We do that quietly and on a daily basis as we field the Table of Organization and Equipment (TOE) force, engage with both active and reserve forces, and respond to the Chief of Staff's vision of our Army's role in alleviating human suffering and transforming the Army, and ensuring our Soldiers have world class health care available no matter where they are deployed.

I would like to thank this Committee for your continued commitment and support to quality care for our Soldiers and to the readiness of our medical forces.

Senator INOUE. Thank you very much, General. May I now call upon Admiral Cowan.

Admiral COWAN. Mr. Chairman, it is a privilege to be here on behalf of the men and women of Navy medicine. I just returned from a Pacific trip, visiting the clinics and the hospitals in the Navy throughout the Pacific. I left Honolulu 2 days ago and woke up with laryngitis.

Since my comments mirror and echo Dr. Winkenwerder's and General Peake's, I would like to abbreviate my opening remarks and I have also submitted a written statement.

Since becoming the Navy Surgeon General last summer I have carried the message of Force Health Protection, that is, it is our job to produce healthy and fit sailors and marines, to protect them from all hazards as they go in harm's way, to restore the sick and injured while at the same time caring for their families at home, and finally, to help a grateful Nation thank its retired warriors by providing healthcare for life for them and their families.

The events of September 11th and beyond have only strengthened my conviction that this is the correct course for Navy medicine and the military health system. Two weeks ago I returned from a visit to Guantanamo Bay, Cuba, where I saw our Navy fleet hospital caring for the detainees. It was inspiring to see these Sailors performing high quality healthcare services to these 300 detainees, bearing their insults and hatred while not compromising their morality or their mission as members of the United States Navy. It was not luck nor coincidence that these and other responses to the contingencies since the terrorist attacks have been so successful; it's because we have devoted many years to force level protection. We have continuously trained, we have prepared and cared for our patients, and these units like the fleet hospital in Guantanamo are no different from any of the other thousands of men and women in Navy medicine.

I think we have been very successful, and that success could not have been achieved without the support of Congress. Congress has made great strides in funding this year and the future promises further stability. For this you have our gratitude. You have also been extremely helpful in defining the military health benefit through legislation and in the first full year of the National Defense Authorization Act (NDAA), both quality and access are increasing, as the health benefit continues to be the number one quality of life issue for retention in the United States Navy. Your continued support and stable and adequate funding insure that continuation so that we can deliver high quality care in the right places at the right time.

PREPARED STATEMENT

In closing, I simply thank you again for your support, and I am available for any questions.

[The statement follows:]

PREPARED STATEMENT OF VICE ADMIRAL MICHAEL L. COWAN

Chairman Inouye, Senator Stevens and other distinguished Senators, thank you for the opportunity to share Navy Medicine's accomplishments in 2001 and plans for the future.

We have successfully responded to many challenges placed before us as we continue to face a period of unprecedented change for medicine. The world, as we know it, changed dramatically on September 11th. Not since Pearl Harbor has America been attacked with such viciousness, and never have we had to deal with terrorism on such a scale coming to our homeland. We have had to make a “sea change” in our thoughts and actions. Until now, we always prepared to deploy to war somewhere else. During the Cold War, we prepared, trained and deployed to face our enemy. September 11th forced us to change our thinking, but not to abandon our mission.

My vision of Navy Medicine is Force Health Protection. To produce hyper-fit, hyper-healthy Sailors and Marines; protect them from all possible hazards when they go in harm’s way; restore the sick and injured, while at the same time caring for their families at home; and finally, help a grateful Nation thank its retired warriors by providing health care for life.

High quality care and health protection are a vital part of the Navy’s ability to execute worldwide missions. Just as the American people need to know that the Navy is guarding their safety, our Sailors, Marines, their families and retirees need to know they are protected by the best health care we can provide. Since becoming the Navy Surgeon General, I have preached the message of Force Health Protection through the business processes of Readiness, Optimization and Integration. The events of September 11th have only served to strengthen my conviction that this is the correct course for Navy Medicine. We’re building on great success. We have the right men and women, and we have the right focus. I would like to share with you my current efforts to frame Navy Medicine’s mission.

Readiness

I believe readiness consists of two parts: preparing a ready sailor or marine and our own organizational readiness within Navy Medicine.

The response of our medical professionals to the events of September 11th provides a heartening illustration of our readiness to respond . . . our preparedness to fulfill our mission. It was shown clearly by the men and women who assisted at the scene of the Pentagon, who, without hesitation, bravely went to their battle stations. It was also clearly shown by the people of the Hospital Ship USNS *Comfort*, and supporting facilities, who had done their homework, made preparations, conducted drills, had their sea bags packed, had their affairs in order, and were ready to go. It was shown by our preventive medicine teams and research commands in their response to the anthrax attack on the Capital. Their effort and responsiveness helped ensure the continuity of our government operations.

After the terrorists struck the Pentagon, our Navy medicine people were among the first to respond. Numerous naval medical personnel at the Pentagon ran to the crash site and even as officials screamed warnings of another incoming plane, none left their burned or injured victims. As the hours passed, they also began treating firefighters and other rescue personnel. Most stayed all night and into the next day. Members of the National Naval Medical Center’s Special Psychiatric Rapid Intervention Team (SPRINT) were mobilized at a location near the Pentagon and provided stress management assistance and one-on-one counseling, aiding an estimated 1,500 individuals during a 2-week period following the attack.

I would also like to elaborate on the response of the USNS *Comfort* who provided care and respite to New York City’s rescue and recovery workers, firefighters and policemen. Within 12 hours of being notified, on 12 September 2001, the USNS *Comfort* left its berth in Baltimore with staff members from the National Naval Medical Center and other commands and headed to New York City. As the ship arrived at Earle, New Jersey to on-load provisions and pharmaceuticals, it received orders to change its mission. It would now provide logistical and support services to emergency personnel working in the disaster recovery area. In little more than an hour, 450 medical and support personnel packed, disembarked and boarded buses for a return trip home. The smooth transition from a treatment facility to a support oasis for exhausted firefighters and rescue workers trying to save lives in Manhattan, exemplified the flexibility of our staff.

Preparedness was also underlined by the Navy staff of the Capitol Hill Clinic, Naval Medical Research Center and the National Naval Medical Center who responded to the anthrax attack on the Capital. The ability to rapidly detect and identify a bioterrorism (BT) incident is the foundation for the response to such an event. The Biological Defense Research Directorate (BDRD) of the Naval Medical Research Center (NMRC) originally pioneered rapid detection of potential Bioterrorism/Bio-warfare (BT/BW) agents during the Gulf War. BDRD pioneered the development of rapid hand-held assays for the detection of BT/BW agents. These rapid and robust assays are similar in principle to home pregnancy tests and provide an initial

screening tool for identifying BT/BW agents within 15 minutes. BDRD was called upon to test Capitol Hill buildings and provide invaluable information on the levels of contamination. Responding to Capitol Hill staff exposure to the anthrax bacterium, Navy Medicine provided over 7,000 anthrax swabs to Congressmen, their staff and other Capitol Hill employees. Numerous individuals were put on prophylactic prescriptions of antibiotics and were closely monitored for any complications. These efforts were key to keeping the Government “open for business”.

Navy Medicine has also recently deployed Fleet Hospital 20 to Naval Base Guantanamo Bay, Cuba. With the help of Seabees, staff from Naval Hospital Camp Lejeune, North Carolina and other hospitals, cleared the land and set up the fleet hospital, providing ethical and humane treatment to detainees. I have to share my pride in how Navy healthcare professionals “knew where their battle stations were” and responded in setting up 27 required beds in less than 10 hours.

Whether responding with triage and emergency medical treatment at the Pentagon, or swiftly manning up a 250-bed hospital aboard the USNS *Comfort*, setting up a field hospital or responding to biological threats in these Congressional Halls, our response has been mission done exactly right—as the American people expect.

Navy Medicine tracks and evaluates overall medical readiness using the readiness of the platforms as well as the readiness of individual personnel assigned to those platforms. The platforms include the 2 one thousand bed hospital ships, 6 Active duty and 4 Reserve 500 Bed Fleet Hospitals, 84 Casualty Receiving and Treatment ships (CRTS) and medical units assigned to augment the Marine Corps and our overseas hospitals. One measure of readiness is whether we have personnel with the appropriate specialty assigned to the proper billets; that is, do we have for example surgeons with the right skills assigned to surgeon billets. The readiness of a platform also involves issues relating to equipment, supplies and unit training. Navy Medicine has developed a metric to measure the readiness of platforms using the Status of Resources and Training (SORTS) concept tailored specifically to measure specific medical capabilities such as surgical care or humanitarian services. Using the SORTS concept, Navy Medicine has increased the readiness of 34 “Tier 1” deployment assets by 23 percent.

Feeding the SORTS system is a program known as the Expeditionary Medical Program for Augmentation and Readiness Tracking (EMPART) which Navy Medicine uses to monitor the deployment readiness of individual personnel within the Navy Medical Department. Personnel are required to be administratively ready and must meet individual training requirements such as shipboard fire fighting, fleet hospital orientation, etc. Individual personal compliance is tracked through EMPART.

Augmentation requirements in support of the operational forces have significantly increased. Our Total Force Integration Plan utilizing both active and reserve inventories has greatly improved our ability to respond to these requirements. Navy Medicine’s demonstrated commitment to supporting the full spectrum of operations is mirrored in our motto “steaming to assist” and is in full partnership with the Navy’s “Forward Deployed, Fully Engaged” strategy.

I also believe that in order to achieve Force Health Protection we need a metric for measuring health readiness of our fighting forces. This measure must be beyond the traditional “C-Status metric”, which lacks a true measure of one’s health. My staff is in the process of developing this measure of individual health, which will also facilitate our measure of population health.

Retention

Finally, as we work to meet the challenges of providing quality health care, we must not forget the crucial role of our health care providers. We appreciate and value our providers’ irreplaceable role in achieving our vision of “superior readiness through excellence in health services.” We need to do a better job however demonstrating this value, much earlier in an officer’s career. I am particularly concerned about our retention rates for both enlisted and officer medical specialties. The critical skills retention bonus will enable us to increase retention rates for both officers and enlisted. In addition, we appreciate the accession bonus provided in the fiscal year 2002 NDAA as it adds another very powerful tool to our toolbox to improve retention.

Medical Corps

The annual loss rates for the Medical Corps, as a whole has held steady at 8–9 percent and the primary care communities are healthy. However, loss rates within certain specialties are very high. Specialties such as General Surgery have a loss rate over 22 percent, Orthopedic Surgery at 27 percent, and Anesthesia at 22 percent. Several wartime critical specialties are undermanned, including anesthesia (74

percent), cardio-thoracic surgery (46 percent), and orthopedic surgery (81 percent). In addition, we predict a large exodus of radiologists in the next two years as many reach the end of their service obligations.

Our focus must be on more flexible pay, raising the specialty caps, and removing the restrictive aspects of contracts. The surgical specialists, in particular, have significant pay gaps with their civilian colleagues (often in excess of \$100,000 per year).

Distribution problems result where we are not able to keep pace with attrition in some specialties. We have several military treatment facilities where we are unable to assign a military radiologist. The enormous gap in pay between the services and the civilian market for radiologists makes it difficult to recruit or retain. In addition, we have not been able to adequately contract for these specialties. For example, at Naval Hospital Great Lakes we established a \$400,000 personal services contract for a radiologist, and for over a year no one applied. Our best option is to "grow and retain" our specialists.

Dental Corps

Despite efforts to improve dental corps retention, the annual loss rate between fiscal year 1997 and fiscal year 2001 increased from 8.3 percent to 10.5 percent. Current projections for fiscal year 2002 suggest an 11.5 percent loss rate. The significant pay gap compared to the civilian market and the high debt load of our junior officers seem to be the primary reasons given by dental officers leaving the Navy.

Nurse Corps

Navy Medicine continues to monitor the nationwide nursing shortage and its impact on the Nurse Corps. To date, we have been relatively healthy in our recruiting efforts through diversified accession sources; however, we are in direct competition with the private sector for a diminishing pool of appropriately prepared registered nurses, particularly in the specialty areas. Meeting operational and peacetime healthcare delivery missions with appropriate numbers of maternal-child, psychiatric, and perioperative nurses will be particularly challenging. Currently, board certification pay is authorized only for Nurse Practitioners (NP), Certified Registered Nurse Anesthetists (CRNA) and Certified Nurse Midwives (CNMW). So far, the CRNA incentive special pay program has been successful.

Medical Service Corps

In the Medical Service Corps, we are experiencing a relatively stable annual loss rate of 9 percent; however, loss rates vary significantly between specialties. A key issue for this community is that many of our health professionals incur high educational debts prior to commissioning. Recent increases in loan repayment requirements causes issues for many junior level officers trying to repay their education loans.

The critical specialties to recruit and retain at this time are optometry, pharmacy, psychologists and environmental health officers. Navy-sponsored training is currently provided to some optometry students, which has helped with high loan problems. In addition, we have several other scholarships and pay initiatives which are being pursued to assist in recruiting and retaining optometrists. While we expect success with optometry recruiting, we expect retention challenges.

Pharmacy is another difficult community with our current end strength only at 91 percent. We access pharmacists through direct accessions and the Health Services Collegiate Program (HSCP).

Enlisted Members

Within the Hospital Corps I am most concerned about under-manning in five Navy Enlisted Classifications (NECs). In the operational force, search & rescue corpsmen are manned at 69 percent and corpsmen for USMC reconnaissance battalions at 59 percent. In our MTFs, psychiatric technicians are staffed 57 percent, orthopedic technicians 66 percent, and advanced laboratory technicians 75 percent. Dental technician shortfalls are beginning to appear both in recruitment and retention.

Optimization—Embrace Best Business and Clinical Practices

There is no more important effort in military medicine today than implementing the MHS Optimization Plan to ensure the most efficient and effective delivery of health services to our Sailors, Marines and their families.

Analysis of our direct care system indicates that in many cases, Military Treatment Facilities are not optimally staffed or resourced to deliver efficient health care. For example, a Family Physician working with two clinical support staff may be able to effectively care for a panel of 750 adults. When given the industry standard

of 3.5 support personnel, that same provider may assume responsibility for 1,500–2,000 adults. The Optimization Plan requires the cost of additional support staff to be recouped via higher throughput. When the volume of care is increased through more efficient processes, a return on investment is generated in which the actual cost of health care is lower.

We must find new ways to allow our people to fulfill their duties in the most efficient manner possible. Our men and women continue to improve their skills in the medical field and incorporate best business practices. This result has been achieved while maintaining our high quality of health care delivery. In the future, we must continue to equip our people with the latest knowledge and technology needed to maintain this high level of service.

The added resources from the Optimization Fund are most welcome, and are being wisely invested in areas that will bring the greatest return. With this investment our commanding officers are developing some very innovative measures at the Military Treatment Facility (MTF) level.

Navy Medicine initiated an aggressive strategy to capture the best evidence-based clinical and population health practices of a number of key health care systems. Sharing these benchmark practices promotes improvement and optimization. Vigorous performance measurements provide additional focus and direction, ensure strategic alignment, and serve as a progress reports. Strong work to date has already resulted in many well-articulated goals and objectives at our MTFs for needed changes. The most immediate challenge that I see is using performance measurement to drive these organizational changes.

In the Navy, we are making available comparative performance data on all facilities—so MTF commanders can see where they stand compared to others. Hopefully, the low scoring ones look at the higher scoring ones, see what they are doing, and make the appropriate changes to raise their performance. A spirit of friendly competition is engendered. Ultimately, it allows us to raise the bar for the whole organization. As we continue our journey of applying performance measurement, we will begin to identify targets for our system and for each MTF (in conjunction with the MTF CO). Holding MTF COs accountable for meeting those targets will be the next step in this evolution.

When Navy Medicine first decided that using metrics would help us drive organizational change, we asked the Center for Naval Analysis (CNA) to help us. With Navy Medicine's consensus on our mission, vision, goals and strategies, we partnered with CNA to develop a fairly complex system of composite metrics that we can look at to see if we are going in the right direction. We are completing our second year with these metrics and have found that many of the measures have data that only changes once a year. This may be fine to measure how well we are doing in moving towards some of our strategic goals, but they are not adequate by themselves to manage the complexity of the Navy Medical department.

This year we're reviewing data from two other "levels" of metrics. One is a group of Annual Plan measures. After reviewing our strategic plan in light of the current environment, understanding the strengths, weaknesses, opportunities, and threats to our organization, we identified several priorities for the year. We then identified measures to track progress on these items—and this data has to be measurable at least quarterly. Finally, we have just identified measures for our "Leading Indicators" that our leadership sees on a monthly basis. In developing and revising these measures, we are finding the BALANCE between measures of satisfaction (patient and staff), financial health, clinical quality, operational or process measures, and readiness. Once we look at the historical data for these indicators, we will be setting not only targets for where we want to be, but also action triggers in case we are going in the wrong direction. We will agree on a level below which we will no longer just watch and see if it improves, but will instead take action to change the processes. We in the Navy have web based our Optimization Report Card and the satisfaction survey data is provided to MTF commanders in a more user friendly display on a quarterly basis.

I am aware that initial investments carry the inherent risk that return may not be earned quickly enough to pay for investment. However, I am firmly committed to changing the business practices and culture of Navy Medicine to recapture workload currently being done in the private sector.

Integration

Navy Medicine is a vital part of the overall composition of our total force. To ensure smooth operations between these parts, we continuously work to integrate ourselves throughout the Departments of the Navy, Air Force and Army. Our field is highly complex and requires a strong effort to ensure a fluid motion between specialties. Integration must also be maintained with our sister services, our TRICARE

civilian partners, the Department of Veterans Affairs, and the Public Health Service to ensure all federal beneficiaries have appropriate access to high quality health care. I have made collaboration with the Department of Veterans Administration one of my top three goals and have underlined this commitment for my commanding officers. Progress has been made, but more needs to be done. Many of the barriers and regulations which were thought to be insurmountable are not that formidable. However, the process of collaboration is crucial to success. It is also important for resource sharing initiatives to truly improve access to quality care and be advantageous for both DOD and the Department of Veterans Administration. Navy and VA clinics coexist within several of our facilities such as at Naval Hospital Beaufort, Naval Hospital Guam and at the Naval Medical Clinic Key West. We are actively pursuing VA sharing arrangements at many other facilities, and have formed numerous local Navy/VA working groups to continue to identify additional opportunities.

Integration should also include our patients with whom we must more effectively communicate. The next step of integration is—"Webification." Today's beneficiaries demand access to healthcare information, involvement in the healthcare decision process, and high quality, hassle-free customer service. They are also very technologically sophisticated and expect us to make the best use of the Internet to provide these services. A significant number of our beneficiaries have access to, and know how to use, the Internet. In response, we are beginning to "webify" Navy Medicine to help create new business areas, enhance current ways of doing business, and optimize other business processes.

E-Health is the newest way of conducting the business of healthcare, and represents the application of Internet principles, techniques, and technologies to improve health services delivery. Facilitating electronic exchange of information within the healthcare community enables stronger and more effective collaboration among patients, doctors, hospitals, employers, payers, laboratories, pharmacies, and suppliers. Linking these stakeholders to more information, reducing redundancies and increasing compliance in population health and disease management programs holds great promise for reducing the cost of healthcare delivery, improving patient safety, and health care quality.

As E-health begins to take on a larger role within Navy Medicine, physicians will adopt the Internet as an important component of their patient encounters to provide health services and enhance communication. For Navy Medicine, E-health is all about improved access, health services, provider-beneficiary relationships, best business practices to support force health protection through optimization.

I am particularly excited about the new TRICARE Online website portals, which will allow patients to make appointments on line, communicate with their healthcare providers and access healthcare advice data bases. I have called upon my physicians to embrace this new technology and ensure its spread throughout Navy Medicine.

Navy Medical Research

Navy Medicine also has a proud history of incredible medical research successes from our CONUS and OCONUS laboratories. Our research achievements have been published in professional journals, received patents and have been sought out by industry as partnering opportunities.

The quality and dedication of the Navy's biomedical R&D community was exemplified this year as Navy researchers have started to develop the next generation of vaccines against naturally occurring or bio-engineered weapons. The DNA Malaria vaccine has provided the foundation for the development of other DNA-based vaccines used to battle a host of infectious diseases such as anthrax, smallpox or plague.

Traditional vaccines have saved countless millions, but have their limitations. They take years to develop and can be difficult and costly to manufacture. Many need constant refrigeration and generally can't be mixed to inoculate against more than one disease at a time. And there's always the danger of side effects. This new generation of vaccines is expected to be safer, cheaper, more stable, have fewer side effects and is more effective against a wider variety of diseases, than traditional vaccines. The DNA vaccines are expected to have what researchers call "agility"—they can be retailed quickly to become "just-in time" inoculations against bacteria, viruses and other pathogens that have emerged or have been re-engineered in enemy labs to make existing vaccines ineffective. Another major advantage of the agile vaccines is that production from start to finish might take a matter of months, not years. While traditional vaccines use live virus or killed organisms that stimulate humans to develop an immune response against a specific disease, these agile vaccines use fragments of an organism's DNA. Navy researchers are recognized

world leaders in development of these DNA vaccines and believe the vaccines may be able to protect today's children from some of the world's most deadly scourges.

As previously mentioned, it was Navy teams from NMRC that invented the rapid hand-held assays that were used nation-wide to screen for anthrax. They were the first to identify anthrax contamination at the U.S. Supreme Court, CIA mail room, within the State Department diplomatic mail pouch system and in one of the Congressional Office Buildings. Through continuing efforts in the pursuit of scientific and technological excellence, BDRD is acknowledged as the premier BT/BW detection and identification program within the Navy and one of the premier programs within the United States. BDRD is specifically sought out by agencies of the U.S. Government for guidance on BT/BW issues and laboratory expertise in the detection and identification of threat agents. These agencies include the U.S. Secret Service, the U.S. Capitol Police, the Centers for Disease Control (CDC), the Federal Bureau of Investigation (FBI) and others. The current colloidal gold-based detection technology may soon be replaced by state of the art paramagnetic detection technology. Preliminary studies have demonstrated an increase in sensitivity of 10 to 1000 times over current capabilities. Very near future developments also include a Bio Detector with rapid high-throughput DNA sequencing capability which provides a state of the art ability to finger print BT/BW agents. DNA sequencing chip technology would make it possible to rapidly track the origin of pathogens such as the Ames strain of *B. anthracis*. This capability would be invaluable in determining the source of BT/BW agents and differentiating a bioterrorism attack from natural outbreaks. Furthermore, this capability will be utilized to develop a genetic library of bioterror agents thus constituting a national biodefense asset.

Researchers at Naval Dental Research Institute (NDRI) Great Lakes, Ill. are using saliva to help protect Sailors and Marines against two potentially deadly diseases. Two different saliva tests are being developed: One to see if individuals have been exposed to tuberculosis (TB), and one to check anthrax antibody levels after receiving the anthrax vaccine series of inoculations.

Tuberculosis is an ancient serious respiratory disease that has been on the upswing in the last several years. The current tuberculosis test requires a tiny amount of reactant be injected into the skin of the forearm. A health care provider must check the injection site 72 hours later to see if a telltale red circle, indicating the presence of TB antibodies and exposure to TB. NDRI's screening test requires only a small amount of saliva and the results are available in 10 minutes. Non-health care professionals can easily be trained to administer the test. The development of a rapid salivary field test for diagnosing exposure to infectious tuberculosis (TB) bacteria, is especially important to the Fleet and Marine Corps, where sailors and marines are billeted in close quarters.

The anthrax test works similarly, but monitors the presence of antibodies after receiving the anthrax vaccine. A high level of antibodies indicates that the vaccine has been successful in developing protection against anthrax. Results are also available within 10 minutes and can be performed anywhere.

Two technologies are used in the test. The first, the lateral flow, is similar to an over-the-counter pregnancy test. The prototype being tested at NDRI is about the size of a stick of gum and rugged enough to be carried in a uniform pocket. It's used for screening to see if antibodies are even present. The second technology, fluorescence polarization, is much more sensitive and not only shows whether antibodies are present, but at what levels. For example, it can test the difference between latent and active TB. This technology is housed in a hand-held monitor rugged enough to use in any forward-deployed environment. It, too, can provide test results in minutes. NDRI has a patent pending on the spit tests, and is working with volunteers now to ensure the reliability of the tests. If all goes well, it may be ready for use in the Fleet by next year.

The anthrax and TB tests are just the first step in what could be a method to check for exposure to a number of diseases—quickly, easily, economically, and without the needle stick of a blood test. Epitope mapping is currently being done to assure the international accuracy of this TB test. Protein antigens only found among TB patients are being prepared commercially in order to manufacture prototype units. Final approval for clinical trials has been obtained and trials should commence soon. Sailors and Marines go to the dentist annually for check ups, so ideally while they are waiting for their appointments, they could spit in a cup and a whole battery of tests could be run.

U.S. military personnel are at high risk for lethal radiation or chemical injury from nuclear weapons/chemical weapons attack or nuclear accident. High dose radiation and some chemical agents obliterate the bone marrow (blood forming organ), and are almost invariably fatal unless a matched donor can be found. Even casualties given a matched bone marrow transplant are susceptible to graft failure, graft

vs. host disease, and other complications. Therefore, autologous (self produced) bone marrow would be most preferable and Navy researchers have developed techniques for growing bone marrow stem cells in the laboratory. The therapies under development have obvious dual use potential for patients with cancer and genetic disease. The methods to expand human bone marrow stem cells have been patented by the Navy.

Major achievements have been made by Navy Researchers in transplant research and tissue rejection studies. Severe burns account for a significant proportion of combat casualties at sea and ashore following a thermal ordinance, nuclear, and some chemical munitions explosions. Current standard treatment for severe burns is limited. The major hurdle limiting curative skin transplantation capabilities is tissue rejection. Recent insights into tissue rejection immunology have led investigators to conclude that the immune system can be "educated" to accept foreign tissues while maintaining the ability to provide protection against disease causing germs. This field of research is termed "tolerance" research. Navy Researchers have demonstrated that new immune therapies can be successfully applied in higher mammals, including monkeys, to allow for the transplantation of virtually any tissue without the requirement for continuous immunosuppression. Navy investigators have recently made a major breakthrough by showing that full-thickness skin grafts without immune system suppression can be accomplished in animals.

As a member of the Uniformed Services University of the Health Sciences (USUHS) Board of Regents and the USUHS Executive Committee, and as the designated Executive Agent for the University, I am pleased to say that the University's focus on relevance, readiness, and optimization continues to be aligned with both its establishing legislation and the special needs of the Military Health System (MHS). The University, which holds full accreditation from its fourteen accrediting organizations, continues to meet and exceed its mission to provide continuity and leadership for the MHS. To date, USUHS has recruited and graduated over 3,250 uniquely qualified career-oriented uniformed alumni (3,101 uniformed physician officers, 157 advanced practice nurses and additional uniformed health professionals in administration and allied health sciences). These USUHS alumni serve in critical roles that are vital to the readiness mission of the MHS. The extraordinary retention of these military officers ensures continuity for the MHS and the safeguarding of lessons learned during combat and casualty care. Currently, USUHS School of Medicine (SOM) alumni represent over twenty-one percent of the total physicians on active duty in the military services. Furthermore, a significant number of USUHS graduates who have completed their residency training hold leadership or operational positions throughout the MHS. The University's mission statement, Learning to Care for Those in Harm's Way, succinctly captures its essential commitment to Force Health Protection.

The USUHS schools, institutes, centers and programs help ensure a thorough preparation to effectively respond to the aftermath of weapons of mass destruction (WMD), disasters and other contingencies. Today, USUHS is reaching out to other federal agencies and the civilian medical communities to share its curricula and expertise. I echo the assessment of USUHS provided by the Secretary of Defense on March 22, 2001, "the training USUHS students receive in combat and peacetime health care is essential to providing superior force health protection. We place great emphasis on the retention of quality physicians in the military. USUHS is a unique national asset and a vital integrated part of the Military Health System.

Conclusion

In closing I would like to thank Congress for the additional funding that was already provided for the Defense Health System and enabling it to respond to our ongoing challenges. The resources now available allow us to operate on a more comfortable level. Indications are that we have adequate financial resources. It is important to note however, that we still have not addressed our facility replacement cycles. We also face continued rising Health care costs, salary inequities and unexpected increased costs from 9/11, which the President's Supplement requests and fiscal year 2003 Budget Request are addressing. I would like to ask for your support to ensure that we have timely, consistent and sustained funding levels over future years in meeting our needs.

Navy Medicine has proven that it is ready to meet the new demands of a changing world. September 11th opened our eyes and shook our foundation, but I believe we are prepared and we will prevail in this new and complex war. It will be an asymmetric war, and we will strike back asymmetrically—politically, economically, socially, and militarily. And in the end, the military piece will be paramount to success. Whatever challenges lie ahead, Navy Medicine will continue to be reasonable, relevant, and responsive.

Senator INOUE. Thank you very much, sir. And now may I call upon General Carlton.

HOMELAND DEFENSE

General CARLTON. Yes, sir. Mr. Chairman, it is an honor to appear before you again this year. Clearly the world is very different than when we appeared before you last year. I shared with you some of the major initiatives that we have undertaken to respond to weapons of mass destruction. The events of September 11 have acknowledged the fact that we have a homeland contribution to make to the defense of our great homeland.

We had practiced a Pentagon attack in May as a tri-service activity so that when the events occurred on September 11, we were well schooled, we had learned our lessons, we performed well, and saved lives as an Army-Navy-Air Force team. Our modular teams were in place alongside our Army and Navy colleagues within minutes after the attack, and saved lives.

MC GUIRE AIR FORCE BASE

Within 24 hours of the September 11 attack, we had 500 medics and 400 hospital beds, deployed to from McGuire Air Force Base, just outside New York City. We had several hundred deployed to support Washington, D.C. We had critical incident stress management teams in place immediately in the Pentagon, and they labored to prevent future mental health complications for several months thereafter. September 11 was truly a wake-up call for our Nation.

ANTHRAX THREAT

In October in response to another threat, the anthrax threat, we deployed personnel in our biomedical augmentation teams with our sister services to support the Centers for Disease Control and the New York City Public Health Department in their testing suspected anthrax samples. We had 100 percent correlation between our high tech pathogen identification system that gives an answer in 1 hour instead of subsequent days, and were extremely pleased with that technology and ability to help our colleagues in other areas of Federal Government.

OPERATION ENDURING FREEDOM

Today the majority of our medics deployed in Operation ENDURING FREEDOM are Air Force medics. They are doing an incredible job alongside of sister services and allies to care for our young men and women who are in harm's way. They are proving the validity of our light modular expeditionary system know as Expeditionary Medical Support (EMEDS).

The Special Operations Command Surgeon has said that if it were not for the light, lean and life saving modular medical packages such as Small Portable Expeditionary/Aeromedical Rapid Response (SPEAR) and EMEDS, we would not have been able to save the lives of the Special Forces people, many of whom incurred the casualties early in the conflict.

CENTRAL COMMAND SURGEON

The Central Command Surgeon stated, and I quote, "Light, lean and modular is the way to go. We will see more of the small modular medical teams far forward where they can save lives, and critical care air medical transport is the air evacuation system that works."

These are strong testaments from the people on the ground who are our customers. Our investment in such technologies as EMEDS and rapid pathogen identification are paying huge dividends for the country. We will continue to test and improve on those capabilities.

JOINT MILITARY-CIVILIAN EXERCISES

Another readiness focus we currently have is to make sure that our civilian colleagues do not have to reinvent the wheel when it comes to caring for mass casualties and biological and chemical casualties. We are partnering in education, training, in joint military-civilian exercises across the country at this time, and are being warmly received.

RECRUITING

We must also invest in our people. We continue to face a personnel manning crisis. We are experiencing shortages in all corps; our losses have been greater than our gains for the past 3 years. We are pursuing many initiatives to alleviate these problems but it is a very serious situation and we appreciate your support as we seek solutions.

The Air Force Medical Service recognizes that meeting these challenges and realizing our vision of global engagement means executing a strategy that would provide us a vital and interdependent link between our readiness and our peacetime missions. At last year's hearing, we talked a lot about an effective budget programming and planning. We responded with, we must establish a reliable modeling system, and this we have done. As we briefed your staff, our long-view strategy provides a bottom up, microscopic analysis of the way we do business across our entire Air Force Medical System. With a focus first on readiness requirements, then on clinical currency, followed by best business practices, we are seeking the proper balance that will move us into the future.

PREPARED STATEMENT

We know we have a great deal of work to do but we believe we have a sound strategy to insure that we have the right people in the right numbers at the right places with the right training to care for our people around the world. This is our job and our commitment to you and to this nation. I want to personally thank you for the support and the leadership that you have given us in support of the medical programs in my 3 years as the Air Force Surgeon and in the 37 years that preceded that, and I look forward to your questions.

[The statement follows:]

PREPARED STATEMENT OF LIEUTENANT GENERAL PAUL K. CARLTON

Mr. Chairman and members of the committee, thank you for this opportunity to address the successes and challenges of the Air Force Medical Service (AFMS). The year 2001 was a year that changed our world forever. The threat we feared—an attack on the homeland—became reality on September 11, 2001.

The AFMS swiftly rose to the challenge of September 11, and proved, once again, its commitment to rapidly and effectively meet any contingency that faces our country. Within hours, 71 personnel arrived at the Pentagon site from Andrews Air Force Base to provide emergency medical support. Four receiving hospitals were quickly identified within the National Capital Area to provide support as necessary.

Within 24 hours of the attacks, the AFMS deployed 500 medics to McGuire Air Force Base, New Jersey to respond immediately to any Federal Emergency Management Agency (FEMA) tasking for equipment and/or personnel needed at the New York City disaster. State-of-the-art medical emergency facilities were assembled, which included four Expeditionary Medical Support packages (light-weight modular systems that allow added bed sets as needed). Critical Care Air Transportable Teams (CCATTs), which provide emergency medical attention while in-flight, were quickly established at both the Pentagon and McGuire Air Force Base. Critical Incident Stress Management Teams conducted counseling to personnel assigned to recovery efforts at both locations as well.

Upon activation of the National Disaster Medical System, the AFMS also set up its aeromedical evacuation assets at both McGuire Air Force Base and Andrews Air Force Base. Overall, while little help was actually needed from the AFMS, it responded quickly and proactively with the help of several Air Force military treatment facilities. Such a response is exactly what America needs to stand prepared for future terrorist threats, whether they occur on our shores or the shores of our allies around the world.

Our vision of global engagement supports an Air Force that is charged with responding to the full spectrum of contingencies throughout the world, and at a moment's notice. It also supports Joint Vision 2020, which states that today's joint force must be prepared to operate with multinational forces, government agencies, and international organizations. To achieve these ambitious visions, we know that we must consider our readiness and peacetime missions to be inextricably linked, and we must have a strategy that is durable, comprehensive and far-reaching. We do. This strategy is called the "Long View."

The Long View is an enterprise-based approach that emphasizes the realignment of readiness requirements, clinical currency and best practices, enabling the AFMS to provide high quality, cost effective health care and preventive services in all environments during peacetime and contingency operations. Crucial to success is the acceptance by each member of the enterprise that the needs of the AFMS outweigh those of the individual unit. By thinking and acting globally, we will ultimately strengthen our capabilities at the grassroots level and be able to respond effectively to the needs of our nation anywhere in the world.

Global Vigilance

The AFMS is committed to the Air Force Vision 2020 of "Global Vigilance, Reach, and Power." Our Long View is founded on this readiness triangle. One of the ways we are supporting global vigilance (to anticipate and deter threats) is through the Institute of Global Health (IGH), located at Brooks AFB, Texas. The IGH is a worldwide educational program for medical providers to develop and improve their medical response skills. It develops and executes our international medical training programs, under the International Military Education and Training (IMET) and Expanded IMET (E-IMET) requirements implemented by the Defense Security Cooperative Agency. These medical training programs support the three components of the AFMS readiness mission, including humanitarian and civic assistance (HCA), medical response to disasters, and support of traditional wartime operations.

The objective of these "train the trainer" programs is to provide regional leaders a foundation for building disaster/trauma systems and improving their health systems and emergency response systems infrastructure by acquiring the necessary concepts and educational tools. Team training across specialties within healthcare, emergency response organizations, and regional partners (including hands on interactive educational techniques) have been tremendously popular with our international partners. At the same time, these mobile programs help shape the international environment by supporting the theater commander-in-chiefs (CINCs) engagement plans to promote democracy, stability, and collective approaches to disasters or medical threats to the region. Ultimately, we are partnering with our allies

to protect our deployed forces in remote sites, that our troops might have the best possible care wherever they are.

Key components of these programs are that they are tailored to the host nation's infrastructure and resources and are taught on-site. Certainly, a primary outcome is the excellent training and experience the courses provide our own personnel.

Our prototype, "The Leadership Program for Regional Disaster and Trauma System Management," was established largely through initiatives begun at the Air Force's Level-One trauma center, Wilford Hall Medical Center in San Antonio, Texas. These initiatives included a trauma refresher course for surgeons, a field surgery training course, Ecuador trauma symposiums, and clinical and field training for the new Air Force modular medical teams. The huge success of our prototype (taught to 25 countries since 1999; 16 scheduled for 2002) and the identified need for similar courses on other medical topics, such as the new "Hospital-Focused Approach to Biological Weapons and Toxins Course," has led to the requirement for a sustainable infrastructure to support our global medical initiatives—thus the Institute for Global Health.

The Air National Guard and Air Force Reserve have partnered with us to support these courses. In addition, we have partnered with the Joint Commission for Accreditation of Healthcare Organizations (JCAHO), universities and international organizations in developing the IGH. We are excited about the future of the IGH and the opportunities it offers to enhance global health.

In 1998, former Air Force Chief of Staff Michael Ryan stated that, "to meet the needs of a complex global environment, Air Force officers would need specialized skills to operate in coalition with partners in the contingency arena." In response to this call, we developed the International Health Specialist (IHS) program. The program's focus is to build partnerships with other countries in peacetime, before disasters occur or assistance is needed. Then when disaster strikes, the medical networking is already in place and a more rapid and efficient response can occur.

AFMS members should be culturally aware and language proficient when deploying to increase mission effectiveness and force protection as we serve as instruments of national policy. This is important in the areas of Humanitarian Assistance (HA) and Disaster Response (DR) as well as in war winning operational support. Clearly in the current Operation Enduring Freedom, coalition support and interoperability will grow best with cross cultural understanding and clear communications. In fact, we learned just how effective our IHS program really was when two French-speaking members of our Critical Care Air Transportable team worked successfully with French colleagues in response to the bombing of U.S.S. *Cole* in October 2000, providing the best possible care for the casualties.

Currently, there are four fully capable IHS teams, and they are aligned under Unified Commands: European Command, Pacific Command, Central Command, and Southern Command. There are also IHS team members located at the Uniformed Services University of Health Sciences and the U.S. Air Force School of Aerospace Medicine, and some serve as Special Operations medical planners. To ensure the AFMS Total Force synergy is optimized, the IHS program partners with the Air National Guard and Air Force Reserve. The IHS also has partnered with the Air Force Foreign Area Officer Branch to explore numerous language-training options with the goal of having our medics meet and sustain the Air Force goal of 10 percent of all officers proficient in a second language by 2005. Our language training opportunities do not stop at the officer level, however. The IHS Program has extended its language training opportunities to enlisted personnel as well through the Base Education Office Tuition Assistance Program and an IHS-funded enlisted opportunity for Language Area Studies Immersion experience.

Each team is composed of medics of all ranks and Air Force Specialty Codes. Its members are cultural and language experts in their Area of Responsibility (AOR) and have humanitarian assistance/disaster relief and interagency and joint operations experience. In addition to the Unified Command-aligned teams, the IHS program office maintains a database of 300 AFMS members with varying degrees of cultural and regional medical experience who can serve as valuable assets for future missions. The language expertise represented by AFMS members includes more than 36 different languages. We are very excited about this program! The potential for IHS involvement and the return on its investment in the international arena is immeasurable: Today's commanders must be able to appraise health-related information and resources in a multi-national, multi-cultural context.

Strategic Reach and Overwhelming Power

While we are striving to support global vigilance, we are also thoroughly preparing our nation's ability for both strategic reach (to curb crises) and overwhelming power (to prevail in conflict and win America's wars). Part of this thorough prepara-

tion involves our continual development of state-of-the-art equipping and training initiatives. We continue to fine-tune our crisis response by ensuring we have the smallest, lightest, most flexible, and mobile system possible. We have nearly completed the transition from the Cold War legacy air transportable hospital to the Expeditionary Medical Support (EMEDS). The EMEDS system is a light-weight modular system that allows the AFMS to tailor our response to each situation, adding bed sets as needed and offering services that range from prevention and basic primary care to aerospace medicine support and sustained surgical operations. Collective protection has also been designed and is being fielded.

In June, we were asked to take our EMEDS to Houston to assist the flood-ravaged hospital system there. Our EMEDS treated over 1,000 patients, and our contribution was recognized by the mayor of Houston, the governor of Texas and the director of the Federal Emergency Management Agency (FEMA). As I noted previously, on September 11 we also activated four EMEDS upon the request from our Chief and Secretary to deploy EMEDS teams to McGuire Air Force Base, NJ, to provide additional medical capability to the medical group there in support of local authorities in New York City. Our strategy envisions placing EMEDS throughout the country to offer a regional quick response capability.

In partnership with our Army counterparts, the U.S. Air Force Medical Evaluation Support Activity (AFMESA) at Fort Detrick, MD, recently activated EMEDS-XTI (Experimental, Exercises, and Technology Insertion) as a "test bed" for expedited fielding of medical technologies and processes. EMEDS-XTI will help to better equip our medical providers for dealing with the medical challenges resulting from attacks on our homeland as well as the medical requirements to support our expeditionary forces. Using EMEDS-XTI, AFMESA will immediately focus on assessing, acquiring and fielding several key technologies, which include deployable medical oxygen equipment, chemical and biological decontamination, and biohazard surveillance systems. EMEDS-XTI also serves as an available response unit in the region in case of disaster.

Since the September 11 attacks, the concern regarding the threat of Weapons of Mass Destruction (WMD), particularly chemical and biological warfare attacks, has come to the forefront of our nation's most critical issues. For the AFMS, however, WMD has been a critical issue of concern and planning for the past few years—proof-positive of our carefully prepared detection and response technologies and programs. A primary example of our latest technology is a state-of-the-art disaster response system called Lightweight Epidemiological Advanced Detection and Emergency Response System (LEADERS), which was designed to enhance the current medical surveillance process and provide the earliest possible detection of covert biological warfare incidents or significant outbreaks of disease.

LEADERS, also in use by some civilian organizations, such as the Centers for Disease Control and Prevention (CDC), is a modular web-based application that supports the collection, storage and analysis and distribution of critical sets of medical data to aid with rapid, effective response to natural disease outbreaks or overt/covert biological attacks within civilian populations or military forces. LEADERS is very deployable—it is based on an application model that requires little or no additional infrastructure for deployment.

The LEADERS system is organized into three primary customer modules, which include (1) Critical Care Tracking to facilitate the communication of bed availability between hospital departments and emergency response teams; (2) Medical Surveillance to detect and identify disease outbreaks using medical information stored in a database; and (3) Incident Management to enable a coordinated response of medical and non-medical personnel to potential or confirmed emergencies through a collection of command and control tools for situational awareness and response management. Together, these three modules allow multiple civilian and military applications, including identifying disease outbreaks, medical forensics, public health analysis, monitoring and improving clinical practice, monitoring medical fraud, improving infection control, and comprehensive outbreak management and response. We will continue working with our civilian counterparts on development and fine-tuning of this technology over the coming year.

Other efforts underway to improve the AFMS's ability to respond to weapons of mass (WMD) destruction include the First Responder Pilot Program, which consists of 10 pilot bases that maintain a medical equipment list to support nuclear biochemical detection and provide decontamination capability at the MTF if appropriate. MTFs are required to scale requirements based on their local threat, vulnerabilities, mission capabilities and manpower, deliberate plans, and agreements with local first responders and providers to develop credible, supportable first response capability.

Another recent WMD initiative is the National Laboratory Response Network (NLRN), which provides an early warning network to detect covert release of pathogenic agents. Collaborators include local and state departments of health, Department of Defense medical laboratories, and the Federal Bureau of Investigation. The Air Force currently has 54 laboratories participating in this response network.

In addition to this network of laboratories, the AFMS has also assembled and trained 35 Biological Assessment Teams (BATS) that identify pathogen agents through the use of a commercial product called a Ruggedized Advanced Pathogen Identification Device (RAPID). RAPID quickly and accurately identifies a variety of pathogens, including conventional biological agents; it can accomplish tests in less than two hours from the time of the sample being received, a marked improvement over current pathogen identification technologies, which require the culturing of biological agents—taking as much as 48 hours for results.

In October, we responded to a request to send Air Force medics as part of joint Microbiology Augmentation Teams to New York City and the U.S. Capitol to assist staff from the Centers for Disease Control and Prevention and local authorities in the testing of samples for anthrax. We were delighted when our preliminary results completely correlated with the definitive cultures. Along with our sister Services, we are offering our services in whatever capacity is needed by local, state, and federal authorities during these tumultuous times.

The War on Terrorism in the United States will test the effectiveness of our technologies and training in many areas. To ensure we have the best the health care industry has to offer, we are partnering with our civilian counterparts whenever and wherever it makes sense. At the same time, we are sharing with them what we have to offer as well. One of our biggest milestones over the past year is the development of two Centers for Coalition Sustainment of Trauma and Readiness Skills—or CSTARS. The CSTARS concept creates unique learning opportunities in which civilian academic medical centers serve as training platforms to provide clinical experience to help sustain necessary readiness skills for our providers. The evolving strength of the CSTARS program is that it allows for the development of synergistic relationships and familiarity between academic medical centers and military medical assets (active, Guard, and Reserve), while simultaneously improving wartime readiness and homeland defense capability.

Our centers in Baltimore and Cincinnati have begun classes this year and will consist of full-time military medical personnel integrated into the facility of an academic medical center. Our partners are the University of Maryland School of Medicine and the University of Cincinnati. The faculty will coordinate the rotation of military medical teams into the academic health center using patient care and didactic teaching sessions as the means of sustaining readiness skills. Additional CSTARS programs are being considered to ensure geographical distribution across the United States, with the goal of shortening the response time in homeland defense efforts.

Another way we are seeking to partner with the civilian community to reach our mutual goals is through a new partnership with the University of Pittsburgh Medical Center Health System to collaborate on the development of sophisticated telemedicine technology that will ultimately link specialists in pathology, radiology and dermatology with outposts at distant locations around the globe. Our goal is to strengthen the AFMS's expeditionary capability and provide state-of-the-art health care to our personnel everywhere.

As my examples have shown, the face of medical readiness has changed drastically in the past decade. Therefore, so too have our training requirements. Today Air Force medics are asked to provide a full spectrum of medical support, from caring for refugees requiring treatment for measles, dehydration or starvation to providing state-of-the-art trauma care in a disaster or wartime environment. Admittedly, until recently, few Air Force personnel have had the necessary experience in these or many other readiness-based care requirements. In support of our readiness case analysis and skills currency case analysis goals, we designed the Readiness Skills Verification Program (RSVP).

The RSVP will define the clinical tasks required of our deployable medics and build training programs targeted to keep our medics current. Individuals assigned to mobility positions are required to maintain currency in RSVP tasks through attendance in formal training programs, ongoing clinical practice, and individual study. The RSVP consists of training task lists for every Air Force specialty. Today, all deployable medics—and soon, all Air Force medics—will focus their clinical training upon specific, measurable goals.

Where do we go from here? The Long View

Under the Long View, when we have built a solid foundation for readiness case analysis (RCA) and currency case analysis (CCA), we must then ensure a strong business case analysis (BCA) occurs in our decision-making. We are doing this through an effective corporate structure that reviews every major AFMS resourcing decision through a standardized process using the RCA-CCA-BCA model that allows input from every applicable party and measures each decision against objective criteria. This maintains the enterprise strategic view of a comprehensive plan, preventing local or urgent decisions from adversely affecting the AFMS. We are now planning far beyond the standard Program Objective Memorandum (POM) cycle to 10 years out and beyond. Our Primary Care Optimization (PCO) development and rollout was the first use of this model.

Primary Care Optimization

Central to the AFMS Population Health Plan is the reengineering of our primary care services under PCO. Sixty-five of our 75 Air Force medical treatment facilities (MTFs) focus almost exclusively on offering primary care services. The goal of PCO is to vastly improve the efficiency, effectiveness and quality of care delivered through our primary care platform. An important strategy within PCO is to recapture care from the private sector so that all enrollees can benefit and also to better manage the total financial risk of our health care system. Efficiencies are gained by improving clinical business processes, by enhanced partnerships with civilian and other federal healthcare partners, by effectively utilizing support staff skills, and through robust information management that supports evidence-based health care decision-making. Critical to PCO success is Primary Care Manager by Name, which provides patients with continuity of care and allows providers and their teams to better manage their practice by knowing who their patients are.

Since we began our "Quick Start" training for PCO two years ago, we have seen some important returns on investment. Where teams are fully staffed, they are performing exceptionally well, and with great patient and staff satisfaction. Primary Care Manager by Name enrollment has been accomplished in 100 percent of our facilities. MTFs are proactively contacting patients regarding needed clinical preventive services.

Many other objective measurements continue to improve. Population health preventive measures are on a positive slope along with provider productivity. AFMS clinical quality measures, such as cervical cancer screening, breast cancer screening, and HbA1C annual testing for diabetics, are all above the 90 percent level for the Health Plan Employer Data and Information Set (HEDIS) national measures in all our Major Commands. There are very few health care organizations in the United States that can claim that type of preventive care success!

As we continue to improve PCO, our next step will be to pursue specialty care optimization. We are reviewing a limited number of AFMS product lines associated with surgical specialties in larger, bedded facilities: general surgery, obstetrics/gynecology, orthopedics, ophthalmology, otolaryngology, and anesthesia. As we implement our primary and specialty care optimization programs, the resourcing decisions arising from the work of various functional panels will have full visibility at all levels of our corporate structure to ensure the Long View is the ultimate focus.

Manning the Mission

Of course a crucial factor in optimization is the ability to man our mission effectively, with the right number and mix of appropriately trained personnel at the right place and at the right time. We are working hard to do this, but it's been a very challenging time for medical force management in the Air Force. Many issues have been brought to the forefront, most importantly recruiting and retention and a high operations tempo with substantial deployment needs. Shortages in the Medical Corps, Dental Corps, Nurse Corps, Biomedical Sciences Corps, and Medical Service Corps have reached all-time highs and are expected to dramatically increase private sector health care costs as we are forced to shift health care downtown.

These staffing shortfalls led to our largest recruiting requirements in AFMS history for fiscal years 2000 and 2001. Centering our efforts around our RCA-CCA-BCA model, we've sought solutions, such as addressing promotion concerns, exploring special pays and investing additional resources in health professions scholarships for better and more stable long-term staffing growth. The success of these force management initiatives will enhance the future of our clinical capabilities and ultimately improve our readiness posture.

Population Health Initiatives

Optimizing our health care involves many factors, from training and equipping our providers, to modernizing our facilities, to effectively manning our mission. It also means educating our patients to take responsibility for their health and giving them the tools to make it easier. This is a key tenet of population-based health care.

As the current chairman of the DOD Prevention, Safety and Health Promotion Council (PSHPC), I want to praise the personnel serving on the council for their outstanding efforts in many areas, but particularly in reducing tobacco use and alcohol abuse. In fact, our Tobacco Use Reduction Plan is nearly 80 percent complete. We still have a problem in the armed services, but proactive initiatives such as sensible pricing of tobacco and alcohol products in the commissaries and exchanges, better education of our troops, and research studies that will help us focus our efforts better are all means to reducing the problem.

I'm pleased to say that the PSHPC has now chartered the Suicide Prevention and Risk Reduction Committee to develop an action plan that will address suicide prevention across the DOD enterprise. The creation of both a DOD strategy and the national strategy developed under the United States Surgeon General are important steps in addressing this significant public health issue.

The Air Force Suicide Prevention Program has made a difference in the number of suicides in the Air Force, but, unfortunately, we continue to lose valuable personnel who needlessly take their own lives. As we move forward with our program, and in support of the DOD program, our primary goal within the Air Force is to better understand the causative factors involved with suicide and thus be able to implement the critical ingredients for effective suicide prevention.

Serving our Beneficiaries

The recent implementation of "TRICARE for Life" provided one of the missing links to our population-based health care strategy. Now we truly have the foundation to provide "whole life" care to our beneficiaries. Fiscal year 2001 was a year of preparation and implementation of this and other significant health care provisions in the Fiscal Year 2001 National Defense Authorization Act.

The TRICARE Senior Pharmacy Benefit, which started April 1, 2001, brought a robust pharmacy benefit to our senior patriots. The expanded pharmacy benefit was deployed with minimal problems and has been a tremendous success story for DOD and our beneficiaries. The Air Force continues to work with the other Services to minimize the impact of this enhanced benefit to ensure all of our beneficiaries are served.

TRICARE for Life, the program that makes TRICARE second payer to Medicare, and TRICARE Plus, the program that allows seniors to enroll in a primary care program at selected MTFs, both began concurrently on Oct. 1, 2001. We are delighted that these programs will enhance the quality of life for our retirees. We are also optimistic that TRICARE Plus will strengthen our medical readiness posture by expanding the patient case mix for our providers while reducing the government's cost to provide healthcare for these great Americans.

We are grateful to the committee and all of Congress for your support in adequately funding these programs. Your efforts have been crucial to their success, and they will provide the AFMS the ability to restore its in-house funding expenses (particularly for equipment, facility repair, and maintenance) to planned levels, and it will help ensure that our patients are provided quality care with state-of-the-art equipment. Funding will also allow us to address numerous infrastructure requirements in medical facilities, particularly in the area of recapitalization. Additionally, we are excited about the opportunities provided by congressionally directed optimization funding, which will help us strike the balance in maintaining a high state of readiness, while providing efficient peacetime healthcare and investing in imperative modernization for the future.

VA/DOD Healthcare Resource Sharing

VA/DOD relationships continue to move forward as the VA/DOD Executive Council, which was reinvigorated in fiscal year 2001 with increased accountability and leadership oversight, has established work groups to focus on a number of policy initiatives. The Air Force is pleased to participate in these work groups, which have achieved significant success in improving interagency cooperation in areas such as information management, pharmacy, medical surgical supplies, patient safety, and clinical practice guidelines. The AFMS continues to support the progress of our four successful joint ventures in Albuquerque, New Mexico; Las Vegas, Nevada; Anchorage, Alaska; and Fairfield, California.

At the Albuquerque site, which has operated effectively for more than 14 years, we recently established an agreement with the VA to provide professional VA psy-

chologist oversight to our Air Force mental health services. We also recently established an agreement to reduce the veterans' colonoscopy procedures backlog while assisting Air Force personnel in the retention of critical skills.

In Las Vegas, our joint venture operates under common medical by-laws, allowing the VA and Air Force providers to address the needs of both Departments' beneficiaries. We collaborate with the VA to manage inpatient pharmacy services, and we plan to manage the Intensive Care Unit in the same manner. This management "evolution" capitalizes on the experience of VA staff in inpatient operation of medical centers. In addition, the VA and the Air Force at the Las Vegas site are proposing to expand their existing emergency room to add a Step Down Unit and a secure recreation area for psychiatric inpatients.

In Anchorage, approximately 50 VA full-time employees work in the joint venture hospital. A recently established "Joint Venture Business Operations Committee (JVBOC)" was designed to provide structured communications and organizational continuity to the planning and implementation of issues relevant to the joint venture.

In Fairfield, California, a VA outpatient clinic is located adjacent to David Grant Medical Center (DGMC) on land leased from the Air Force. The VA actually purchases inpatient care from DGMC as well as other services that include specialty outpatient, emergency services, ambulatory surgery, and ancillary services. An Executive Management Team (EMT) manages this VA/DGMC joint venture, which consists of commanders, directors, and senior level staff of both agencies. The EMT provides oversight to a Joint Initiatives Working Group (JIWG), which identifies operational issues that need to be resolved and develops recommendations for the EMT.

We are extremely proud of the collaborative team efforts that all four joint ventures are engaged in, and we expect continued innovations in the areas of resource sharing in the future.

Customer Satisfaction

The Long View is built on metrics that show us how well we're doing in supporting DOD's missions. Customer satisfaction is one of the vital indicators of our success or failure. I'm pleased to report that customer satisfaction in the Air Force continues to rise. According to DOD's latest Customer Satisfaction Survey Results, 90 percent of our enrolled beneficiaries indicate they would enroll or reenroll in TRICARE Prime if given the option. The overall satisfaction with clinics and medical care exceeds national civilian HMO averages. With the expanded senior benefit, improving access through primary care optimization, and our many population health initiatives, it should be no surprise that we are receiving high marks from our customers.

But the task is only begun. We will be working very hard in the months and years ahead to ensure we are ready if and when another "September 11th" arrives. The AFMS must keep the Air Force fit and healthy and be able to answer our nation's call whenever and wherever we are needed.

Senator INOUE. Thank you very much, General. May I assure you that all of your prepared statements have been made part of the record.

DEFENSE HEALTH PROGRAM FUNDING REQUEST

I would like to begin by asking the secretary a question, a very general one. In 1999, fiscal year 1999, the supplemental was \$2,004 million; for fiscal year 2000, \$1.4 billion; and fiscal year 2001, \$1.6 billion. Given the past history of shortfalls, are you confident that this fiscal year 2003 will fully fund the defense health program?

Dr. WINKENWERDER. Mr. Chairman, I believe that our request is a realistic one and that we have made realistic estimates, and I have a high level of confidence that we can and will execute within that budget request. In part that depends on how we are doing this year, and the signs thus far are that we are executing within the budget this year and are confidently within that budget for this year. So, I'm confident that we provided you a realistic budget for 2003.

Senator INOUE. If I may, I would like to ask the services. General Peake, would you say we will fully fund your program?

General PEAKE. Sir, I believe we will be able to continue to provide the level of care that we are programmed to do. It will—there are always things that we can use for investing and we are appreciative of the opportunity to have the venture capital that we got this year to invest in certain things, and those opportunities we continue to explore. But this year we have been able to get to a really stable business picture for our commanders out there in the field, unlike the previous years where we had to supplement at the very end and as a result some made some poor decisions.

Senator INOUE. Admiral?

Admiral COWAN. Sir, I would echo that. We are adequately funded this year and we find that it is not only the adequacy of the funding but the timing of the funding that is important in delivering healthcare. Having a supplemental halfway through the year or towards the end of the year is much less effective than being able to plan and budget, so we are very grateful for this year's funding level.

Although we are adequately funded for maintenance and delivery of healthcare, we are still not catching up to our deferred maintenance and repair, but we feel over time with increased stability of the budget, we will be able to attack and improve that situation too.

Senator INOUE. General Carlton.

General CARLTON. Sir, we feel fiscal years 2002 and 2003 are adequate funding, and we have actually been able to begin our recapitalization to restore our Air Force Medical Service to where we were before a period of lean years.

MEDICAL PERSONNEL RETENTION

Senator INOUE. We have done some research and we find that one of the major reasons given by medical personnel for getting out of the military has been educational debt. Why is that? For example, we find the average debt load for a military dentist, \$84,000; \$64,000 for pharmacists; \$118,000 for optometrists; \$70,000 for psychologists; \$148,000 for podiatrists. Are you all concerned about this, General?

General PEAKE. Sir, I am. It is a fact that when people have debt like that, they are going to look for sources of income that are higher than what we can pay, and I think it has a direct impact on our retention. We are excited about the prospect of using the critical skills retention bonus at least until we can get a legislative proposal forward that would restructure the funding of the bonus structure, if you will, but we are concerned about the ability to retain those folks who are just finishing their active duty obligation or health scholarship program.

That is one of the reasons it is such an important tool for our recruiting, the health professionals scholarship program. It is one of the things that has made a real difference as we started to inch ahead with getting dentists back into the Army. That needs to be funded to just off set that kind of debt that you're talking about.

Senator INOUE. Is there anything we should do beyond that for retention?

General PEAKE. I don't think we will ever, sir, get to the point where we can compete dollar for dollar with the civilian sector, but I do think that quality of our practice would be the kind of things that keeps us in. The ability to do things like the young surgeon that I quoted, "It's cool to be an Army surgeon," we want to keep that cool to be an Army surgeon, not only in the excitement of what you're doing but the fact that you have quality places to do it in and the up-to-date equipment to be able to have the tools of your trade. That and the ability to make the right decision for your patient, not the economic decision, but the right decision for your patient, that we still retain in the military is terribly important, sir.

Senator INOUE. Admiral Cowan, do you find that in your service?

Admiral COWAN. We are seeing over time an erosion in our ability to compete in many specialty areas. Part of that has been a widening of the pay gap between the service and the civil sector. In fact, this year for the first time, the average MCAT, Medical College Admission Test, grade point average of young medical students that we accepted into the scholarship program was lower than the national average. We were very much used to taking the cream of the crop. But the military in many regards is becoming less competitive.

We have legislative proposals that we are working within the Pentagon to correct this and we feel that we will have to turn this around over the next several years or we will begin to suffer in readiness and other areas.

Senator INOUE. General Carlton.

General CARLTON. Yes, sir. We have addressed this, and it is a national problem, it is not unique to the military. As you look at the debt load of the graduating seniors from medical school, dental school, nursing school, podiatry school, all the professional schools, it is a mounting debt that on the medical and dental out of a public university approaches \$100,000 by the time they graduate. Out of a private medical school, it approaches \$200,000.

We have applied \$12 million to that this year on a loan repayment that covers many corps. We wish to expand that, and the question of what are we going to beyond for retention, fully funding our programs and allowing people a wonderful place to work, we already take care of great people. And so reestablishing that, we will have some proposals to your committee for what we can do with the bonus structure. That is a tri-service initiative, but yes, it is a major problem and it is a problem facing the Nation at this time.

Senator INOUE. Thank you very much. Mr. Secretary.

Dr. WINKENWERDER. Yes. To your first question about the expense, it's real, I think it's there for everyone, the cost of medical education and other allied health professional education is expensive today. But given that fact that we're not going to change, we have to compete, and upon coming on board last fall one of the early issues I identified was this issue of attraction and retention of personnel, and so identifying it as one of our four principal goals in our overall strategic plan.

I had directed that a group, a tri-service group representing the Army, Navy and Air Force be established to study this issue and

come up with recommendations that would also build upon the Center for Naval Analysis report that we have just submitted to Congress, which did in fact show that there were significant pay gaps. Those gaps have grown since 1990.

I think a couple of additional facts in their conclusions were that we had inadequate pay incentives and that we needed to simplify our whole pay scheme. It's too complex. We have 19 different pay categories. I spent my time in the private sector before I came here and one of the things I managed was a human resources department, and so I was very involved in pay, and this is a busy system we have. We have to simplify it, have more flexibility, and I think we can manage it with your appropriate oversight, and we intend to come forward with a comprehensive set of recommendations that we would really appreciate your careful look at and support of if you are so inclined.

This is an issue that we want to address in the short term with lifting the caps on the critical skills retention bonus and also some restrictions on how we use the loan repayment funds, and then over the long term, of course deal with the broader issue. I'm confident that we can do all these things. We've been dealing with the problem that we've got.

Senator INOUE. I wish you the very best, sir. Before I proceed with more of my questions, I would like to recognize the real scholar when it comes to health, Senator Specter.

Senator SPECTER. Thank you very much, Mr. Chairman, and thank you for convening this important hearing. It is unfortunate that the schedules are so tight that there are not more Senators here for this important matter, but I know that the staff will be following up, and we appreciate what the Department of Defense is doing on the healthcare issue. I wanted to compliment you especially on the work that is being done in the advanced research programs.

I work on the appropriations subcommittee on health and human services and have chaired it some 6½ years. We have put tremendous funding into the National Institutes of Health, but that work has been largely research and they have not done the mechanistic work.

I was talking to a doctor here recently who has a unique body scan and other ideas which are being developed in Newport Beach, California, and he told me that the Defense Advanced Research Projects Agency is the agency which is looking beyond where NIH is willing to go, and I wanted to stop by to commend you for that and to keep that going. It is very hard to have the National Institutes of Health handle all the agencies.

So there has been corollary activity and there has been extensive work done by your department on many very important items on the health line for osteoporosis, breast cancer, ovarian cancer, and many of the ailments which affect men as well as women. I wanted to thank you for what you are doing there and encourage you to continue items like this advanced technology, that is very important. I personally was the beneficiary of a Magnetic Resonance Imaging (MRI) a few years ago, and two decades ago there was not even such a thing as an MRI. There is a very important program which is underway at Walter Reed Army Medical Center trying to

get retrogression on plaque and heart ailments, so those kind of advance techniques are really worthwhile, and I wanted to stop by to thank you and encourage you to do more. Thank you.

Dr. WINKENWERDER. Senator, if I might, if you wouldn't mind, just to say we really appreciate that support, and I want to commend all of the services for the terrific work they do. Again, having come in within the last year, we have some outstanding healthcare research, and it is under appreciated, under recognized. Cholera vaccine, malaria vaccine work, even Human Immunodeficiency Virus (HIV) vaccine work, now looking at a new vaccine for anthrax, and smallpox.

And so, we're involved in all of these things and one of my goals is to better coordinate the health research at DOD with health research at NIH and the Department of Health and Human Services (HHS) because there are good things going on in both places. But I think we've got some tremendous people, very, very animated, very creative, that are doing things that are not always recognized. So I thank you for that.

Senator SPECTER. Thank you for that testimony. I just wish I had formulated a question to which there could have been an answer.

Thank you, Mr. Chairman.

MEDAL OF HONOR

Senator INOUE. If I may add to that, very few Americans are aware that the top research program on breast cancer is carried out by the military, not by NIH. The top research in the world on Acquired Immune Deficiency Syndrome (AIDS) happens to be administered by the military. And the list just goes on and on. And I think if the people of the United States were made aware of all of this, they might look a bit more kindly upon military spending.

So with that, if I may continue my questions, General Peake, you brought up something that has been bothering me for decades. As you may be aware, since the Civil War, 3,500 Medals of Honor have been issued and of that number, about 2 percent have been presented to medics, doctors, nurses, corpsmen, dentists and such. And yet, of those who have been serving on the decks of carriers or on the battlefields, they tell us time and again that when they are injured, they very seldom call out for their wives, they call out for the medic. And when a call for a medic is issued, that medic will go through anything to get to the injured.

But in the citation, unlike other citations, he has not killed anyone or captured anyone, and there have been commanders who say well, these medals are only for those who are killed or captured. I hope that your department, sir, is doing something about this, all of you. I want to be aggressive about this. General, what do you think?

General PEAKE. Sir, I think there is Ben Solomon, who just got this award. He deserved getting this award, but there was some of that same notion back in World War II, and it was only through some persistent efforts that General Scully led, or actually General Schirrar started it, that allowed this medal to come to fruition. So I agree with you, sir, and I think when we have a Chief like General Shinseki who appreciates the value of the medic as he does

from his personal experience, we are being recognized by our leadership and we will continue to make that push.

Senator INOUE. If I were married to a nurse, I would be proud to know that she had a medal. It works two ways, not just for the morale of your personnel, but the morale of those at home. Admiral?

Admiral COWAN. Sir, I have never thought of this issue in those terms before, but what you're saying strikes a chord. I think the expectation of military medicine is of excellence and when that corpsman or nurse does a heroic job, that's a job, and you have given me food for thought as to how we appropriately recognize it, and that is about all I can say at this point, sir.

General CARLTON. Sir, I concur with your comments. I believe on September 11 we did a better job. We recognized all of our medical team that performed heroically at the Pentagon, and so I think we are doing a better job now than we have done before. I think a lot has to do with taking the time to outline what are significant accomplishments and what is above and beyond the call of duty. So I concur with your comments, and we're working on that.

Senator INOUE. Mr. Secretary, are you going to make it a policy?

Dr. WINKENWERDER. It looks like we have tri-service agreement, sir.

TRICARE

Senator INOUE. Well, Mr. Secretary, Medicare payment rates for physician services, which TRICARE reimbursement rates are based on, have been recently reduced by 5 percent. Is DOD correspondingly reducing its rates?

Dr. WINKENWERDER. Mr. Chairman, our rates do mirror the Medicare rates. We call them CMAC, CHAMPUS maximum allowable charge, I think is the acronym. And that would be our plan to do so.

That said, a couple of points. First is, our participation rate in the TRICARE program this year is the highest it has ever been, and we believe our current payment rates are adequate. We don't have signs across the system that the payment rates for providers are inadequate. But that said, I want to keep a careful eye on this issue, particularly as it might affect providers in rural areas, and so we are vigilant to any signs that it could become a problem.

I know that many private sector physicians are unhappy obviously about what is in store in terms of the trends for the next 1 or 2 years for Medicare payment rates.

Senator INOUE. You have hit the problem right on the head, because the committee would not want to see beneficiaries be injured as a result of this cut. So, will you favor this committee by keeping us apprised?

Dr. WINKENWERDER. Yes, sir, we will continue to report back on the status of that issue.

TRICARE FOR LIFE

Senator INOUE. Has there been a change in the number of military retirees and their families in the treatment facility since the TRICARE for Life benefit began?

Dr. WINKENWERDER. That's a good question. I'm not sure that we have an analysis that would provide an answer to that question, and I would ask if we could take that question back and come back with an answer for you.

Senator INOUE. We have been told that it has had an impact on military hospitals and we would like to know how and to what extent this impact has been.

Dr. WINKENWERDER. Okay.

Senator INOUE. Are the others aware of any impact?

General CARLTON. Sir, we did not get funding when TRICARE for Life came about, that a military retiree would get 80 percent from Medicare and 20 percent from the military. So when we provide that healthcare, we do not get the 80 percent. The subvention issue did not carry, and so we have not been able to expand our services as we would like to our over 65 patients.

Admiral COWAN. Despite that, we note two things. One is that by and large our over 65 patients want to come to Military Treatment Facility (MTFs) and that our healthcare providers want to take care of them. So each of the services in their own way has been taking back as many over 65 patients as possible without crowding out other levels of beneficiaries. In the Navy this has been a hospital by hospital analysis of patient populations and our ability to absorb and take care of our over 65 patients.

The TRICARE Plus program that was set up by the Office of Health Affairs was an attempt to assist us in doing that by allowing us to coordinate the primary care of our over 65 population without requiring us to assume every facet of their care. That has been very helpful.

General PEAKE. Sir, we've used the TRICARE Plus as an enrollment tool, but it really was sized to the capacity that we were able to meet with the base that we were given. As General Carlton said, there was no new money that came with that for us. And then next year with full funding, we are still working the details out to insure that we have that level of funding to continue the level of effort.

TRANSFORMATION

Senator INOUE. I have a whole lot of questions here but I notice that the nurses are waiting. If I may, I would like to submit these to you for your consideration and response.

However, I have one question I would like to ask General Peake. As you know, the Army is going through this transformation. Does that include the medical services?

General PEAKE. Sir, it does. And our notion of the transformation is to leverage the kind of technologies that are in the pipeline so that we can build them into the objective force. The Striker will have a medical variant. The objective force future combat system will have a medical variant that as part of that will have our requirements built into it.

But it is also the notion of training the medic better so that we can be relevant on that 21st century battlefield. We already started some of those kinds of initiatives with the enlisted program where we train our medics for 16 weeks instead of the initial 10. They are Emergency Medical Technician (EMT-B) qualified when they come

out of school now, and we are building a sustainment program to keep those skills up.

It is all of those things that are part of the transformation. We sit in the same meetings with General Shinseki to make sure that we are in sync with where our Army is going in terms of being more quickly deployable with the right footprint to be able to take care of soldiers in that environment. When we built the Intern Brigade Combat Team (IBCT), we built a special medical footprint to fit right into it and make sure that we could operate as they needed us to operate in their support.

Senator INOUE. And you can keep up with that?

General PEAKE. Sir, we can, and in the future force, the armored evacuation vehicle for us is the M-113, and is part of the legacy force, and it has its issues with being able to keep up with Bradleys at this point.

Senator INOUE. In World War II, we all carried a little kit about the size of two packs of cigarettes. What do the men carry now for infantry?

General PEAKE. Sir, they're carrying an M-5A bag that is now being expanded to carry the ability to do airway management, splinting, IV solutions. In fact, some are carrying, as reported in the press, or will be carrying blood substitutes, and we are moving on with trying to force the technology, because we can now get a blood study, but there is research underway so that they will have the technology to make that diagnosis out on the front edge of the battlefield more quickly and identify an agent that is perhaps causing an illness and then be able to treat it and then still maybe move the patient back through the system for a better medical result.

Senator INOUE. I presume it's safe to say the marines have improved their medical kit since World War II.

Admiral COWAN. Yes, sir. In fact, each of the three services works very closely together in leveraging one another's strengths to make a safety net for our forces wherever they go. We are using more and more technology as our warriors go in smaller and smaller numbers, ever more technologically enhanced to control greater areas of ground. That has been the history of warfare, and it continues.

And I think as General Peake said, this is why we are all so intent on pushing new technologies into production: fiber bandages, blood substitutes, better vaccines to protect our warriors from the hazards of what is their office space, the battlefield. And now the Navy is concentrating on sea based medical support of operations like Afghanistan, a sea based invasion of a landlocked country where its nearest port is 750 miles away. The Air Force's ability to mobilize rapid transportation and the movement to forward position modules of fleet hospitals is enormous. We are meeting these challenges, and we will continue to work to meet tomorrow's together.

Senator INOUE. General Carlton.

General CARLTON. Yes, sir. We have been transforming for about 3 years now. An example of that would be a 10th Mountain Division soldier who was severely injured 6 hours after arrival. He was in shock in 15 minutes. And out of a back pack, a joint service

team took superb care of this gentleman after an impalement injury, and he is home with his family today.

This happened in the Apache helicopter crash of April 10, where two Army helicopter pilots were severely injured. They received very sophisticated care within 50 minutes, they were back in Germany in a subspecialty trained spine center in 16 hours, having been ventilated the entire way since injury.

And so, we are investing heavily in this transformation, we believe it is exactly what we need to do. We have recently fielded an ICU based on a personal computer, that our next generation will be a personal digital assistant size. And so, we are pressing very hard to tell our soldiers, sailors and airmen that wherever they go, there will be United States quality healthcare as quickly as the battle allows. It's really been a transformation effort.

Senator INOUE. Well, I'm certain the men and women of the armed services will be happy to hear all of this. As I said, I will be submitting questions and I hope you will look them over, sir. I thank the first panel very much.

NURSE CORPS

**STATEMENT OF BRIGADIER GENERAL WILLIAM T. BESTER, CHIEF,
ARMY NURSE CORPS, U.S. ARMY**

ACCOMPANIED BY:

**REAR ADMIRAL NANCY J. LESCAVAGE, DIRECTOR, NAVY NURSE
CORPS**

**BRIGADIER GENERAL BARBARA C. BRANNON, ASSISTANT SUR-
GEON GENERAL, NURSING SERVICES, U.S. AIR FORCE**

Senator INOUE. Now we will hear from the chiefs of the service nursing corps.

It is useful to remember that modern medicine and modern nursing began in conjunction with the military. The war that took the British forces through the Crimea also took Florence Nightingale, and she provided not only care and comfort, but also a system for organizing medical research. She brought that leadership and compassion back to England and the civilian world as what we now know as modern nursing.

In light with that great tradition and principle that nursing care is found wherever our military is found, it is my pleasure to welcome our distinguished panel of leaders. I know that they will bring us up to date on the accomplishments and challenges facing military nursing.

I would like to welcome back Brigadier General William Bester, the Chief of the Army Nurse Corps and the Commanding General of the U.S. Army Center for Health Promotion and Preventive Medicine. And we will hear for the first time from Admiral Nancy Lescavage, Director of the Navy Nurse Corps and Assistant Chief of Healthcare Operations at the Bureau of Medicine and Surgery. And more importantly, she served on my staff.

We also welcome Brigadier General Barbara Brannon, Director of the Air Force Nursing Service and Commander of the Malcolm Grove Medical Center. I thank all of you for joining us this morning and I look forward to hearing you on the issues. And may I begin with General Bester.

General BESTER. Good morning, Mr. Chairman, and thank you very much for the opportunity once again to testify before you today and talk to you about the Army Nurse Corps. This morning my focus will highlight four important concerns that relate to the ability of the Army Nurse Corps to serve this great Nation of ours: Manning, support for the baccalaureate degree as entry level into the Army Nurse Corps, our deployments, and nursing research.

Since our last testimony before this subcommittee, there has been much analysis of the current and pending nursing shortage. Nationally, only 81.7 percent of total licensed Registered Nurses (RNs) were employed in nursing in 2000. Although this rate of participation is higher than the 77 to 80 percent rates that were re-

ported in 1980, many RNs are seeking positions in nonclinical settings, further exacerbating a shrinking pool of clinical nurses.

We can expect further declines in working RNs as the older population of RNs retire and the younger population entering the profession continues to decline. By 2020 the full number of full-time employment RNs is projected to fall 20 percent below national requirements. This shortage of nurses in the civilian sector continues to have a direct impact on the Federal nursing force for both our civilian and military.

In fiscal year 2001 the Army Medical Command (MedCom) reported an 81 percent fill of documented civilian RN positions, and a 76 percent fill of documented civilian Licensed Practical Nurse (LPN) positions. Currently the MedCom has 668 outstanding recruitment actions for RNs and 358 outstanding recruitment actions for LPNs, and all of these have been open for greater than 90 days.

Although MedCom decreased the average processing time for applicants from 126 days in fiscal year 2000 to 111 days in fiscal year 2001, these unreasonable processing time frames remain excessive, resulting in a continued loss of interested qualified applicants to the civilian sector. Over the last year under General Peake's leadership, the Army Medical Command instituted measures to reverse this trend.

Our healthcare facilities expended over \$270,000 in fiscal year 2001 for local job fairs, attracting large numbers of Army nurses. Madigan Army Medical Center developed an innovative nursing internship program designed to hire nursing students immediately upon graduation. In conjunction with the Office of Personnel Management, an accelerated promotion plan was developed, reducing promotion time from entry level GS-5 to GS-9 from 2 years to 1 year, resulting in 70 RN hires.

In fiscal year 2001 under General Peake's leadership and General Peake's guidance, MedCom nearly doubles its use of superior appointment qualifications from 144 to 284. MTF commanders increased the use of relocation bonuses and retention bonuses by 25 percent and 113 percent respectively.

Despite these initiatives, we realize that we need additional tools to insure a workable and competitive system for our future. Title 5 was simply not responsive enough to meet our needs. We actively pursued Title 38 and direct hire authority to obtain more flexibility in the hiring and the compensation and promotion of nursing personnel, which has historically been severely constrained by Title 5. As a result of the recent approval of this much needed change in our civilian hiring and personnel system, we can now create a flexible and robust civilian nursing work force.

Similarly, our military nursing work force is equally challenged. In fiscal year 2001 for the third year in a row, our Reserve Officer Training Program failed its nurse recruitment mission. The U.S. Army Recruiting Command has been working hard but unable to compensate for this shortfall, resulting in a shortage of 134 budget end strength for the Army Nurse Corps in fiscal year 2001.

Fiscal year 2002 projects a 39 percent shortfall, further exacerbating our critical shortages.

Although our attrition rates have remained stable at 20 percent, we continue to experience shortfalls in certain nursing specialties.

In a recent survey of company grade officers from various specialty backgrounds, compensation and educational benefits continued to be major factors impacting on a young officer's decision whether to remain on active duty or to seek civilian employment.

We are hopeful that approval of the critical skills retention bonus that General Peake referred to earlier, if focused on our critical specialty shortages, will enhance our ability to retain quality officers in these specialized areas of nursing practice.

In addition, continued funding of the Defense Health Education and Training Program will insure that we continue to send a clear message to our great professional nursing community that they are valued and that we are supportive of their professional growth and development.

The Army Nurse Corps once again reaffirms its commitment to recognizing the bachelor of science degree in nursing as the basic entry level for professional nursing practice. The American Association of the Colleges of Nursing and the American Nurses Association believe this requirement is necessary to manage the increasingly complex and demanding roles required of nurses today. Nurse executives are indicating their desire for the majority of nurses to be prepared at the Bachelor of Science in Nursing (BSN) level nationally. Many hospitals not already requiring the BSN have established BSN preferred policies for new hires.

The Department of Veterans Affairs, our Nation's largest employer of RNs, has established the baccalaureate degree as the minimum preparation its nurses must have for promotion beyond entry level beginning in 2005, and they have committed \$50 million over the next several years to help VA nurses obtain baccalaureate or higher nursing degrees.

As the Army line units rely on officers with 4 years of college experience to read and manage our great soldiers, the Army Medical Department also demands its leaders be 4-year college graduates.

Senator, the Army Nurse Corps continues to validate its wartime mission. In fiscal year 2001, 722 Army Nurse Corps officers deployed to 18 countries around the world, consuming 14,581 man-days in support of our Army Medical Department mission. The current op tempo base is higher than ever, with over 350 Army Nurse Corps officers deployed since October 2001 already totaling over 9,783 man-days. Army nurses continue to provide excellent patient care, superb leadership, and much needed clinical services worldwide, including support of our most current mission in the global war on terrorism.

The 249th General Hospital which deployed to the Balkans for 6 months with Task Force Med Eagle provided the only Echelon III medical care to over 16 multinational forces in Bosnia and Herzegovina. The 160th Forward Surgical Team deployed to Bundase, Ghana, for Operation Focus Relief II, providing Level III surgical capabilities as well as primary care support for a Special Forces group there. Currently there are nurses deployed in three forward surgical teams in support of Operation ENDURING FREEDOM.

Finally, in support of homeland defense, Army nurses provided immediate care following the September 11 attacks on the Pentagon, making order out of chaos, setting up treatment areas, pro-

viding lifesaving care, and evacuating patients by all means possible. At Walter Reed Army Medical Center, critical care nurses not only cared for burn victims at Walter Reed, but additionally mobilized the local Washington Hospital Center to provide lifesaving care to the burn victims of our Pentagon family.

These deployment examples demonstrate that Army Nurse Corps officers will continue to deploy whenever and wherever needed, providing outstanding clinical expertise, superb military leadership, the highest quality of care to our most precious resource, the American servicemen and American servicewomen, and their commitment and dedication towards mission accomplishment in what is frequently austere environments.

Finally, Senator, I would like to just touch on Army nursing research. Army nurses have long been at the forefront of nursing research. This tradition derives from a longstanding belief among the Army Medical Department leadership that the nursing profession is built on advanced educational preparation and a body of knowledge based on scientific research.

Over the past year investigators have been actively involved in studies that address six priority areas. These priorities include sustainment training; pre, intra and post-deployment health care challenges; nursing care of our beneficiaries in garrison related to satisfaction, cost effective care and to patient outcome; ethical issues; research in women's health of deployed soldiers; and monitoring nurse staffing effectiveness and its relationship to patient outcomes. Findings from these studies will assist us in designing educational programs for the training of our military and civilian work force, as well as improving our system to better manage the health care of our beneficiary population.

I would like to take this opportunity to express my gratitude and thanks to the Uniformed Services University of the Health Sciences (USUHS) for their continued support in the training of our certified registered nurse anesthetists and our family nurse practitioners. Additionally, USUHS has been most responsive to the services' need to create a clinical nurse specialist program in perioperative nursing, which will start next year. Our continued partnership with USUHS is key to maintaining a sufficient number of high quality clinicians to meet the nursing issues.

PREPARED STATEMENT

Mr. Chairman, our Army Nurse Corps, as you can see, remains ready, caring, and very proud. We continue to be positioned, ready and fully prepared to meet the challenges of tomorrow with a sustaining focus on a strong clinical foundation, professionalism, motivation, and the unfailing commitment that has been the professional thread of our organization now for 101 years. Thank you once again for this opportunity to talk about Army nursing this morning.

[The statement follows:]

PREPARED STATEMENT OF BRIGADIER GENERAL WILLIAM T. BESTER

Mr. Chairman and distinguished members of the committee, I am Brigadier General William T. Bester, Commanding General, United States Army Center for Health Promotion and Preventive Medicine and Chief, Army Nurse Corps. I am both pleased and honored to testify before you today. This morning my focus will high-

light three important concerns that relate to the ability of the Army Nurse Corps to serve the nation: manning, deployments, and nursing research. I would first like to begin by discussing manning.

Manning.—Since our last testimony before this subcommittee, there has been much analysis of the current and pending nursing shortage by national nursing organizations and multiple congressional subcommittees. All concur that the national statistics vary in their description of the nature and extent of nurse workforce shortages, and that data is not sufficiently sensitive or current enough to compare nurse workforce availability across states, or clinical nursing specialties. Current evidence does, however, strongly suggest emerging shortages of nurses available or willing to fill vacant positions in various healthcare venues. A recent report to the Committee on Health, Education, Labor and Pensions stated that supply depends on the available number of qualified nurses willing to work in direct patient care. Nationally, 81.7 percent of licensed RNs were employed in nursing in 2000. This total varied across states from a high of 92 percent in North Dakota and Louisiana to a low of 75 percent in Pennsylvania. Although this rate of participation is higher than the 76.6 percent to 80 percent rates reported in the 1980s, many RNs are seeking positions in non-clinical settings such as managed care corporations, pharmaceutical companies and insurance companies, further exacerbating a shrinking pool of clinical nurses. We can expect further declines in working RNs as the older population of RNs retire and the younger population entering the profession continues to decline. While the average age of nurses is currently 44.4 years, Buerhaus et al, in an article, Implications of the Aging Registered Nurse Workforce, Journal of the American Medical Association, states that approximately 40 percent of the nursing workforce will be older than 50 years of age by 2010. He adds that by 2020, the total number of full-time equivalent RNs is projected to fall 20 percent below requirements. Likewise, RN vacancy rates vary widely as noted in a June 2001 American Hospital Association survey reporting overall vacancy rates as high as 20 percent in California, 16 percent in Florida and Delaware, and 13 percent in Alabama and Nevada. These statistics, coupled with the higher proportion of patients having more complex nursing needs, becomes daunting.

These factors affecting the nursing supply in the civilian sector continue to have a direct impact on the federal nursing force, both civil service and military. In fiscal year 2001, the Army Medical Command (MEDCOM) reported an 81 percent fill of documented civilian RN positions and a 76 percent fill of documented civilian LPN positions, which is a decrease of 8 percent and 6 percent respectively from fiscal year 2000. Currently, the MEDCOM has 668 outstanding recruitment actions for RNs and 358 for LPNs, which have been open for greater than 90 days. Although MEDCOM decreased the average processing time for applicants from 126 days in fiscal year 2000 to 111 in fiscal year 2001, these unreasonable timeframes to process qualified applicants remain excessive and, as a result, we continue to lose interested qualified applicants to the civilian sector.

Over the last year, MEDCOM instituted long and short-term measures to reverse this trend, making nursing in Medical Healthcare Facilities a viable employment option for civil service nursing personnel. In lieu of posting vacancy announcements, over \$270,000 was expended at the Medical Treatment Facility (MTF) level in fiscal year 2001 for local job fairs, which attracted large numbers of nurses. Madigan Army Medical Center, in partnership with nursing programs in the local area, developed an innovative nurse internship program. Student nurses, hired as interns during their collegiate days, have the option to convert to permanent hire upon graduation. Furthermore, in conjunction with the Office of Personnel Management, an accelerated promotion plan was developed reducing promotion times for entry level GS 5 to GS 9 from two years to one year, resulting in 70 RN hires. MTF commanders also made judicious use of Title 5 financial incentives designed to make salaries more competitive. In fiscal year 2001, MEDCOM nearly doubled its use of superior appointment qualifications from 144 to 284. MTF Commanders increased the use of relocation bonuses and retention bonuses by 25 percent and 113 percent, respectively.

Despite these initiatives, we realized that we needed additional tools to ensure a workable and competitive system for the future. Title 5 was simply not responsive enough to react to the tempo of change in the workforce. Through the diligent efforts of the Administration, Congress, and our military leadership, such relief has been provided through the Fiscal Year 2002 National Defense Authorization Act and the Department of Defense Appropriations Act. These Title 38 and Direct Hire Authority initiatives will allow flexibility in the hiring, compensation, and promotion of nursing personnel previously constrained by Title 5. Our charge is to now implement these plans creating a flexible, yet robust civilian nurse workforce.

Similar to our civilian employees, our military nursing workforce has been equally challenged. In fiscal year 2001, our ability to attract young nurses diminished. For the third year in a row, our Reserve Officer Training Cadet (ROTC) program failed to meet its nurse recruitment mission. The four-year timeframe to realize the benefit of any corrective action compounds the problem. The U.S. Army Recruiting Command (USAREC) has been unable to achieve the additional mission created by ROTC shortfalls, resulting in a shortage of 134 in our budgeted end strength for the Army Nurse Corps in fiscal year 2001. Projections for fiscal year 2002 nurse recruitment are more "grim" as USAREC is projecting a 39 percent percent shortfall in nurse corps accessions further exacerbating our shortage with an inventory of 3,164 versus a budgeted end strength of 3,381.

Over the last year, members of Congress made concerted efforts to create programs designed to increase the nursing market and we thank you. All of these efforts have the ability to increase the civilian sector's ability to hire; however, they also directly compete against our military programs to attract nursing students and new graduates. To level the playing field, the Army Medical Department continues to explore additional initiatives to recruit and retain quality Army Nurse Corps officers.

Although our attrition rates have remained stable at 20 percent, we continue to experience shortfalls in some of our most critical nursing specialties. A recently conducted exit survey of company grade officers in various specialties indicated that compensation, education, and quality of life are the pivotal points that affect young officers' decisions to remain on active duty. Although as a corps we have taken steps to increase flexibilities in assignments, the continued high optempo failed to reduce our attrition rates. We anticipate that through the recent directive by the Secretary of Defense authorizing the implementation of the Critical Skills Retention Bonus program, critical nursing specialties will hopefully be adequately compensated, thereby maintaining our mission requirements and assuring mission accomplishment. Additionally, within the funding of the Defense Health Education and Training Program, we hope to retain training accounts designed to develop our young officers both clinically and as leaders. Investing these resources is critical to maintaining our force structure, sending a message to our officers that they are valued.

To adequately recruit and retain our force, we must demonstrate through our actions that we recognize the unparalleled contributions of military nursing and that we show our commitment to these dedicated military officers and professional nurses via benefit packages such as educational dollars and accession and retention bonuses.

Deployment.—The Army Nurse Corps continues to validate its wartime mission through multiple deployments. In fiscal year 2001, 722 Army Nurses deployed to 18 countries consuming 14,581 man-days dedicated to our primary mission of supporting our active duty service members. The current optempo pace is higher than ever with 349 Army Nurses deployed since October 2001 for 9,783 man-days. Army nurses continue to provide excellent patient care and clinical leadership and services worldwide to include our most current mission in support of the Global War on Terrorism in the Afghanistan Theater of Operations.

The 249th General Hospital was deployed to the Balkans for 6 months, and with Task Force Med Eagle, provided the only Echelon Level III medical care to over 16 Multi-National Forces in Bosnia-Herzegovina. They provided expert clinical nursing care and support to 7,435 outpatient visits, 110 inpatient admissions, 122 medical evacuations and 95 surgeries. In addition to providing patient care, nurses were involved with many educational, training and humanitarian related missions during the deployment. The 249th successfully trained and certified 104 soldiers in Combat Life Saver Courses and graduated 51 soldiers in Emergency Medical Technician-Basic (EMT-B) Courses, with every single soldier successfully passing the National Registry Exam. They participated in "Fit Eagle", which provided health promotion and assessment activities to troops deployed in the region. The nurses provided, instructed and trained over 12 continuing education offerings monthly that covered all aspects of professional deployment and ongoing professional development.

The professional nursing staff from the 86th Combat Support Hospital from Fort Campbell, Kentucky deployed to support Operation Joint Guardian in Kosovo for Task Force Medical Falcon V (TFMF V). They provided a wide range of care that included acute illnesses, injuries, minor surgeries, rule out myocardial infarctions and acute trauma.

Forward Surgical Teams (FSTs) provide rapidly deployable immediate surgery capability that enables patients to withstand further evacuation within the forward division, separate brigade and Armored Calvary Regiment operational areas. During September 2001 in Korea, the 127th and 135th FSTs conducted a four-day live surgical exercise performing eight successful surgical procedures. This was the first

time two FSTs conducted a joint exercise. The 160th FST deployed to Bundase, Ghana for Operation Focus Relief II providing Level II surgical capabilities as well as primary care support to the Special Forces Group. This mission allowed for implementation of new doctrine for providing primary care with lab, x-ray and family practice capabilities within the FST. Currently, there are nurses deployed in three FSTs in support of Operation Enduring Freedom.

The Joint Task Force-Bravo in Honduras hosted 25 medical readiness-training exercises (MEDRETEs) in Central America. These exercises can treat up to 600 outpatients per day. The nine-day General MEDRETE provided patient care for over 5,600 patients, and convoyed to eight different locations. Additionally, the nurses provided two quarterly continuing education seminars for 38 Honduran nurses from six hospitals. These seminars addressed topics ranging from the nursing process to the care of medical and surgical patients to physical assessments with a cardiac focus to BCLS and ACLS certifications. The nurses at JTF-Bravo were challenged daily to step out of the hospital environment and function in an austere environment, providing quality nursing care to an extremely needy population. These experiences afford our military nurses the opportunity to learn about the health care system of their host nation, as well as fostering a relationship with Honduran health care professionals who could potentially be caring for U.S. soldiers.

The Reserve Component Army Nurse Corps Officers continue to support our deployed forces as well. The 399th Combat Support Hospital (CSH), U.S. Army Reserves from Taunton, Massachusetts mobilized for Task Force Med Falcon IV at Camp Bondsteel, Kosovo. The health care mission was vigorous, treating 79 inpatients and over 800 outpatient trauma victims of hostile fire, sniper fire and land mines in one 30-day period. The 399th CSH initiated an EMT Course and a Combat Life Saver Course for the 101st Airborne Division in June 2001, with nurses as the primary instructors. The nurses also were actively involved with humanitarian care, delivering quality nursing care to a community that was torn from the aftermath of a brutal war. Later in their deployment, the 399th CSH was provided the opportunity to work jointly with a British Contingent, whose added mission provided medical support to Kosovo Force troops and additional emergency care to the local national Government Organizations, United Nations and civilian populations. This joint endeavor included treating the tragic bombing incident patients involving the Nis Express Bus.

Deployments are now not only overseas, but include homeland defense. Since the horrific attacks on September 11, many Army Nurses rose to the occasion displaying their ability to respond to any adversity. These nurses made order out of chaos, setting up treatment areas, providing life-saving care and evacuating patients by any means available. At Walter Reed Army Medical Center, critical care nurses were integral in the immediate care of burn victims from the attack on the Pentagon bombing, both at WRAMC and the regional civilian burn center.

Nurses are also critical team members in the Medical Command Aeromedical Isolation Teams and the specialty augmentation response teams, known as SMART. In August 2001, members of the 167th Aeromedical Evacuation Squadron, an Air National Guard Unit from Martinsburg, West Virginia, trained our nurses on the aeromedical isolation team at the U.S. Army Medical Research Institute of Infectious Disease (USAMRIID). This unit trained on initial containment patient care to ensure patients with infectious diseases will not spread the contamination while being evacuated back to USAMRIID.

These few deployment examples highlight success stories of deployed Army Nurse Corps Officers in a myriad of settings. Army Nurse Corps Officers will continue to deploy whenever and wherever needed, providing clinical expertise, high quality care, commitment, dedication, training, and humanitarian care to accomplish the mission in, what is very frequently, very austere environments.

Nursing Research.—Army nurses have long been at the forefront of nursing research. This tradition derives from a longstanding belief among the Army Medical leadership that the nursing profession is built on advanced educational preparation and a body of knowledge based on scientific research. Last year I directed Army nurse researchers to re-prioritize nursing research programs within the Army Medical Department. The resulting agenda focuses on compelling military healthcare problems over which we have an ability to influence outcomes. Today I will share with you the progress and accomplishments demonstrated by Army nurse researchers. Over the past year these investigators have been actively involved in studies that address each of five priority areas I identified. The first priority area was the identification of specialized clinical skill competency training and sustainment requirements. Trauma resuscitative care is a key competency required of military nurses. Trauma care of the injured soldier or civilian casualty in the field differs from that provided in a fixed facility. Little is known about the extent and frequency

of trauma skills retraining required by Army nurses and medics assigned to field units. Researchers and advanced practice nurses assigned to the 67th Combat Support Hospital, the 30th Medical Brigade and Landstuhl Regional Medical Center in Europe are conducting a three-year study to evaluate the ability of our nursing staff to perform resuscitative skills to manage traumatic injuries. They will then determine the rate and timing of trauma skill degradation. The findings of this study will assist us in the design of effective military and civilian trauma skills sustainment programs.

As military roles expand beyond traditional expectations to include disaster relief, humanitarian assistance, peacemaking, peacekeeping, and treatment of detainees from the war on terrorism, emerging ethical issues borne of increasingly complex and ambiguous clinical situations in healthcare must be addressed. One Army nurse research team is studying the ethical issues experienced by Army Nurse Corps (ANC) officers and Department of the Army civilian (DAC) registered nurses (RNs) in their practices in field and garrison military hospitals. This team is characterizing the most frequent and challenging ethical issues in order to provide the foundation for pre-emptive educational programs that will prepare nurses in a variety of military settings to best manage the ethical challenges presented to them.

My second priority area was designed to identify the nursing care requirements necessary to meet the many pre-, intra-, and post-deployment healthcare challenges facing soldiers, veterans and their families. Nurse researchers at Tripler Army Medical Center are conducting two important studies, the Building Strong and Ready Families (BSRF) Study and the New Parent Telehealth Study. Both are aimed at strengthening family structures and helping young couples develop effective coping skills. In the first study, nurses and chaplains are teaching evidence-based health risk behavior modification and marital skill development. Participants who received these interventions exhibited significant reductions in personal and family stress and reported improvements in perceived quality of life and readiness to change risk behavior. In the New Parent Telehealth Study, video teleconferencing technology allowed community health nurses to maintain close relationships with young mothers at distant locations in soldier families at risk for abuse.

Great progress continues in the deployed women's health research program conducted by LTC Nancy Ryan-Wenger, an Army Nurse reservist at Ohio State University. Her work in the area of self-diagnosis and treatment of gynecological infections for military women in austere environments has been recognized by the National Institutes of Nursing Research with the award of a large research grant to further develop this work in additional civilian populations.

To date, the area that has received the most attention is that of the third priority area, issues related to the nursing care of our beneficiaries in garrison. Army nurse researchers at Brooke Army Medical Center have identified the safety and health benefits of engaging patients with cancer in programs of exercise during and after treatment; they have identified cost-effective techniques of pressure ulcer prevention; and developed a longitudinal tracking mechanism for monitoring patient outcomes in burn recovery. Each of these studies was conducted with financial support from the TriService Nursing Research Program.

The value of having a consistent funding stream for the TriService Nursing Research Program is found in a series of three nursing research studies that each build on one another, and move us closer to better understanding the health care needs of our active duty soldiers. In the first study, which occurred in the early days of TRICARE, a team of nurse researchers at Madigan Army Medical Center examined access to care for various categories of military healthcare beneficiaries. Among many findings, it was evident that active duty personnel were the least satisfied of all beneficiary groups with TRICARE. This finding has been supported by other studies as well.

The issue of active duty dissatisfaction was the stimulus for a second study that is currently in progress. In this study, focus groups are being conducted to better understand the expectations of and experiences with military health care. The beneficiary groups targeted in this study are active duty and family members of active duty. Clearly the possibility for this TriService funded study to inform and influence policy is significant.

Preliminary findings from the second study lead to a surprising discovery that is creating the foundation of a third grant being submitted for funding. Active duty personnel, both enlisted soldiers and officers, as well as family members, expressed different experiences with "soldier care" compared to traditional TRICARE, the military's managed healthcare program. Soldier care encompasses first line treatment obtained at battalion aid stations, troop medical clinics or from medics or flight surgeons. Soldier care occurs close to the units in which active duty personnel are assigned.

The third study in the series, therefore, proposes to smooth and simplify the interface between the military unit and the MTF. Improving this process has substantial readiness ramifications that may affect the individual, the military unit, and the Army as a whole from the standpoint of morale and deployability, as well as recruitment and retention.

This series of studies demonstrates the contributions possible from work that builds on prior investigations. This collection of studies identified several military unique healthcare issues that would not have been evident from any single investigation. It is important to note that some of the most influential studies will occur over time as insights build on one another—we appreciate your support of these efforts.

Just as identification of acute care nurse staffing requirements and their relationship to patient outcomes is a national concern, it is also an Army Nurse Corps research priority area. This past year, nurse researchers at Walter Reed and Madigan Army Medical Centers began implementing mechanisms for monitoring inpatient nurse staffing effectiveness and patient outcomes. This monitoring and reporting system is potentially capable of processing data from a large number of Army MTFs and may offer cost-effective real-time staffing decision support tools to nurse leaders of inpatient hospitals.

As mentioned earlier in this statement, issues related to civilian and military nurse retention in this era of critical shortages are top priorities in the Army Medical Department. The quality of the work environment for hospital-based nursing staff has come under increased scrutiny by the nursing profession and the public, especially given the national nursing shortage and efforts aimed at marketing nursing as an attractive career option for young men and women. Nurse researchers at Walter Reed Army Medical Center are conducting a 2-year study of military and civilian nurses on inpatient units in Army hospitals to identify the relationship between the work environment and nurses' intent to leave military employment.

In conclusion, Army nurse researchers are seeking the answers to important questions in military healthcare. The Army Nurse Corps is in the process of identifying areas for collaboration with researchers in the Navy and the Air Force. The TriService Nursing Research Program is supporting regional workshops to promote joint research across service lines. Your continued support of the TriService Nursing Research Program has resulted in many advances in caring for our nations most precious commodity—our soldiers, their family members, and the deserving retiree population.

I would like to sincerely share my gratitude and thank the Uniformed Services University of the Health Sciences (USUHS) for their continued support in the training of our Certified Registered Nurse Anesthetists and Family Nurse Practitioners. USUHS continues to provide us with professional nursing graduates who have a much higher percentage pass rate for national certification than our civilian counterparts. Additionally, USUHS has been most responsive to the need to create a Clinical Nurse Specialist Program in Perioperative Nursing. Our continued partnership with USUHS is key to maintaining sufficient numbers of professional practitioners necessary to support our primary care mission.

Finally Senator, the Army Nurse Corps once again reaffirms its commitment to recognizing the Bachelor of Science degree in Nursing (BSN) as the minimum educational requirement and basic entry level for professional nursing practice. We appreciate your continued support of this endeavor and your commitment to the educational advancement of all military nurses. The Army Nurse Corps remains Ready, Caring and Proud. We continue to be positioned and ready to meet the challenges of tomorrow, with a sustained focus on a strong clinical foundation, professionalism, motivation and the unfailing commitment that has been the professional thread of our organization for over 100 years. Thank you for this opportunity to present to you the many contributions made by Army Nurses.

Senator INOUE. Thank you very much, General. I now call upon Admiral Lescavage.

Admiral LESCOVAGE. Good morning, Mr. Chairman. I am Rear Admiral Nancy Lescavage, Director of the Navy Nurse Corps and Assistant Chief for Healthcare Operations at the Navy's Bureau of Medicine and Surgery. It indeed is an honor and privilege to represent 5,000 Navy Nurse Corps officers, Active and Reserve.

I would like to highlight the role of the Navy Nurse Corps, where we have established ourselves as a powerful presence in Navy Medicine, focusing on the goals of readiness, optimization and integra-

tion. I will speak to each of these goals and additionally provide an update on professional nursing in Navy medicine.

The first goal is readiness. Our readiness mission focuses on ensuring a healthy and fit force. Seventy Navy Nurses are serving in key operational billets aboard aircraft carriers, amphibious ships, Marine Medical Battalions, and as flight nurses. For Operation ENDURING FREEDOM an additional 51 Navy nurses augment our Fleet Surgical Teams, Marine Medical Battalions, and our Fleet Hospitals.

There have been several humanitarian missions and joint exercises involving a total of 130 Active and 28 Reserve nurses. At Naval Base, Guantanamo Bay, Cuba, our Navy nurses staff Fleet Hospital 20 at Camp X-Ray, and provide care to detainees.

As you know, following the events of September 11th, homeland security became a priority. Within 18 hours, our Hospital Ship *COMFORT* was steaming to New York City with nursing presence heavily represented to provide emergency care. That same day at the Pentagon readiness became reality when the triservice nursing staff extensively collaborated with civilian rescue units.

Given recent events, I want you to know that we continue to explore emergency training. A new Navy Trauma Training Program will begin this summer in conjunction with the University of Southern California and the Los Angeles County Trauma Center. At Naval Hospital Bremerton, through an agreement with HarborView Medical Center, we are also able to gain experience in the management of multiple trauma victims. Also, we have cooperative programs existing with our Naval Hospitals in Jacksonville, Florida and Pensacola, Florida.

The second goal is optimization. We continuously review our programs to meet our mission. Through the concept of the Five Rights, the Navy Nurse Corps is focused on the right number of nursing staff, with the right skills and training, in the right mix of specialties, in the right assignments, at the right time. This, now, is our biggest effort.

Many nurses occupy a variety of executive positions such as Commanding Officers, Executive Officers, and Officers in Charge. We excel in multiple Department of Defense positions as well, such as those at the TRICARE Management Activity, the Pentagon, Navy Medicine Headquarters, and in the Office of Homeland Security.

Through nurse managed clinics, we promote positive outcomes. I am thrilled to tell you that the Diabetes Management Program at the National Naval Medical Center, Bethesda, and the Asthma Case Management Program at our Naval Hospital in Jacksonville, have resulted in resource savings, better disease control, and enhanced patient compliance. Other nurse managed clinics focus on cardiac rehab, wound ostomy care, women's health, and ambulatory infusion centers. Our patients clearly love seeing the nurses in these clinics.

In the area of nursing research, we appreciate your continued support for the TRICARE Nursing Research Program. Thus far, we have completed 36 studies with 12 in progress. After a recent study on shipboard nursing on aircraft carriers, we are exploring the recommendations made because of their operational relevance, and

that is just one example. Additionally, the Diabetes Disease Management Program at Bethesda served as a pilot study for one of our grants.

The third goal is integration. Integration involves teamwork to support smooth operations with our Navy counterparts, the other uniformed services, Department of Veterans Affairs staff, and civilian partners. With the Naval Force U.S. Atlantic Fleet, for example, family nurse practitioners implement programs and render healthcare services to personnel onboard at least 40 of our ships. They provide such services as physical exams, PAP smears, and nutritional counseling in the ship's clinic as well as at pierside by the Mobile Medical Education and Clinical van. In essence, Senator, we provide care to the deckplate, thus saving lost work hours for our sailors.

In addition, Navy nurses in Rota, Spain function as critical members of the National Aeronautics and Space Administration (NASA) Space Shuttle Medical Support Team. These are just two of the numerous initiatives we have regarding integration.

Finally, our status on professional nursing in Navy medicine. Meeting our mission of Force Health Protection requires that we closely monitor the impact of the national nursing shortage. I'm happy to report that thus far, active duty Navy Nurse Corps numbers have been healthy due to our recruiting and retention efforts. Direct procurement of qualified civilian nurses accounts for 35 percent of our annual accessions. The remaining 65 percent originate from our four scholarship or pipeline programs.

In addition, we have enjoyed an increasing retention rate over the past 3 years. I believe factors contributing to our retention include graduate study opportunities; which are the number one reason why our Navy nurses stay on, diversity in assignments, job security, collegiality, operational experiences, benefits, and leadership positions.

Within the Nurse Corps Reserve, 95 percent of our billets are filled. Incentives such as the accession bonus, stipends for graduate education, and loan repayment programs are beneficial in procuring our reservists. Last year, our Navy nurse reserve officers contributed over 8,300 days in military treatment facilities and 190 days aboard our ships.

We must continue to keep recruitment and retention, as you well know, on our radar scope to be responsive to the needs of the work force. I believe that nurses seek three things: education, compensation and appreciation. We use every effort to make these provisions.

Graduate education programs in identified specialties are essential to retaining outstanding Navy nurses and to sustain a flexible work force. For the first time in our history, I'm happy to report that all of our fiscal year 2002 selections for our Duty Under Instruction Program have been dedicated solely to masters and doctoral degrees. We are pleased with the upcoming Clinical Nurse Specialist Program for Perioperative Nursing at the Uniformed Services University of Health Sciences, and also with the recent discussions regarding a possible nursing doctoral program.

In the area of compensation, active duty accessions are holding at this point with the use of the \$5,000 Nurse Accession Bonus.

Family, pediatric and women's health nurse practitioners and certified registered nurse anesthetists, as well as our certified nurse midwives, receive Board Certification Pay. In addition, our nurse anesthetists receive Incentive Special Pay.

We will continue to evaluate the need, though, for specialty pay in other fields such as mental health, perioperative, and emergency trauma nursing, as a retention tool, especially as competition increases for the dwindling supply of these nurses. Your continued assistance with these initiatives is greatly appreciated.

Civil service nurses are the foundation of our stable work force. The passing of Direct Hire Legislation and delegation of Title 38 U.S. Code pay and promotion authorities enable us to fill nursing positions and retain qualified staff members. We are in the process, as are my counterparts, of planning and implementing these new initiatives. However, we would appreciate your support in assisting to recind language in the fiscal year 2002 National Defense Authorization Bill which requires completion of a clinical education program affiliated with DOD or the Department of Veterans Affairs.

In closing, as always, I am grateful for your tremendous support. In my other role as the Assistant Chief for Healthcare Operations, I see our Nurse Corps officers as critical to the healthcare team. They possess a wealth of knowledge, admirable clinical expertise, strategic foresight, and dynamic leadership. Since our world is rapidly changing, we must remain adaptable at all times, be accountable, maintain constant readiness, and pull together as critical healthcare team members in all settings to successfully meet any challenges. I can assure you, Senator, that we do that and more.

I look forward to working with you during my tenure as the Director of the Navy Nurse Corps. Thank you for this great honor and privilege, and once we complete our questions, I will let you know which side of the dais I prefer to be on.

[The statement follows:]

PREPARED STATEMENT OF REAR ADMIRAL NANCY J. LESCOVAGE

Good morning, Chairman Inouye, Senator Stevens and distinguished members of the Committee. I am Rear Admiral Nancy Lescavage, Director of the Navy Nurse Corps and Assistant Chief for Healthcare Operations at the Navy's Bureau of Medicine and Surgery. It is an honor and a privilege to represent a total of 5,000 Navy Nurse Corps Officers, Active and Reserve. I welcome this opportunity to testify regarding our achievements and issues.

I would like to highlight the role of the Navy Nurse Corps in Navy Medicine where quality of care and Force Health Protection are vital in executing worldwide missions and in preparing for the challenges of tomorrow. In order to meet our goals, we have established ourselves as a powerful presence and primarily focus on Readiness, Optimization and Integration. I will speak to each of these goals, followed by a status update on professional nursing in Navy Medicine.

Readiness

Our readiness mission focuses on ensuring a healthy and fit force deployed and at home. Our Navy Nurses immediately respond to local communities and operational deployments on a daily basis. Seventy Navy Nurses are serving in operational billets on aircraft carriers, amphibious ships, Marine Medical Battalions, as Flight Nurses, and in key staff leadership and training positions.

In support of Operation Enduring Freedom alone, an additional fifty-one Navy Nurses have been mobilized to augment our Fleet Surgical Teams, Marine Medical Battalions, and Fleet Hospitals providing health service support to the Marines and Sailors afloat and ashore. There have been several humanitarian missions and joint exercises involving a total of 130 Navy Nurses over the past year. Twenty-eight Navy Nurse reservists have been mobilized to provide backfill for deployed mem-

bers. In addition, at Naval Base, Guantanamo Bay, Cuba, Navy Nurses with dual specialty skills have made huge contributions in staffing deployed Fleet Hospital 20 at Camp X-Ray and providing daily medical care to detainees.

Following the events of September 11, homeland security became a priority for the Nation, the Navy and Navy Medicine. Navy Nurses perform a vital role in leading Navy Medicine's effort to ensure that our people, facilities, and assets are optimally prepared to respond to any threat or actual attack.

Immediately after the attack, Navy Nurses not only responded to patient care needs, but also augmented the Federal Emergency Management Agency to assist with coordination of medical services for New York City and the Pentagon. Within 18 hours, the USNS *Comfort* was steaming to New York, with nursing staff heavily represented, to provide care to numerous emergency relief personnel. At the Pentagon, readiness became reality with the extensive TRISERVICE nursing collaboration with civilian community rescue units.

Given recent events, we continue to explore training opportunities for our Navy Nurses to maintain operational readiness to respond to critically injured patients in time of war, national emergencies, natural disasters, or humanitarian need. A new Navy Trauma Training Program has been established in conjunction with the University of Southern California and Los Angeles County Trauma Center for our Navy Nurses to obtain hands-on clinical experience in trauma. The first session for one of our Fleet Surgical Teams will begin this summer.

Partnership between military and civilian colleagues is another avenue we continue to explore to train our military nurses. One example is an agreement between Naval Hospital Bremerton and Harborview Medical Center, a Level I Trauma Center. Through this program, we successfully enhance our nurses' speed, flexibility and skill mastery in the management of the multiple trauma victim, similar to those injuries seen with casualty incidents.

Optimization

Optimization focuses on providing the right care by the right person at the right time as an integral part of our comprehensive health services delivery system. Recognized in their fields as experts and leaders, many nurses have been at the forefront of Navy Medicine as critical health care team members in meeting fiscal, regulatory and healthcare challenges into the future. They occupy a variety of executive positions such as Commanding Officers, Executive Officers or Officers in Charge of Clinics. Navy Nurses excel in strategic and leadership positions at Department of Defense Health Affairs, the TRICARE Management Activity, the Pentagon and headquarters assignments in establishing and implementing policy. In addition, visionary leaders are assigned to new positions, such as the Deputy Director of Navy Medicine's Office of Homeland Security.

Across Navy Medicine, our professional nursing community is comprised of active duty and reserve Nurse Corps officers, civil service nurses, and contract nurses. We continuously review our processes to meet our mission by emphasizing the concept of the "Five Rights." These rights focus on the right number of nursing staff, with the right skills and training in the right mix of specialties, in the right assignments, and with the right formal education. Nurse-managed clinics and nursing research studies are a few examples where we have maximized the benefits of these five rights to bolster the level of increased population health and positive patient outcomes.

At the National Naval Medical Center (NNMC) in Bethesda, the Diabetes Disease Management Program utilizes Department of Veterans Affairs and Department of Defense protocols with success. Nurses function in key roles as nurse practitioners, case managers and certified diabetes educators resulting in a potential cost avoidance of approximately \$200,000, better disease control and enhanced patient compliance. At the Naval Hospital in Jacksonville, the Asthma Case Management Program utilizes National Institute of Health guidelines, with significant resource savings of 56.5 percent and better patient outcomes through patient education, a coordinated self-monitoring plan and physician/nurse follow-up. In addition, in other military treatment facilities like Naval Medical Center San Diego and Naval Medical Center Portsmouth, nurse-managed clinics focus on cardiac rehabilitation, diabetic education, wound ostomy care, women's health, and ambulatory infusion centers.

In the area of nursing research, we appreciate your continued support for the TriService Nursing Research Program. Since the program's inception in fiscal year 1992, we have completed 36 studies with 12 in progress. We continuously review the results to enhance our practice and provide opportunities for further research. For example, we are exploring the recommendations of a recent study on shipboard nursing on aircraft carriers because of its relevance to our operational readiness. In

addition, the Diabetes Disease Management Program at NNMC served as a pilot study for one of our grants.

Integration

Integration involves teamwork to support smooth operations with Navy counterparts, other uniformed services, Department of Veterans Affairs staff, and TRICARE civilian partners in all clinical settings. The following examples focus on Force Health Protection as well as other unique missions.

With the Regional Support Group for Naval Surface Force, U.S. Atlantic Fleet, Family Nurse Practitioners provide leadership in implementing programs and rendering healthcare services to Navy and Marine personnel on 40 ships in support of population health management, medical readiness, patient education and primary care. They provide these services in the ship's clinic as well as at pierside through the Mobile Medical Education and Clinical Unit. Physical exams, PAP smears and nutritional counseling are just a few of the specific services provided at the deckplate.

Our Navy Nurses in Rota, Spain function in an exciting role as members of the NASA Space Shuttle Medical Support Team. Nurses receive extensive training in trauma, hazardous materials injuries, and space physiology. They become critical members of the health care team that must be "in place" prior to launch time.

Professional Nursing in Navy Medicine

Our success in meeting our mission of Force Health Protection requires that we closely monitor the impact of the national nursing shortage, like our colleagues in the other services. Given the aging of the current registered nurse workforce, the decreasing number of students who choose nursing as a career and the ever increasing demand for professional nursing services, the current and future number of registered nurses is insufficient to meet our national health care needs. Many studies, such as the one conducted by the Bureau of Labor Statistics, have predicted that jobs for registered nurses will grow by 23 percent, meaning that the need for nurses will grow by about 500,000 positions by the year 2008.

Thus far, the Navy Nurse Corps numbers have been healthy due to recruiting via diversified accession sources over the past ten years. Direct recruitment of qualified civilian registered nurses and reservists account for 35 percent of annual accessions. The remaining 65 percent originate from our current scholarship or "pipeline" programs, such as the Nurse Candidate Program, Medical Enlisted Commissioning Program, Seaman to Admiral Program and Navy Reserve Officer Training Corps. To help ensure a healthy and stable Navy Nurse Corps, these programs have served us well in recruiting and retaining the high caliber of Navy Nurses currently on active duty.

We have also been able to sustain our end strength requirements through our increasing retention rate over the past three years. Factors contributing to our retention include: graduate study opportunities, diversity in assignments, job security, collegiality, operational experiences, benefits, and leadership positions.

Over the past year, our Reserve Nurse Corps officers have enhanced our ability to meet our regular mission requirements and have provided a total of 8,384 days in military treatment facilities within the United States and abroad as well as 190 days on ships. We presently have 95 percent of our Navy Nurse Reservist billets filled. Our recruiting goal for fiscal year 2002 is 272 reservists. Incentives such as the accession bonus, stipends for graduate education and loan repayment programs are beneficial in procuring our reservists. In addition, we are encouraging the nursing leadership at military treatment facilities to market potential affiliation with the Reserves for those Navy Nurses who are choosing to be released from active duty.

It is critical that we continue to keep recruitment and retention on our "radar" scope in order to be responsive to the needs of the work force market. I have noticed that nurses seek three things: education, compensation and appreciation. We make every effort to make these provisions.

As previously cited, education and training is the number one reason for retention of Navy Nurses. Graduate education programs in identified specialties are essential to meet patient care needs, retain outstanding Navy Nurses and sustain a flexible workforce. For the first time in our history, all fiscal year 2002 selections for the Duty Under Instruction Program have been dedicated to Masters and Doctoral Degrees. We will continue this focus since all accessions into the Navy Nurse Corps are based on a qualifying Bachelor of Science in Nursing degree. We are also pleased with the upcoming start-up of a Clinical Nurse Specialist Program for Perioperative Nursing at the Uniformed Services University for Health Sciences and recent discussions regarding a Nursing Doctoral Program at the University.

Compensation, other than pay and benefits, includes bonuses. Active duty accessions are holding at this point with the use of the \$5,000 Nurse Accession Bonus. Board certification pay is provided to our Family, Pediatric and Women's Health Nurse Practitioners, Certified Registered Nurse Anesthetists (CRNA) and Certified Nurse Midwives. In addition to their board certification pay, there is a two-tiered incentive special pay system that exists only for CRNAs at \$6,000 or \$15,000, depending upon completion of their training obligation. We will continue to evaluate the need for specialty pays in other specialized fields such as Mental Health, Perioperative and Emergency/Trauma Nursing as a retention tool, especially as competition increases for the dwindling supply of nurses.

Our civil service nurses enable us to provide quality nursing care through a stable work force in our military treatment facilities. In the past, we have expressed our concerns over the differences in compensation and hiring practices between and among the government and private sectors, in order to maintain an adequate level of civilian nurses. Your support in passing Direct Hire Legislation for civil service nurses and delegation of Title 38 U.S. Code pay and promotion authorities enables us to fill nursing positions and retain qualified staff members.

In closing, I appreciate your tremendous support with legislative initiatives and the opportunity to share the accomplishments and issues that face the Navy Nurse Corps. In my other role as Assistant Chief for Healthcare Operations, I see our nurses as critical members of the healthcare team in all settings, from development of clinical and business plans and policies to program implementation. Our nurses possess tremendous knowledge, admirable clinical expertise, strategic foresight and dynamic leadership. Since our world is rapidly changing, we must remain adaptable at all times, be accountable, maintain constant readiness, and pull together as critical Health Care Team members in all settings to successfully meet any challenges. I can assure you we do that and more.

I look forward to working with you during my tenure as the Director of the Navy Nurse Corps. Thank you for this honor and privilege.

Senator INOUE. General Brannon.

General BRANNON. Good morning, Mr. Chairman. It is a great honor to represent the 19,000 Active, Reserve and Guard Air Force nursing personnel as their Assistant Surgeon General, Air Force Nursing Services. This is my third testimony before this committee and that reminds me how quickly time passes, and how rapidly our world can change from one year to the next.

Today we are a Nation at war and fully engaged in defeating the vast network of terrorists who would rob us of our security and deprive us of our freedom. I am proud to be an American and I am particularly proud to be an Air Force nurse.

PENTAGON ON SEPTEMBER 11, 2001

Our nurses and medical technicians were in the trenches when American Airlines flight 77 hit the Pentagon on September 11th. They quickly found themselves triaging and caring for the injured on the Pentagon lawn. Their outstanding clinical skills and leadership undoubtedly saved lives that day. Since that horrific event, Air Force nurses and medical technicians have provided vital support during Operation ENDURING FREEDOM.

SPECIAL OPERATIONS SUPPORT

The unusual characteristics of our enemy and the dynamics of this battlefield have put our medics in far forward positions to directly support Special Operations units. Be assured, our Air Force medical technicians, surgical nurses, and critical care air transport nurses are very near the front lines. Active duty, Reserve and Guard medical evacuation crews have transported 721 patients to date from forward operating locations to medical facilities in both Europe and the United States.

AFGHANISTAN

Our nursing air evac teams also provided care in the air during the transport of detainees from Afghanistan to Guantanamo Bay.

TRAINING

Training is the critical success factor to insure nursing is ready to meet a wide range of readiness requirements. The Air Force has established training platforms in civilian trauma centers where our teams can hone those critical wartime skills. We call these programs Center for Sustainment of Trauma and Readiness Skills (C-STARS), which stands for centers for sustainment of trauma and readiness skills. Forty nurses and 100 medical technicians will be among those trained this year at our active duty C-STARS at the Shock Trauma Center in Baltimore.

On the home front, the nursing profession is fighting its own campaign to provide enough nursing care to meet the growing demand in our country. It is a campaign to improve working conditions, to polish the image of nursing, and to attract more people into our wonderful profession. The Department of Health and Human Services forecasts the requirement for 1.7 million more nurses by 2020, but estimates that only 635,000 will be available.

AIR FORCE RECRUITING

Air Force recruiting continues to be challenged by the nationwide nursing shortage. Last year we did not meet our nurse recruiting goal for the third consecutive year, and we were 215 nurses below our authorization of 4,005. This year's recruiting requirement is 383 nurses and as of last month, 252 had been selected for a commission. We expect to end the year with 275 accessions. While this is still short of our requirements, it actually represents an almost 21 percent increase over last year's accessions. This is a strong indicator that our new recruiting strategies and policies are having a positive impact.

This past year nursing has partnered even more closely with recruiting service to provide additional support and tools at the local level to maximize recruiting. Nurses from our Air Force facilities are holding open houses and visiting local schools of nursing to assist recruiters in spreading the good news about Air Force opportunities. We have also developed compact disks (CDs), brochures and business cards to be used to advertise Air Force nursing benefits. Last summer I assigned a nurse to each of our four recruiting groups to work directly with potential nurse recruits and also to liaison with Reserve Officer Training Corps (ROTC) units to increase the number of nurse candidates.

One tool our recruiters are not finding as successful as in years past is the \$5,000 accession bonus for a 4-year commitment. Two years ago, 61 percent of our accessions accepted the bonus and signed on for 4 years. Last year that dropped to 29 percent, and this year, so far it's a meager 19 percent that are accepting the bonus and signing for 4 years. We must continue to look for recruiting incentives that will be more competitive with the generous benefits offered by civilian employers.

RETENTION RATES

Based on historical retention rates and models, I anticipate the Air Force Nurse Corps will be about 400 nurses under our authorization at the close of this year. Although we will dip down to just under 90 percent of our requirement, there is a bright spot on the horizon. Last month we received the authority to grant \$2.5 million this year in loan repayments for baccalaureate nursing education and we have already had an overwhelming response to the program. More than 100 active duty nurses have signed up and applied for the loan repayment. This has great potential to increase retention in our most critical areas.

On another positive note, I am delighted to report that retention rates among our first-term enlisted medics has increased this year to 58 percent following the implementation of the selective reenlistment bonus. While this is a real success story, retention among career enlisted members, those with 10 to 14 years of service, still remains five points below our Air Force goal.

PRIMARY CARE OPTIMIZATION

Nursing personnel continue to be a backbone of the successful implementation of primary care optimization (PCO). This proactive healthcare systems focus on preventive services and on population health programs. A pivotal member of that PCO is the healthcare integrator, which is a role not really seen in the civilian healthcare system. Health Care Investigators (HCIs) are nurses who coordinate healthcare services for a large patient population and make sure that patients receive the right care at the right time from the right level of provider. Each Air Force medical facility now has at least one HCI who has been trained in our formal course, and we are seeing a positive impact reflected in increased patient satisfaction and in better clinical outcomes.

PRACTICAL NURSES

I am also happy to report that we have made progress in strengthening our healthcare team by increasing the number of licensed practical nurses. This educational program is provided by St. Phillip's College in San Antonio, and the clinical training is at Wilford Hall Medical Center. Last year 40 enlisted members earned their certification and they are now practicing in this expanded role.

NURSE RESEARCH PROGRAM

This year we have continued to capitalize on funding available through the tri-service nursing research program. Air Force nurses are engaged in studies on readiness training and nursing practice models. Your advocacy and financial support of nursing research enables us to build our military nursing science and to improve patient care.

PREPARED STATEMENT

Mr. Chairman, I appreciate the opportunity to share our tremendous Air Force nursing accomplishments. The tumultuous events of this past year will live forever in our memories and in our history.

I am proud beyond words at the dedication of the patriotism and of the heroism displayed by Air Force nurses every single day, and I can assure you that they are fully prepared to support our fighting forces and the men, women and children of our United States. Thank you for your tremendous support and leadership as we protect and defend the greatest Nation in the world.

[The statement follows:]

PREPARED STATEMENT OF BRIGADIER GENERAL BARBARA C. BRANNON

Mister Chairman and distinguished members of the committee, I am Brigadier General Barbara Brannon, Assistant Surgeon General, Air Force (AF) Nursing Services and Commander of Malcolm Grow Medical Center at Andrews Air Force Base. It is my honor and privilege to represent the 19,000 dedicated members of the active and reserve components of AF Nursing Services. This is my third testimony before this esteemed committee and that reminds me how quickly time passes and how rapidly the world can change from one year to the next. Today we are a nation at war and fully engaged in defeating our enemy, the vast network of terrorists who would deprive us of our freedom and rob us of our security. I am so proud to be an American and equally proud to be serving in our Armed Forces. As a people, we have shown great resolve, tenacity and a remarkable degree of solidarity. We have demonstrated again the strength of character and the morale fiber that is the foundation of our great nation. Those who do not understand our core values seriously underestimate our might. More than ever, I am proud to be an Air Force Nurse. We have provided the critical support and care upon which our war fighters depend when they are in harm's way—lifesaving care—and a lifetime of caring.

Readiness

Air Force Nursing Services is committed to responding anytime, anywhere to our nation's call and we are prepared to support the full spectrum of readiness missions from war-winning operations to humanitarian, civic assistance, and disaster response. Our nurses and medical technicians "were in the trenches" when American Airlines Flight 77 hit the Pentagon on September 11. Major Bridget Larew is an Air Force nurse practitioner at the Pentagon's DiLorenzo TriService Clinic. When she reported for duty that day, she never imagined she would be caring for patients on the lawn of the Pentagon but she was trained and ready to respond. Major Larew took charge as the initial on-scene clinic commander and quickly organized a triage team with over 100 volunteers. She also provided direct care for burn patients and other casualties. Major Larew's outstanding clinical skills and leadership saved lives that day.

Since that horrific event, Air Force nurses and medical technicians have provided vital support during our war on terrorism, Operation ENDURING FREEDOM. The unusual characteristics of this enemy and the dynamics of this campaign have resulted in unprecedented requirements for our independent duty medical technicians to provide medical support to special operations units. Additional training is required to prepare our medics for the special operations environment and they are proving to be vital members of these units. Lieutenant Colonel Paul Beisser, a certified registered nurse anesthetist (CRNA) leading a Mobile Forward Surgical Team (MFST), recently commended the seamless interoperability he witnessed during treatment of trauma victims in a Special Forces mass casualty incident.

Due to the shortage of anesthesiologists, our CRNAs have had increased opportunity to demonstrate their tremendous clinical skills and leadership. Lieutenant Colonel Sheryl Claybough, a senior CRNA assigned to Wright-Patterson Air Force Base, deployed to Prince Sultan Air Base, Saudi Arabia, as Medical Operations Squadron Commander and Surgical Team Chief from August through December 2001. She excelled in interaction with all Joint Forces in the area, significantly impacting the continued success of Operation SOUTHERN WATCH.

In addition to CRNAs and independent duty medical technicians, we have deployed critical care and emergency nurses, perioperative and medical-surgical nurses, and medical technicians. These personnel are members of smaller, more capable medical teams than we have assembled in the past, and these modules are "additive" to provide the right level of support and services to meet the needs of the population served. Some examples of these modules include the Mobile Forward Surgical Team (MFST), Critical Care Air Transportable Team (CCATT), and the Small Portable Expeditionary Aeromedical Rapid Response (SPEARR). Our more capable, but still relatively modest in size, Expeditionary Medical Support System (EMEDS) is deployed incrementally and has 25–85 personnel assigned depending on

services available. EMEDS can support a population of up to 5,000 personnel with emergency and operating room services and an inpatient capability between 10 and 25 beds. Forty-five percent of the EMEDS are deployed far forward in the battlespace of Operation ENDURING FREEDOM.

In 2001, Air Force nurses and technicians provided care in the air to over 20,000 patients in our aeromedical evacuation (AE) system. In support of Operation ENDURING FREEDOM, Active Duty, Reserve and Guard AE teams have transported 366 patients from the Central Command (CENTCOM) Theater of Operations to medical treatment facilities in Europe and the United States. These missions carried 154 urgent/priority and 212 routine patients. In addition, our nursing AE teams provided medical care during the transport of detainees from Afghanistan to Guantanamo Bay.

When the Houston, Texas community called for help during their disastrous flood in June 2001, Air Force nurses and technicians responded as part of a 25-bed EMEDS that deployed from Wilford Hall Medical Center. Air Force medics provided care to 1,000 people during the 13-day deployment and they also got valuable field training during the experience.

The Air Force Surgeon General's Readiness Skills Verification Program has paved the way in identifying clinical skills needed for deployment thereby ensuring personnel are current in their practice and ready to deploy. We developed readiness skills checklists for each of our 14 nursing specialties and identified training gaps. Air Force Nursing is now closing those gaps by assisting with the development of training platforms at civilian trauma centers. Known as Centers for Sustainment of Trauma and Readiness Skills (C-STARS), these sites are offering outstanding sustainment training for our critical care, perioperative, and emergency nurses and technicians.

Captain Kristine Pinckney from Elmendorf AFB, Alaska, was one of the first Air Force nurses to train at our premiere C-STARS, R. Adams Cowley Shock Trauma Center in Baltimore, Maryland. She sharpened her trauma skills with the assistance of four Air Force nurse instructors who are appointed to the University of Maryland School of Medicine clinical faculty, and work and teach in the trauma resuscitation units and surgical suites. Captain Pinckney's impression: "Excellent course! I provided hands-on care to critically ill trauma patients using a team approach. Now I feel more prepared and confident to care for patients during deployment." The state-of-the-art shock trauma center will be accommodating 40 Air Force nurses and 100 medical technicians throughout 2002. In addition, we are beginning to explore ways to partner with the Department of Veterans Affairs to coordinate joint clinical skills enhancement training.

Recruiting

The nationwide shortage of nurses continues and has the potential to impede the ability of healthcare institutions to provide the best quality patient care. Last year, the Air Force Nurse Corps experienced our third consecutive year of failing to meet our nurse recruiting goals. We have recruited approximately 30 percent less than the recruiting goal each year and we ended fiscal year 2001 at just over 200 nurses under our authorization of 4,005. Our fiscal year 2002 accession requirement is 383 nurses and as of April 2002, 252 nurses have been selected for a direct commission and we expect to end the recruiting year with 275 new accessions. In light of these continued recruiting shortfalls, we have worked hard to balance our vacancies across our facilities and minimize the impact on the mission. Where possible, facilities have contracted with civilian nurses to fill critical needs.

We have identified new strategies to boost recruiting and have made several policy changes to enable more nurses to qualify for a Nurse Corps commission. In the summer of fiscal year 2001, Recruiting Services asked for a review of the nurse accession educational requirement because of their difficulty in recruiting nurses with a Bachelor's of Science in Nursing (BSN) degree. We have had a "BSN only" accession standard since 1997; however, we acknowledged that an adjustment was prudent and necessary in light of the nursing shortage. We returned to our earlier policy of allowing accession of nurses with an Associate Degree in Nursing (ADN) and a baccalaureate degree in a health-related specialty, and one year of nursing experience. To date, only three nurses have taken advantage of this new policy since its implementation in September 2001.

Another policy change in fiscal year 2001 expanded the pool of potential nurse recruits with clinical skills critical to support our wartime response; this pool includes nurse anesthetists, medical-surgical nurses, mental health and critical care nurses. In August 2001, we began commissioning nurses in these critical wartime specialties up to age 47, as opposed to the previous age limit of 40, and we also granted them one-year constructive service credit. The maximum age to serve on active duty

remains 62 years for nurses, so those over age 42 continue to be ineligible for retirement unless they have had prior military service. We have had 21 nurses above the age of 40 enter under this policy. In addition, our nursing specialties that are manned below 90 percent receive the one-year constructive credit as well. These specialties include Obstetrics, Neonatal Intensive Care, Midwifery, Women's Health and Pediatric Nurse Practitioners.

Recruiting Services has also indicated that their biggest hurdle in nurse recruiting has been the requirement for one year of clinical experience. In the past, we capped our new graduates or novice nurses at 25 percent of our accession goal due to limited clinical training opportunities in our hospitals. In fiscal year 2002, we increased the recruiting goal for new graduates to 33 percent of our total recruiting requirement by expanding our training capacity at larger facilities. Furthermore, I authorized that the 12-month experience requirement for "fully qualified" nurses be waivable to 6 months, depending on the quality of the individuals' clinical experience. There have been 10 waivers, 100 percent-approved in fiscal year 2002.

Incentives used to persuade registered nurses to choose the Air Force as a career include Reserve Officer Training Corps (ROTC) scholarships, constructive service credit for experience in undermanned specialties and accession bonus programs. In fiscal year 2001, 44 nurses entered the Air Force after graduating from Air Force ROTC programs. We recently increased our goal to 70 graduates in light of our increase in training capacity for new graduates at our larger facilities. ROTC is an excellent "grow our own" program and these graduates bring great talent to our corps. We are closely monitoring recruiting data to determine if these incentives are successful in attracting these talented clinicians.

In previous years the \$5,000 accession bonus for four years of service was successful in attracting nurses to military service. This past year we saw a decrease in the number of nurses opting to commit to a fourth year in order to receive the \$5,000 bonus. In fiscal year 2000, 61 percent of our nurse accessions took the bonus, but in fiscal year 2001 we saw a dramatic reversal; only 29 percent signed on for four years with the remaining 71 percent opting for no bonus and only a three year obligation. We will continue to explore means to be more competitive with civilian employment incentives.

Approaching the recruiting challenge from many directions, Air Force Nursing Services is currently evaluating educational scholarship programs to boost recruiting. The Navy Nurse Corps' recruiting has remained remarkably stable and their success is attributed to their collegiate scholarship and stipend programs.

As Assistant Surgeon General for Nursing Services, I am personally and energetically engaged in our officer recruiting efforts. I have written to nurses inviting them to consider nursing opportunities in the Air Force, manned recruiting booths at professional conferences and hosted a one-day recruiting event at Malcolm Grow Medical Center for deans and students in nursing programs at northeast universities. I travel frequently and take every opportunity to highlight the exciting and rewarding opportunities Air Force Nurses enjoy. I have also assigned several nurses to work directly with recruiting groups and focus exclusively on nurse recruiting. Recruiters are using innovative strategies to champion Air Force Nursing through marketing materials, websites, conference coverage and other publicity campaigns.

Retention

Our end strength reflects both accession shortfalls and losses through attrition. At the end of fiscal year 2001 there were 3,790 nurses on active duty, 215 below our authorized endstrength. This deficit is projected to grow to over 400 by close of fiscal year 2002 based on historical nurse retention data. We have had a decrease in retention beyond the initial active duty commitment. Given today's retention environment, 69 percent will remain in the Nurse Corps until their fourth year of service as opposed to 79 percent in 1995. Twenty-eight percent will stay until their eleventh year of service vice 46 percent in 1995. The stop-loss program was implemented for all Air Force nursing specialties following the September 11, 2001 terrorist attacks and it continues to be in effect.

Last year, I directed that every nurse who voluntarily separates be interviewed by the Chief Nurse, or a senior Nurse Corps officer in their organization. Exit interviews were standardized to facilitate identification of factors that most influenced nurses to separate prior to completing a full military career. Nurses indicated they might have elected to remain on active duty if staffing improved, if moves were less frequent, if they had an option to work part time, or if they could better balance work and family responsibilities. Junior nurses also cited non-competitive salaries as being instrumental in their leaving. We are actively working to improve staffing through recruiting efforts and have developed standardized staffing ratios for our facilities. Studies show that higher staffing levels of all types of nurses result in a

decrease in adverse patient outcomes from 2 to 25 percent and enhanced job satisfaction. The other desires cited by separating nurses cannot be accommodated within the structure of our active duty nurse corps. We continue to offer Reserve, National Guard, and Public Health Service opportunities for those who need more stability and flexibility in their service commitment.

We appreciate the critical skills retention bonus Congress authorized in the fiscal year 2001 NDAA which amended U.S. Code Title 37 to establish broad officer and enlisted retention bonus authority. It provides payments of up to \$200,000 over a career for members qualified in a Secretary of Defense designated critical military skill. Currently, the Secretary of Defense is evaluating whether health professions will be designated as a critical skill. In anticipation, the TriService Health Professions Special Pay Working Group is evaluating future funding, and we have identified and rank-ordered our critical nursing specialties. These specialties include obstetrical nurses, mental health, medical-surgical, neonatal intensive care, CRNAs and Women's Health Nurse Practitioners.

Anticipating a severe shortage of CRNAs, we instituted an unprecedented loan repayment program in fiscal year 2001 that grants reimbursement of education costs up to \$25,000 per year of training, for a maximum of two years or \$50,000. This was intended as a recruiting tool, available for civilian CRNA students willing to sign on for an additional three years. It is being marketed heavily by our Air Force nurse anesthesia consultant and there appears to be growing interest. Equally promising, we have just received funding for one-hundred \$25,000 loan repayments for other nursing specialties. The \$2.5 million will be used this year to offer loan repayment to nurses on active duty between six months and eight years and who are willing to accept an additional 2 year active duty obligation. Thus far, we have had an overwhelming response and received over 100 applications which meet the established criteria. This program has great potential to boost retention in critical year groups.

I am delighted to report that retention of our first term enlisted nursing personnel has improved after the implementation of a selective reenlistment bonus. Last year I reported a medical technician first term retention rate of 51 percent, the lowest in seven years and well below the goal of 55 percent. Rates rose above the goal in February 2001 and, by September, reached 58.7 percent. While this is a great success story, retention among career enlisted members, those with 10 to 14 years in service, remains at approximately 90 percent, significantly lower than their goal of 95 percent.

We appreciate your continued support of legislation focusing on improving military quality of life and benefits. Quality of life issues, including child care, housing, salary and benefits, and workload are cited in Air Force Chief of Staff surveys as major factors considered when people make career decisions.

Primary Care Optimization

Air Force nursing personnel are the "backbone" of the successful implementation of Primary Care Optimization (PCO). This endeavor remains a high priority in the Air Force Medical Service because 50 of our 74 remaining medical treatment facilities are outpatient clinics only. Key nursing initiatives that support the delivery of best-quality primary care services include the addition of Health Care Integrators (HCI) on our clinical teams and an increase in the number of nurse condition-management clinics.

The HCI is without civilian counterpart and they have proven to be invaluable since the implementation of the role three years ago. These highly experienced nurses manage the healthcare of an enrolled population by identifying their needs and ensuring they receive the right care at the right time, from the right provider. The HCI assists leadership in determining specialty care requirements availability based upon their populations' health, and in prioritizing resources.

This past year, we evaluated the progress in the implementation of the HCI role and how well we were preparing and supporting our HCIs. Based on feedback from our facilities and working HCIs, a course was designed to better prepare these nurses to meet their responsibilities. Each MTF now has at least one nurse who has completed the course and this has enhanced job satisfaction and greater success in our population health initiatives.

Several examples illustrate the importance of the HCI. At Ellsworth AFB, the HCI readdressed a TRICARE Lead Agent's decision to disapprove funding for an insulin pump machine for a diabetic patient. The patient was on the verge of kidney dialysis and was a frequent appointment user—clearly a "high cost" patient. The good news in this case is that the proactive HCI, Major Christine Liddle, conducted a thorough cost analysis and facilitated approval of the insulin pump. This case alone saved \$50,000 per year in renal dialysis care and preserved the quality of life for

the patient. In addition, the TRICARE regions' policy on insulin pump purchases changed and better health maintenance was possible for many other patients.

At the local level, the HCI at FE Warren AFB in Wyoming noticed an alarming pattern of non-compliance with medical recommendations among the population of 200 diabetic patients. The HCI orchestrated a Diabetic Patient Profiling Program for those needing glucose testing and also provided comprehensive diabetic education. The patients began to demonstrate an enhanced desire to "take control of their disease" as evidenced by a surge in their completion rate of critical laboratory testing ordered by their healthcare providers. A phenomenal 95 percent of the diabetic patients at FE Warren completed their lab work as compared to 53 percent the year before, a rate well above the national target of 87 percent. This is a big step in the direction of better health since it has been demonstrated that close monitoring of lab values, coupled with the adoption of a healthier lifestyle, reduces the risk of cardiac disease, blindness, kidney damage, and serious infections associated with diabetes.

In women's health, the HCIs at MacDill AFB made a positive impact in promoting mammograms for those in high risk categories for breast cancer. They launched an innovative marketing campaign during October 2001 that resulted in 151 women being screened in one month, five of whom were subsequently diagnosed with early breast cancer. This early identification and intervention increased their five-year survival rate from 85 to 95 percent. The Air Force has been focused on prevention for many years, and nurses in our primary care clinics ensure that preventive health assessments and interventions are part of every patient visit.

Our enlisted personnel are also key members of our PCO teams and integral to the success of our population health programs. They have been at the forefront of our initiative to decentralize immunizations and provide this service in all Primary Care Clinics. By closely monitoring patients' immunization status and administering medications during their clinic visit, our medical technicians have increased the number of children protected by immunizations and have ensured that our active duty members are fully immunized in advance of deployments.

Last year I spoke of the vast untapped potential of our enlisted force, and I am happy to report that we have made exceptional progress in our initiative to increase the scope of practice for our enlisted nursing personnel and to boost the number of Licensed Practical Nurses (LPN) on our nursing team. We have partnered with a civilian college to provide LPN education and clinical training and, in 2001, we had 40 enlisted members successfully complete the program and earn their practical nurse certificate.

The continued financial support of the TriService Nursing Research Program enabled us to fund valuable studies on new technologies in the patient care environment and on military nursing practice models. Nurses at Wilford Hall Medical Center in San Antonio, Texas, conducted research on wartime nursing competencies. This initiative used a web-based computer assisted training program (STAN) and an innovative simulation laboratory to assess the readiness skills of over 200 clinical nurses. This research spawned a wartime injury sustainment-training program that boosted the readiness of over 75 percent (170) of the medical-surgical nurses assigned to Wilford Hall Medical Center. The clinical skills targeted as a requirement for wartime nursing have been validated by a review of the injuries seen in the casualties from the campaign in Afghanistan, and in the survivors of the New York City and Pentagon bombings. Many of the victims suffered bomb blast injuries, hemorrhagic shock, orthopedic and spinal injuries, thermal/inhalation injuries and head trauma. The nurses who received additional training based on the findings of the study are now well prepared to provide combat casualty care.

As I forecasted during last year's testimony, we initiated the AFMS Nurse Telephone Triage Demonstration working group this past summer. Our hypothesis is that nurse telephone triage facilitates patient access to the appropriate level of healthcare in the timeframe needed. The goals of the project include improving access to care, boosting patient and staff satisfaction, and decreasing the inappropriate use of costly civilian emergency department (ED) visits. This project was initiated with a \$100,000 TriService Nursing Research Program grant. This two-year study kicked off in July 2001 at three sites in Florida—Patrick AFB, MacDill, and Tyndall AFB—and 14 triage nurses are assigned to the project.

The triage nurses collaborate with the patient and the primary care teams to ensure referral to the right level of care to meet the patients' needs. In September 2001, the MacDill AFB triage nurses "re-directed" 220 callers planning to go to the ED to a more appropriate level of care—saving approximately \$20,000. Evaluation indicated that 50 percent of the callers did not need an acute appointment within 24 hours and they were referred for routine visits or instructed in appropriate home care. We anticipate that this study will support nurse telephone triage as a valuable

patient-focused practice that facilitates appropriate care for patients in a timely manner.

After the alarming medical mishap statistics were reported by the Institute of Medicine last year, we immediately evaluated our patient safety programs. We applied for and received a grant from the TriService Nursing Research Program that helped us develop a prototype virtual schoolhouse on "Medical Team Management" for use in training medical personnel throughout the AFMS. This program combines facilitated and web-based modules to teach the principles of teamwork, communication, stress management and other human factor interventions to prevent medical mishaps. The actual rollout of the program began last month and evaluation of training will begin soon. We believe this program has the potential to prevent accidents in the medical system and preserve patients' faith in our healthcare professionals.

Closing Remarks

Mister Chairman and distinguished members of the Committee, the past year has been a tumultuous time in our Nation that will live in our memories and be recorded in our history. As the Air Force Nurse Corps' leader during this tragedy and its aftermath, I have been proud beyond words of the skill, patriotism, and heroism displayed by Air Force nurses and medical technicians. They serve our fighting men and women stalwartly and willingly, and possess a passion and spirit that has allowed them to persevere when faced with monumental tasks and challenges. They are prepared to go anywhere, anytime, to support our military forces and the men, women, and children of our great nation. Thank you for your tremendous support and leadership as we protect and defend the greatest nation in the world! GOD BLESS AMERICA!

CERTIFIED REGISTERED NURSE ANESTHETISTS

Senator INOUE. Thank you very much, General Brannon. I think I will start with the Air Force. I have received reports that indicate that your fiscal year 2001 initiative on loan repayments for certified registered nurse anesthetists (CRNAs) has been a great success. Is that correct?

General BRANNON. I believe we are still awaiting funding for that, sir.

Senator INOUE. You haven't received the funding for that?

General BRANNON. I'm sorry, we have received funding for CRNA loan repayment, but we have not had many takers. I think we had only one new accession this year who accepted a loan repayment, so it hasn't made a great deal of difference.

Last year we were about 90 percent manned with CRNAs, which is very critical to our Wartime and Peacetime Mission. With our current stop-loss program, we sit at 100 percent manning, but when the stop-loss is lifted next year, we expect it to go down to about 82 percent, which will be a critical problem for us.

LOAN REPAYMENTS

Senator INOUE. Obviously there is a shortage of nurses all over the land. Keeping that in mind, do you have any ideas, notwithstanding your chiefs sitting in back of you.

General BRANNON. With regards to improving recruiting of nurses, next year, I understand we will also be allowed to offer loan repayments for recruiting service, and I think that is going to have tremendous potential to draw new people into the Air Force. As I go around and visit at student nurses meetings and at other professional symposia, the recruiters tell me that one of the main questions that people come up and ask with regard to military service is, do you have a loan repayment program, and the next question is, what kind of bonuses and incentives are you willing to

offer me. I think once we get folks into the military, the rewards are very obvious, but to attract them to take the chance, sometimes it takes a little bit more.

Senator INOUYE. Admiral, any ideas as to what we should be doing?

Admiral LESCAVAGE. Yes, Senator. In the late 1980s we experienced a nursing shortage. Fortunately my predecessors instituted several programs to help prevent that hitting the Navy Nurse Corps again, and fortunately for us, that's why we enjoy the numbers we do today.

Nurses find Navy nursing very attractive. As I mentioned in my testimony, nurses want to be appreciated, compensated and educated. I also highlighted the number one thing on their list for staying in is education. We have the opposite problem in our middle ranks. We can't get enough of our nurses to depart. That is beginning to slow our promotion numbers and it will be interesting to see the effects when our numbers for promotion slow.

As far as charming the nurses on the outside, I feel as General Brannon highlighted, our recruiting efforts are just going into the schools, adopting schools, sending nurses in there to the nursing programs and showing them what we're all about in the Army, Navy and the Air Force.

Also, with accession bonuses, most of our nurses coming in for the first time accept that \$5,000 accession bonus. I feel if that went away, that would stop a lot of people from coming in. So the compensation piece is there right now. It may have to go higher in the future if we see the numbers change; but I feel we are at the peak now in seeing that we, as the Navy Nurse Corps, will sustain our numbers. It will be interesting this time next year to see where we are. Right now, we're okay.

Those programs we offer, in order to guarantee our nurses, with certain numbers coming in, are the ROTC Programs, Nurse Candidate Programs, our Direct Accession, our Reserve Recall Program, and our Medical Enlisted Commissioning program. And through that last program I mentioned, it is an absolute thrill to see some of our corpsmen or enlisted Sailors come into the Navy Nurse Corps after having enlisted experience.

General BESTER. Senator, a couple things regarding accessions. First of all, I think one of the accession mechanisms that we use is certainly the Army enlisted commissioning program. The Admiral just referred to it and we have the same equivalent program in the Army. General Peake this year has allowed us to jump from 55, where that program normally was, to 75, so we are bringing an additional 20 people in. It's a great system because what we get out of the graduates is, we've already got a soldier, all we need to do is get him settled into the profession of nursing. So that's one of the ways we're attacking this thing.

I think the accession bonus is a great issue, and we have supported the Air Force's submission of a Unified Legislative Brief (ULB) in April to increase the accession bonus to a ceiling of \$30,000, although the intent of our services is, at least the Air Force and Army at this time, is to use that up to a level of \$10,000. I think \$10,000 gets us in the equivalent ballpark that we see our

civilian counterparts offering to new graduates as they try to recruit those folks into civilian institutions.

The health professional loan repayment program is working extremely well for us in the Reserves for our CRNAs and our critical care nurses. Those monies are just becoming available and General Peake and I will be sitting down to look at those opportunities as far as using some of those dollars in that arena for next year.

As far as retention goes, I think the issue on retention is two-fold. First of all, I think we need to focus on those critical shortages we have, certainly anesthesia and operating room nursing in the Army, and we have addressed that by forwarding a request for the critical skills retention bonus to be started this year.

And I think the second point is, as the Admiral brought up earlier, the reason most of our nurses, midrange nurses stay in the Army Nurse Corps, are the educational opportunities, i.e., graduate level education that we support them so well in. So I think it would be imperative that we continue to fund those kind of programs.

NURSING RESEARCH PROGRAM

Senator INOUE. Speaking of education, in the fiscal year 2002 Defense Appropriations Bill we directed the Secretary of Defense to fully fund the research program and once again, we find that it's not funded. Do you think it should be funded fully?

General BESTER. Senator, we find that the tri-service nursing research program is critical to what we do as far as establishing a scientific basis for our nursing practice, and it has been well received over the last decade that that has been in operation. I know that the Institute of Medicine in 1996 developed a committee to look at and to basically evaluate the tri-service nursing research program, and they saw a real need to look at nursing specific issues as it relates to the military, and the recommendation was that we have military nurses do that research. So, we find that program very key to where we will be in the future and to progressing the profession of nursing in the military, so we would certainly like to see that program continue.

Senator INOUE. Admiral.

Admiral LESCAVAGE. Senator, in my opinion, to not fully fund our research program is a great mistake. Research is how, indeed, we make ourselves better and it has tremendous value added for all of us and all of our beneficiaries.

One of my personal goals as Director of the Navy Nurse Corps is to further expand our efforts in research that will impact our practice and everyday policy. We indeed have always appreciated your support for the Tri-Service Nursing Research Program (TSNRP) funding. Through that, we have been able to better support, as I mentioned, the study that we just finished on the aircraft carriers for carrier nurses. We have standardized our Health Promotions Program, including smoking cessation and weight and cholesterol reduction. Other pending projects are going to help us focus on quality of life and our families' needs during the stressful times of deployment.

Our researchers have really done a great job in recent years in improving their methodologies and highlighting through publication what they have done and we have all learned from that. With-

out the TSNRP funding, we certainly risk valuable research that would ultimately, in my view, impact Force Health Protection.

Senator INOUE. General.

General BRANNON. Our Federal Nursing Services Council has really advocated the tri-service nursing research program be a very high priority for funding and we are disappointed that it did not achieve funding again this year. I am concerned that if it is not funded, we will lose the ability to conduct some of that military specific research, some of the readiness research that civilian funding sources might find a little too narrow or too unique to fund. So, I think its continuation enables us, as I said earlier, to forward our military nurses science.

Senator INOUE. I realize that you should not object to a command decision from above, but hearing from you three, we can assure you, it will be refunded fully. So if you get punished by the Secretary of Defense, please send me a note.

UNIFORMED SERVICES UNIVERSITY OF THE HEALTH SERVICES

Senator INOUE. One of the matters that gives me great pride is the success of USUHS. The retention rate of graduates of USUHS beyond the obligatory period is higher than West Point, Annapolis or the Air Force Academy. I think it says something about the medical profession. What about the graduate school of nursing? Are you having any problems in retention?

General BESTER. Sir, as I mentioned earlier, we think the world of USUHS. We think it is key to who we are. Currently we send all of our family nurse practitioners to graduate level education through the USUHS program. We think they not only get a fine education, which by the way, Senator, they score on the certification exam much higher than the national average, our graduates coming out of USUHS.

Senator INOUE. Almost 100 percent.

General BESTER. Yes, sir, it is 100 percent pass rate. All of the graduates that come out of USUHS rave about the program out there and rave about the quality of education they get. Certainly we also use that program for our certified registered nurse anesthetists, and I am looking very much forward to the CNS program and perioperative nursing study starting next year. We think that USUHS provides us not only the educational base and foundation that we need, but certainly gives us the military orientation during that training that you just don't get in any civilian program, so we think it's key to who we are.

Senator INOUE. Do you believe that this graduate school should be permanently funded?

General BESTER. Yes, Senator, I do.

Admiral LESCAVAGE. Senator, what's not to like about USUHS? They serve us well, not only in the graduate school of nursing, but in all the other schools they have. Certainly retention is great for the students graduating from there. I find particularly exciting that they are able to accommodate a special need of ours this year, and that is to start a program for our operating room nurses, a masters degree program. I see that the opportunities at USUHS, and what we can do in training, will enable our military members to be even better at what they do every day. And again, with doing

research, looking at the needs of our patient population and then generating programs for how we best can train not only our nurses but all of those working in the military medicine, all the better. The anesthesia program for nurses up there is incredible, as well as the Nurse Practitioner Program, and I thank you for that.

GRADUATE SCHOOL OF NURSING

Senator INOUE. Do you think the graduate school of nursing should be permanently funded.

Admiral LESCAVAGE. Yes, sir.

Senator INOUE. How about you, General Brannon?

General BRANNON. Yes. We have 152 Air Force nurses that are graduates of the USUHS graduate school of nursing, both family nurse practitioners, certified registered nurse anesthetists, and we currently have 13 CRNAs in the program. As my counterparts have said, they do enjoy 100 percent pass rate on certification. I think one of the best things about the program is they really have the flexibility to build into the curriculum current readiness education needs and the people going through the program, particularly CRNAs, have an opportunity for field experience and using the equipment that they will use in the field. So they really come out ready to go to war and ready to function in that operational as well as a peacetime environment, and we certainly couldn't get that anywhere else. So, the graduates are enthusiastic, the supervisors that they come back to are very enthusiastic, and I think retention has been excellent.

CRNAs, however, once they finish their term of service do tend to leave, and it's very difficult to keep them in the numbers that we require.

Senator INOUE. They receive \$180,000 a year on the outside.

General BRANNON. Correct, sir, and that does seem to be compelling.

We can keep them to 20-year retirement often, which is a good thing, but very few feel the need to stay longer.

Senator INOUE. Do you believe that the graduate school of nursing should be permanently funded?

General BRANNON. Without a doubt, sir. I think of it as an institution that has room to grow.

CIVILIAN JOINT PROGRAMS

Senator INOUE. I have many questions I would like to submit to you but finally, we have been receiving reports from civilian facilities, emergency rooms in hospitals, in which your nurses have been engaged in programs with their staffs, and they are extremely pleased and they want us to continue this. Do you think it should be continued. General?

General BESTER. Senator, are you referring to our trauma programs?

Senator INOUE. Yes.

General BESTER. Yes, we found those programs to be wonderful programs and a big benefit to our forward surgical teams. We had the program at Ben Taub in Houston and we recently moved it to Miami. It has been an excellent program, and I know General Peake is in frequent contact with the program down there to make

sure that our physicians and nursing personnel that are going through that program are getting the kind of training that they need, and all we are getting is positive feedback, so we are very much in favor of that program.

Admiral LESCAVAGE. Yes, Senator, it's really critical because with what we do in many of our military treatment facilities, we do not see the type of trauma cases and emergency cases that we need to in order to better hone in on our skills. And as I explained in my testimony, we have four programs that are ongoing and I would like to see even more as we better connect with our civilian counterparts. What they can do for us and with us is incredible. I feel we have only just begun in that arena.

General BRANNON. Within our Air Force healthcare system, we are more a network of clinics and small hospitals than large facilities. We have five medical centers and it is difficult for our people to maintain the clinical skills critical to our readiness tasking, so I think these civilian joint programs are imperative and they are working very, very well. I mean, people have come back from them, we have done some evaluation, and found they have been able to bring their skills up to a level that is eminently deployable, sir.

Admiral LESCAVAGE. Senator, if I may also add, this is a good place to do recruiting. We have recruited some of those people, some of the nurses into our programs.

Senator INOUE. Several months ago I visited an emergency room in Los Angeles County and I believe there were just as many military nurses there as civilian nurses, and it happened to be Saturday night so it was very very busy.

ADDITIONAL COMMITTEE QUESTIONS

I would like to thank all of you for your participation and your testimony. If I may, I would like to submit a few more questions, a little bit of homework, and if you would return your responses to us, the record will be kept open for 2 weeks, and we would appreciate that.

[The following questions were not asked at the hearing, but were submitted to the Department for response subsequent to the hearing:]

QUESTIONS SUBMITTED TO WILLIAM WINKENWERDER

QUESTIONS SUBMITTED BY SENATOR DANIEL K. INOUE

DEFENSE HEALTH PROGRAM (DHP)

Question. How can the Department assure that in fiscal year 2003 the direct care system doesn't suffer at the expense of the TRICARE contracts? Has the DHP fully accounted for contractor claims (change orders, bid price adjustments, and requests for equitable adjustment)? If not, how can the Department be sure that there is enough money budgeted for private sector care?

Answer. The Department believes that the fiscal year 2003 DHP President's Budget is realistically funded, to include a 15 percent increase for pharmacy in the direct care system. The TRICARE contracts are funded at a growth rate of 12 percent. This accounts for all currently approved change orders, bid price adjustments and requests for equitable adjustment. The Department has implemented several initiatives to increase oversight, improve performance and contain costs of the health care programs. Examples are performance contracts and Military Health System (MHS) Executive Review.

Question. Is the Department suppressing any areas of the DHP budget to stay within a given top-line amount? If so, please describe.

Answer. The Department is not suppressing any areas of the DHP budget to stay within a given top-line amount. The fiscal year 2003 DHP President's Budget represents a realistic projection of the financial requirements necessary to meet the healthcare delivery responsibilities of the Department.

Question. A significant cost driver to the Defense Health Program budget has been rising pharmacy costs. How does the Department plan to control costs for this benefit, including Senior Pharmacy?

Answer. An integral factor in controlling pharmacy costs within DOD is to pursue every opportunity to take full advantage of the Department's access to best Federal prices for pharmaceuticals. The pharmacy benefit structure is evolving to encourage maximal use of Military Treatment Facilities' pharmacies and the National Mail Order Pharmacy (NMOP) program where the Federal prices are readily available.

In the TRICARE Senior Pharmacy program, for example, over 43 percent of a day's supply dispensed is through the NMOP program, a result of our marketing and education efforts to beneficiaries. Another example is an increase in the Basic Core Formulary at our military pharmacies, providing access to a wider range of drugs specifically targeted to the older population. Additionally, we continue to explore opportunities to partner with the Veterans' Administration for providing pharmacy services to DOD beneficiaries, thereby providing yet another venue at Federal prices.

On a larger scale, the recently published proposed rule to establish a DOD Uniform Formulary includes three cost control mechanisms: (1) A three tier co-pay structure, based on the commercial best business model, provides a tool allowing DOD to negotiate the best possible pharmaceutical prices for both beneficiaries and the government; (2) the three tier co-pay also encourages beneficiaries to select equally effective, less expensive medications; and (3) movement of market share from the more costly retail network to the National Mail Order Pharmacy (NMOP) will further generate savings for both the government and beneficiaries when beneficiaries elect to continue on non-formulary medications.

When implemented, the proposed rule will deliver a uniform, consistent, and equitable pharmacy benefit, allowing for patient choice, while optimizing resources. Cost savings are dependent on product negotiations, beneficiary selections regarding products and point of service, and formulary decisions made by the DOD Pharmacy and Therapeutics Committee.

MILITARY TREATMENT FACILITIES (MTF)

Question. Is it costing taxpayers more or less to treat TRICARE For Life (TFL) beneficiaries in the Military Treatment Facilities (MTF) where the MTFs have to cover the full cost of care than if they receive private sector care since Medicare pays for 80 percent of the costs and TFL is the secondary bill payer?

Answer. From the perspective of the Military Health System (MHS) budget, it would undoubtedly cost the MHS less to treat TFL patients in the private sector since the accrual fund pays 20 percent of the cost while Medicare pays 80 percent, the largest portion of the cost. If care were provided to Medicare eligible patients in MTFs, the DOD would be paying 100 percent of the care costs. Therefore, the DOD has no economic incentive to shift greater levels of Medicare eligible care to their MTFs.

However, the current levels of Medicare eligible patients being treated in MTFs are necessary to present the types of cases required for military physicians and supporting staff to maintain clinical skills to meet our wartime mission. Losing this case-mix would seriously hamper readiness and imperil our military Graduate Medical Education (GME) programs.

From the taxpayer's perspective care in the MTFs is often less expensive than care purchased from the private sector, when the true cost to the government is tabulated (OSD accrual fund plus Medicare).

T-NEX

Question. How much progress has been made in the development of the next generation of TRICARE contracts (T-NEX)? Furthermore, what guarantees are there to ensure that the next generation of contracts will be an improvement over the previous round of contracts?

Answer. The Department is on a very aggressive schedule and progress is being made. Prior to the initiation of the T-NEX activities, TMA senior management met with representatives of the Surgeon Generals and approved an outcome based, best practices approach to the development of the contracting structure to continue the TRICARE program in all regions. Management approved the establishment of an Integrated Product Team (IPT) (known as the Request for Proposal [RFP] Develop-

ment Team [RDT]) to develop the concepts of the new performance-based contract. The RDT, composed of representatives from the Surgeons General, each TMA directorate and each Lead Agent, developed the government's objectives and requirements. Interspersed between these government-only meetings were two, week-long public forums attended by health care delivery industry representatives to include the current TRICARE Managed Care Support contractors (MCSCs), consultants, and TRICARE beneficiary fraternal organizations. The RDT, upon considering the public's input, developed a draft RFP and posted it on the TRICARE website for comments. A third public forum was held to provide the government an opportunity to present the concepts contained in the RFP and once again solicited the public's input, which again included input from the incumbent contractors.

The T-NEX contracts' development process has greatly benefited from this public and industry input as many of the concepts developed for a best practices approach will be carried over into the new contracts. Our partnership with industry, to include all current TRICARE contractors, continues as evidenced by their active participation in the recent industry forums. They were held for the TRICARE Retiree Dental Program (January 10, 2002), the TRICARE National Mail Order Pharmacy program (September 26, 2001) and the proposed design for the contracts to replace the MCSCs (October 25–26, 2001). These forums are invaluable as we continue to explore industry best practices to improve on the current TRICARE contracts structure while not changing the basic structure of the program. As we continue to develop the T-NEX contracts, more public forums will be held to solicit valuable industry and incumbent contractors' input.

It is the Department's intention to capitalize on the lessons learned from the earlier generation of contracts and continue to make gains in customer service, quality and access to care, and economize where industry best practices can improve the status quo. In addition, the requirements being developed for T-NEX are less prescriptive and outcome-based (versus procedural) and carry with them incentives for superior performance and service.

Question. When will the Department be releasing the request for proposals for T-NEX, and what is the timeline for contract award and start dates?

Answer. We do not have definite timelines for the healthcare/admin RFPs at this time as we are still in the process of developing requirements. In addition, significant contract related decisions have not been finalized. Once these key decisions have been made we will be able to develop timelines.

MEDICAL EXPENSE AND PERFORMANCE REPORTING SYSTEM (MEPRS)

Question. The Medical Expense and Performance Reporting System (MEPRS) is being used as a basis for calculating the amounts to be transferred to the accrual fund. What are you doing to improve the reliability of the cost and patient care information in MEPRS?

Answer. The TRICARE Management Activity (TMA) has established the MEPRS Management Improvement Group (MMIG), a joint Service and TMA workgroup chartered to develop, implement and manage MEPRS policies and procedures. This includes integrating the collection, processing and reporting of standard workload, financial and labor data in the Expense Assignment System (EAS). The MMIG has developed a MEPRS Management Improvement Plan, through which it has implemented several recent initiatives designed to improve data quality:

Workload and Financial Reconciliation Data.—Quality assessment tools for workload and financial reconciliation have been developed and deployed. These tools provide standard audit processes that identify and explain variations and provide crosswalks between data collected in source systems and data reported in MEPRS to ensure data quality. Each Service medical department has published a financial reconciliation procedure that must be used as part of the Military Health System (MHS) Data Quality Management Control Program.

MEPRS Early Warning and Control System (MEWACS).—The fielding of Early Warning System IV (EAS-IV) in fiscal year 2002 has dramatically decreased the time required for Military Treatment Facilities (MTFs) to review and submit their monthly MEPRS data reports, so that virtually all MTFs are now able to submit their data within 45 days after the end of the month. To capitalize on the availability of more timely data, TMA has developed a new tool that automates many analytical functions for MTF review. MEWACS is a web-enabled interactive automated Microsoft Excel workbook that provides timely, reliable and relevant MEPRS data feedback (in both tabular and graphical formats) to each MTF, proactively identifying data anomalies in sufficient time to make appropriate corrections. To complement this process, the TMA staff analyzes regional, Service and MHS-wide data to detect trends and assists MTF personnel in detailed analyses and in cor-

recting root causes of data errors. An updated MEWACS workbook is posted monthly on the TMA web site.

MEPRS Application and Data Improvement Workshops.—TMA has developed and implemented an improved MEPRS education and training program targeting personnel responsible for data management and reporting. This hands-on course focuses on proper interpretation and application of MEPRS data, and provides a detailed understanding of the enhanced capabilities of the EAS-IV Data Repository. Feedback from participants in the first three iterations of these workshops has been extremely positive.

Question. To better determine the costs associated with TRICARE For Life, how is the Department tracking the utilization rates for the Medicare-eligible beneficiaries for care obtained at the MTF as well as care obtained in the civilian health care system?

Answer. The Department is able to directly measure utilization of purchased civilian health services for TRICARE For Life (TFL) because purchased care TFL claims records are explicitly coded as TFL claims. For utilization of TFL services in the Direct Care system, the Department is currently using utilization rates for all age 65 and over beneficiaries. This is an approximate approach. It gives a slightly high estimate because it includes the workload of a relatively small number of age 65 and over beneficiaries that are not eligible for TFL (a small number of age 65 and over beneficiaries never became eligible for Medicare). The Department is currently making changes in its automated systems so that it can reliably distinguish TFL-eligible from TRICARE-eligible age 65 and over beneficiaries in MTF workload data.

Question. The improvement of information technology compatibility and the establishment of an interoperable electronic patient record system are priorities both internal to DOD and between DOD and VA. When will these systems be operational?

Answer. DOD strongly supports the need for appropriate sharing of electronic health information across federal agencies and is committed to ensuring that VA has the information required to provide continuity of care and benefit eligibility determinations for eligible veterans. The Composite Health Care System II (CHCS II) is the DOD medical and dental clinical information system that will generate and maintain a comprehensive, life-long, Computer-based Patient Record (CPR) for each Military Health System beneficiary. The Military CPR will ensure complete and standardized medical records will be available 24 hours a day anywhere in the world throughout the Service member's DOD life cycle. CHCS II is currently undergoing user testing and formal DOD operational test and evaluation. Worldwide fielding of CHCS II is expected to begin in the first quarter of fiscal year 2003. This effort will meet the DOD and VA long-term information sharing objectives.

For near-term information sharing, DOD and VA have collaborated extensively to deliver a technical solution using the Federal Health Information Exchange (FHIE), formerly known as Government Computer-based Patient Record (GCPR), an interface between DOD's CHCS I and Veterans Health Information Systems and Technical Architecture (VistA). DOD has transmitted protected health information from approximately 3.75 million records on 1.8 million retired and separated service members to VA. DOD will continue to transmit protected health information to VA on a monthly basis. The Memorandum of Agreement and High Level Planning Document addressing the governance of the FHIE initiative and other interagency initiatives that may arise in the future was signed May 3, 2002. VA has successfully completed testing. Enterprise-wide use of the FHIE within VA is anticipated to begin late in the third quarter of fiscal year 2002.

Question. To what extent does the fiscal year 2003 budget request reflect savings due to joint ventures with the Department of Veterans Affairs (VA)? What opportunities exist in the out years for additional savings due to joint ventures?

Answer. Any operating costs the Department of Defense (DOD) is able to avoid through its joint ventures with the Department of Veterans Affairs (VA) certainly has a positive effect on the Defense Health Program budget. However, there is no system in place that reports a specific amount of the operating cost of each joint venture that would have been greater if the joint venture did not exist. Significantly, each joint venture model resulted from new construction and operates somewhat differently than all others. Additionally, in all but one, DOD is the host. That means that VA took advantage of DOD's new construction needs to plan for their requirements in the new facility. The economies of scale unquestionably benefit both Departments. Most importantly for DOD, VA staff augments DOD's medical capability resulting from skill shortages or deployments. However, other benefits to DOD would not show up in the budget. For example, military surgeons performing surgery on both DOD and VA beneficiaries are able to maintain combat-related skills that would otherwise be difficult to achieve. While these are not identified as budget

line items, they are indirectly taken into consideration by the Services in their annual budget formulations.

Opportunities exist wherever there are DOD and VA facilities near each other, or for that matter where there is a military mission and adequate numbers of veterans and military beneficiaries to justify a jointly operated medical facility. The joint ventures have typically resulted from both agencies coordinating their health care needs and integrating their requirements in well planned-out economically based joint operations.

DEFENSE ENROLLMENT ELIGIBILITY REPORTING SYSTEM (DEERS)

Question. Since accurate budgeting is dependent on knowing the user population, what is the Department doing to ensure that the Defense Enrollment Eligibility Reporting System (DEERS) accurately reflects the eligible population?

Answer. The Defense Management Data Center (DMDC) has worked closely with the Services for many years to improve the quality of the data that is found in DEERS. The Services have made major strides and more are expected.

DMDC meets with the Service representatives several times a year for a working level discussion of issues and requirements. Concentration is on accessions, separations, unit changes and promotions/demotions. The Air Force, previously the most timely, used to provide transactions every other day for these four actions. However, since June 1, 2001, the Air Force has had serious data processing difficulties. In April 2002, DMDC sent a team to San Antonio to review the problems and re-emphasize the need for timely and accurate data. The Air Force is doing everything it can to resolve the issue. Other Services are making internal changes to support more frequent submissions to DMDC.

DMDC edits transactions from the Services and provides extensive reports back to the Services reflecting quality of specific data elements in addition to late or lacking accessions/separations etc. Moreover, DMDC has formed a quality assurance team to specifically identify and implement additional quality assurance techniques to further the improvement of the data quality within DEERS.

RAPIDS (the ID card application) has been modified to more tightly control the adding of uniformed Service members, even when documentation reflects they are entitled. Policy now requires all but very junior grades be added to DEERS via the official personnel system. Analysis had revealed that most of the additions of more senior personnel were due to SSN/Name issues needing resolution within the personnel system. The need for ID cards for our junior members and the lack of true real-time Service feeds to DEERS makes it necessary to still allow the adding of new recruits. Updates to the RAPIDS application continue to add more stringent edits, related to the adding/changing of family members. A Joint Service User's Manual is reviewed on a regular basis with a special three day annual meeting totally devoted to this document.

Each Service has a Personnel and a Medical Project Officer to represent them to discuss DEERS and RAPIDS issues. This group meets four times a year to discuss new requirements, data quality issues, and other issues. DMDC not only attends all of these sessions but provides extensive support to the group.

QUESTIONS SUBMITTED BY SENATOR ROBERT C. BYRD

ARMED FORCES INSTITUTE OF PATHOLOGY (AFIP)

Question. Over the past decade, there have been at least four separate studies undertaken to investigate potential solutions for AFIP's facilities problems, with no results. Is there still a need for new AFIP facilities?

Answer. The need for appropriate facilities for the AFIP is clear. At present the AFIP is housed in nine buildings in five locations throughout the District of Columbia and neighboring Montgomery County, Maryland. Its facilities are scattered and largely obsolete. Many of them are leased commercial properties with insufficient security.

The need for new and/or renovated facilities first surfaced in 1990, when the Army Surgeon General recommended that a new AFIP facility be located on the campus of the National Naval Medical Center (Bethesda, MD). There it could complement the Uniformed Services University of the Health Sciences, Armed Forces Radiobiology Research Institute, Howard Hughes Institute, National Library of Medicine, and the National Institutes of Health. An architectural engineering study by the Engineering Field Activity-Chesapeake concluded that the AFIP's main facility (Building 54 of Walter Reed Army Medical Center) was obsolete and that a move to Bethesda was feasible.

In 1996–97, three independent studies conducted by architectural and engineering consultants examined Building 54 and found serious life-safety issues. All three recommended extensive immediate renovation of the facilities for continued short-term clinical and laboratory use.

Since 1998, the scope and missions of AFIP have been under continuous study and review. The Army Medical Command provided a total of \$17 million of Operations and Maintenance funds in fiscal year 2000 and 2001 to upgrade Institute systems to minimal standards. Most recently, the Army Medical Command was provided \$25 million in fiscal year 2002 to continue repair of the facility.

In an fiscal year 2000 report to Congress, the ASD(HA) confirmed the need for 620,000 square feet of modern space for AFIP (composed of administrative, clinical, laboratory and laboratory support space) and that the best economical solution to the AFIP facilities issue was new construction.

Question. Please describe in detail the various roles that the AFIP plays in national security. In light of the events of September 11, do the current facilities adequately meet the intensified demands on the AFIP? How has the AFIP's workload increased since September 11?

Answer. The Armed Forces Institute of Pathology (AFIP) supports the Department's readiness mission. AFIP is a designated reference laboratory for the Department of Defense and the Department of Veterans Affairs. Several other federal agencies also routinely use AFIP for consultation, education, and research. The AFIP is unique within DOD in that it is the only laboratory that combines both the research and clinical aspects of healthcare, allowing it to include clinical consultation and correlation in its assessment of healthcare problems.

Specific categories of AFIP's national readiness roles include:

1. *CBRNE (Chem/Bio/Radiation/Nuclear/Explosives) Role:*

—Development of "fingerprint" identification of CBRNE threats which would facilitate rapid identification and characterization of threats as well as mass screening of personnel who might have been exposed to such a threat agent.

—Interaction with the Global Emerging Infection Surveillance System (GEISS), which is a linked global public health surveillance system that facilitates early detection of illnesses that could be the result of bioterrorism.

2. *Environmental Pathology:* AFIP's unique capabilities in the area of environmental pathology are critical in assessment of heavy metals toxicity, chemical threats, and radiation illness, all of which are potential terrorist weapons.

3. *Armed Forces Medical Examiner (AFME):* The AFME provides support to armed forces throughout the world. The staff in the Office of the Armed Forces Medical Examiner (OAFME) is routinely called upon to investigate deaths of military personnel whether or not these incidents are combat related. The staff was also called upon to investigate the deaths that occurred at the Pentagon and in Pennsylvania as a result of the terrorist attacks of September 11, 2001.

The facilities at AFIP are inadequate for some of the examinations that are required in support of national security. AFIP's Bio Safety Level 3 laboratory is currently undergoing upgrades to meet the strict standards of the CDC's Laboratory Response Network for the handling of potential biothreat agents.

Question. Why does the fiscal year 2003 budget not include funding for new AFIP facilities if the need is so great and long overdue?

Answer. The Department is currently evaluating options to address this long-term need. In the meantime, efforts are ongoing to upgrade the existing facility using Defense Health Program Operations and Maintenance funds. While a series of repair projects to the existing laboratory enables continuation of mission functions, it does not solve the long-term problem of providing AFIP with modern and sufficient laboratory space.

Question. If the AFIP is not high enough on the Department of Defense's (DOD) priority list for funding, is there merit to considering transferring the responsibility of the AFIP, or certain functions of the agency, from the DOD to another federal office or agency? If so, what agencies might be best suited to assume AFIP functions? Which AFIP functions should remain at DOD?

Answer. Throughout its long history, AFIP has provided outstanding support to DOD, other federal agencies, and to civilian medicine throughout the world. One of the main reasons that AFIP has been able to succeed at its mission is because of the institutional, intellectual, and scientific synergy that characterizes the organization. AFIP's success is attributed to its three integrated missions of research, clinical medicine, and education. AFIP also has a tremendously rich repository of rare and interesting cases that allows current pathologists to draw on the expertise of those before them.

Regardless of AFIP's organizational placement, DOD will continue to require its services, such as support from the Office of the Armed Forces Medical Examiner.

At this time the Department is evaluating options for the future of AFIP. A study that is scheduled for completion in Fall 2002 will assist us in clearly understanding both the future requirements for AFIP and alternatives for its financing and operation.

Question. Is it imperative that all functions of the AFIP be in one location?

Answer. It is not imperative that all functions of the AFIP be in one physical structure. The current requirement cites a need for a new research/clinical facility of 420,000 square feet, the renovation of the existing building (Building 54), and continued use of Building 53 and the two AFIP tissue repositories at Forest Glen Annex. This plan consolidates AFIP functions on the Walter Reed Army Medical Center (WRAMC) campus and the Forest Glen annex.

The bulk of the Institute's consultation (100,000 cases annually), education (500,000 hours), and research requires multiple components of the Institute for coordination and mission completion. Before a diagnosis is rendered, several departments review most AFIP cases. The Institute by nature is a synergistic organization. It is possible, but less than optimal, for certain functions, such as the DNA Repository and Tissue Repository, to be remotely located. This geographic separation would be at a cost in terms of timely mission response; additional site management, security, force protection and staffing; increased costs associated with specimen shipping and handling; and increased risk to specimen damage during transit.

Geographic proximity to collaborative partners provides a valuable clinical and research nexus for AFIP. Partners include the National Institutes of Health, National Library of Medicine, Uniformed Services University of the Health Sciences, Walter Reed Army Institute of Research, National Naval Medical Center, Walter Reed Army Medical Center (WRAMC), George Washington, Georgetown, Howard, and American Universities. Their criteria for one location include:

- Immediate need to consolidate operations into a single complex or closely located compounds
- Proximity to other federal medical research organizations and collaborative partners
- Availability of world-renowned professional staff
- Relative costs incurred by relocating to other sites.

Question. The report accompanying the fiscal year 2002 Military Construction Appropriations Bill includes language directing the DOD to undertake an assessment of alternate locations in lower cost regions within the Mid-Atlantic area. In conducting its assessment, DOD was instructed to take into account regional facilities that could provide research, medical, DNA analysis, forensic, and biometric support to the Institute. What is the status of the Army's efforts to satisfy this language? What sites have been examined thus far and what sites will be examined in the future? Please provide an assessment of each site reviewed, along with the associated estimated costs, that comport with the fiscal year 2002 language.

Answer. Following direction in the committee report to undertake an assessment of alternate locations in the Mid-Atlantic area, the Department received additional communication from Senator Robert C. Byrd, Chairman of the Committee on Appropriations, requesting consideration of other locations in West Virginia to determine the feasibility of relocating AFIP. Four locations were visited by members of Senator Byrd's staff, the Army staff, the U.S. Army Health Facility Planning Agency (HFPA), and the Armed Forces Institute of Pathology (AFIP). These locations were determined to have potential as relocation sites for AFIP. Estimated construction cost for relocating to West Virginia was in excess of \$505 million due to the requirement to provide not only the laboratory and its supporting facilities but all requisite support facilities on an installation.

Sites with facilities capable of providing research, medical, DNA analysis, forensic, and biometric support to AFIP, located in the Mid-Atlantic region from New York to Georgia, are also being assessed. A report is being completed by the Office of the Assistant Secretary of Defense (Health Affairs) that complies with the direction to undertake an assessment of alternate locations. This report will be forwarded to the committee upon completion.

Question. In fiscal year 2002, \$25 million was provided for certain renovations at the current AFIP facilities. Please describe how these funds are to be expended. Will these renovations eliminate the need for new facilities for the AFIP, or is the funding intended as a Band-Aid solution? Do the renovations necessitate the relocation of AFIP employees to alternate site? If so, how many will be relocated, and to where? Will these relocations be temporary or permanent?

Answer. These funds will be utilized to renovate a portion of the building for AFIP's Department of Microbiology, which focuses on the development of rapid molecular diagnostics for bio-warfare agents. The renovation will include the construction of an additional Bio-safety Level 3 laboratory suite. In addition, renovations

will provide laboratories for the remainder of the Division of Geographic Infectious and Parasitic Diseases Pathology and the Departments of Environmental and Toxicologic Pathology and Cardiovascular Pathology.

During the anticipated two years of renovation, AFIP plans to use temporary laboratory and administrative spaces within its facilities on the Walter Reed campus and at off-site locations. Current transition planning calls for approximately 150 personnel to occupy temporary and leased laboratory and support facilities in Maryland during this timeframe. While the investment in repair is significant, the Department acknowledges that repair does not obviate the future need for a new facility.

Question. In a letter dated February 1, 2002, the Secretary of the Army informed me that "Questions regarding facility solutions for the AFIP have led to a comprehensive analysis by the DOD of the best and future structure and functions of the Institute. Once this study is completed, the precise long-term facility needs of the AFIP can be addressed." When will this study be completed and do you believe that this study will yield results given that the previous four studies did not? I would like to be kept informed of developments related to the AFIP, and I would appreciate receiving a copy of the study, which I hope can be expedited, to assist in determining ways in which the Appropriations Committee might be able to help the AFIP achieve its goals.

Answer. The Department is currently conducting an organizational and functional assessment of the AFIP. The study is scheduled for completion in fall 2002. This work will provide an assessment of AFIP's mission, essential functional requirements, financial operations, and mission staffing. It will allow the Department to better define what new or recapitalized facilities are required to support AFIP's mission. A copy of these findings will be provided to the committee upon completion of the study.

Question. Does the AFIP need to be co-located with the Walter Reed Army Medical Center? If so, please explain why?

Answer. Long-standing associations with all federal medicine resources in Washington, D.C. and with many civilian medicine activities make the Walter Reed campus and the current support provided by the Army a natural fit for AFIP. The Walter Reed Army Medical Center (WRAMC) and its campus are the flagship of Army Medicine. Its long history is linked to both the Walter Reed Army Institute of Research (WRAIR) and the AFIP. These three institutions comprise part of a synergistic federal medical reference center and campus. The AFIP has been on the grounds since 1955 and has enjoyed a consultative, educational, and research relationship with the hospital since 1909.

There are five approved American College of Graduate Medical Education (ACGME) pathology subspecialty residencies at AFIP: forensic pathology, dermatopathology, hematopathology, neuropathology and pulmonary. These support their respective clinical services of dermatology, hematology, neurology and psychiatry, and pulmonary medicine. Many WRAMC clinical specialties, particularly surgical subspecialties, use AFIP resources extensively for clinical rotations, clinicopathology correlations, applied research, and education/training needs. The AFIP is also part of the pathology residency program at WRAMC and National Naval Medical Center (NNMC)-Bethesda, with important rotations in telemedicine and molecular diagnostics as well as system-based pathology services.

The AFIP has unique ties to clinical specialties like urology and gynecology. In the Department of Urology, the AFIP provides pathology services for the Congressionally directed Prostate Disease Research Center and the Nephrology Service (kidney biopsies). The Institute also supports WRAMC's Comprehensive Breast Cancer Program as well as the U.S. Military Cancer Institute. Specialized AFIP tissue registries, such as the Persian Gulf Illness (PGI) registry, are linked to WRAMC clinical services specifically in gastroenterology (Hepatitis C), urology (sperm morphology), and the Persian Gulf Illness (PGI) evaluation center. Continuing investigations in PGI linked to infectious processes are pursued with the AFIP's Department of Geographic and Infectious Parasitic Diseases. The AFIP also maintains a Laboratory Animal Medicine facility and actively supports WRAMC approved research protocols, many of which requiring pathology support.

Many AFIP staff, particularly military, holds appointments and clinical privileges at WRAMC and NNMC. AFIP staff provides on-going clinical, pathology and radiology services. Medical students, pathology, and clinical service residents and fellows rotate through specialized system-based departments of the AFIP.

QUESTIONS SUBMITTED BY SENATOR TED STEVENS

TRICARE

Question. Secretary Winkenwerder, I understand that the Department of Defense may be reducing the number of TRICARE regions from twelve to as few as three. Would you please explain the logic of this consolidation of regions?

Answer. By realigning the regional structure, we look to reduce TRICARE administration burdens by reducing the number of contract change orders, eliminating redundant contractor overhead costs, and decreasing the number of contracts to monitor. We are also looking at minimizing disruption of the beneficiary and provider communities during transitions between regions; and lessening jurisdictional issues and regional differences.

We expect to finish our analysis and decide on whether or not to change the current number of TRICARE regions prior to the end of the fiscal year.

Question. What is the Department of Defense's time frame for solicitation of next generation TRICARE contracts? When do you anticipate beginning your consultations with Congress on this issue?

Answer. We do not have definite timelines for the healthcare/admin RFPs at this time as we are still in the process of developing requirements. In addition, significant contract related decisions have not been finalized. Once these key decisions have been made we will be able to develop timelines.

We have developed a communication plan that incorporates contact with all stakeholders in a logical pattern, and at an appropriate level, so no one is left out of the decisional, coordination, or information processes associated with such a high interest Department endeavor. We have opted to be as open as our procurement security plan allows. Attached is an illustration of how we intend to execute our plan.

Question. I understand that you intend to remove the pharmacy benefit from managed care support contracts and begin purchasing pharmacy benefits through a national stand-alone contract. How much money do you anticipate that this action will save? How did you arrive at your calculations?

Answer. The rationale behind consolidating the current multiple managed care support retail network contracts under one contract is based on management and control principles not possible under the current scenario. Advantages of consolidation include reduced administrative costs through centralized pharmacy claims processing and customer service. It will also resolve portability problems in the current retail network benefit. Consolidation will permit uniformity in policy implementation by reducing the risk of multiple interpretation and will allow centralized government controlled formulary management. Disadvantages to the government are few and relate primarily to the risk of relying on a single contractor.

Question. What do you believe the greatest advantage restructuring of the pharmacy program will be?

Answer. The greatest advantage will be the unprecedented capability of providing management oversight to what has previously been a fragmented, disparate benefit by using tools such as the Pharmacy Data Transaction Service and the Uniform Formulary provided by previous legislation. A streamlined, integrated operational structure will enable TMA to effectively manage the benefit that currently operates in a multi-layered, inefficient configuration proven to consume significant resources in both time and money. Most importantly it enables DOD to structure a pharmacy program to uniformly provide appropriate drug therapy to meet patients' clinical needs in an effective, efficient, and fiscally responsible manner.

Question. The fiscal year 2002 Senate Appropriations report included language which urges the President to appoint a multi-agency, secretarial level task force as part of the National Prion Research Project. To your knowledge, has this task force been appointed, and if so, who are the members?

Answer. To my knowledge, the President has not appointed this task force. However, the Secretary of Health and Human Services (HHS) has established an interdepartmental Steering Committee for Bovine Spongiform Encephalopathy/Transmissible Spongiform Encephalopathy (BSE/TSE) Affairs. The committee assures ongoing coordination between agencies and integrates contingency planning in case BSE or Variant Creutzfeldt-Jakob Disease (vCJD) is found in the United States. Moreover, the committee identifies and responds to potential BSE and vCJD vulnerabilities in the United States. Finally, it is responsible for coordinating the risk communication plans of the Federal Drug Administration (FDA), CDC, NIH, USDA, Customs Service, State and Defense departments, State Association of Feed Control Officials, the National Association of State Departments of Agriculture and the White House Office of Science and Technology Policy.

QUESTIONS SUBMITTED BY SENATOR PETE V. DOMENICI

JOINT VENTURE HOSPITALS

Question. Assistant Secretary Winkenwerder, as I noted in my opening remarks, the idea of joint civilian/military hospitals has thrived in the Air Force community of Alamogordo, New Mexico.

Not only has this concept produced significant cost savings, it has led to increased efficiency in the administration of services, as well.

Does the Department of Defense have a plan to seek broader application of this joint venture arrangement in military communities throughout the country?

Answer. The Department of Defense has included in its DOD/VA sharing objectives a plan to create a joint planning capability to assist in assessing our mutual needs for the future. This would include determining if and where joint ventures would be effective in the future. Possible joint ventures are being reviewed by one of the DOD/VA Executive Council Work Groups on joint utilization of facilities.

Question. Would it make sense to assemble a set of criteria against which hospitals in military communities could be assessed for determining whether such joint ventures might work for them?

Answer. Yes. At the very least, DOD should include the VA in regional business plan development and long term facility planning. DOD capabilities should also be included in the VA Capital Asset Realignment for Enhanced Services (CARES) Program process.

Question. Could you provide me with an update on the status of the DOD-VA hospital partnership at Kirtland Air Force Base? Do you foresee any significant changes in the working arrangement that exists between these agencies?

Answer. We consider the federal facility at Kirtland AFB in Albuquerque, New Mexico, to be our most mature joint venture. This joint venture, which has been in full operation since 1987, has adapted itself to dramatically changing circumstances associated with the Air Force's personnel reductions. Originally, the Air Force operated a full wing in the federal facility, as well as a health care clinic and a dental clinic adjacent to the facility. Personnel reductions left it unable to staff its own medical unit in the hospital. Both sides of the joint venture overcame that situation and a healthy relationship exists with the Air Force buying its beds from VA. The ability of both sides to adapt to such changes is testimony to the quality of the leadership and the sound business relationship that is present at the federal facility at Kirtland AFB. A number of recent visitors there have commented on the positive climate that exists there.

RETENTION/TRICARE

Question. Assistant Secretary, I noted in your testimony that recruitment of Military Medical Personnel is one of the top priorities you have listed for transforming the Military Health System into a first-rate system.

It has come to my attention that one of the military hospitals in my state has been trying to recruit a neurosurgeon for nearly one-and-a-half years, to no avail.

Could you speak to this problem in general terms?

Answer. The Air Force operates medical treatment facilities in New Mexico. The Air Force indicates they are not recruiting for a neurosurgeon for their New Mexico facilities. However, the Veterans Administration Hospital in Albuquerque indicates they have been actively recruiting for a neurosurgeon for over a year.

The Military Health System (MHS) depends on clinically competent, highly qualified, professionally satisfied military medical personnel. In developing the MHS human resource plan, we have begun several initiatives to analyze retention rates and the reasons medical professionals choose to stay in or leave the Service.

At the request of Congress, the Department of Defense commissioned a study by the Center for Naval Analyses (CNA) to examine pay gaps, retention projections, and the relationship between pay and retention. We acknowledge the significance of the findings. The CNA study shows a relationship between pay and retention—although it points out that there are factors other than pay that affect retention. A typical military physician—for example, a general surgeon with 7 years of service—receives one-half of his or her income in incentive pays. While base pay and other components which make up the remaining half of total compensation have been increasing recently, the incentive pays have not kept up with changes in the civilian community. Several physician specialties are at their maximum rates allowed under current authority. CNA estimates the pay gap for a surgeon is currently \$137,000, or 47 percent. The challenges of military service can be unique and tremendously rewarding personally and professionally. We know that financial compensation is not the sole determinant of a medical professional's decision about

whether to enter or remain in the Service. We can never expect to close the pay gap completely. However, we are concerned by the CNA findings and are analyzing them now. Incentives to optimize our ability to shape military medical staff size and mix with appropriate experience levels are critical to meeting our mission requirements.

Question. Secondly, please give us a sense of how you will tackle this problem? What are the prospects for success?

Answer. The Department is currently evaluating the leveling of specialties where imbalances exist between Services' manning levels. We are expanding our use of the Health Professions Loan Repayment Program (HPLRP) to include using it to retain highly qualified professionals who already serve on active duty. Use is currently limited to those who did not participate in the Armed Forces' Health Professions' Scholarship/Financial Assistance Program—removal of this prohibition would improve the program's effectiveness as a retention incentive.

The Department is maximizing use of currently authorized incentives in our efforts to optimize the accession and retention of appropriate personnel to meet mission requirements. We agree with the Center for Naval Analyses' finding that it is important to simplify the health professions' incentives authority to place more management authority within the Department. The rapid pace of change in the civilian healthcare personnel market, which competes directly with our military accession and retention initiatives, requires flexibility in the management of incentives for optimum effectiveness.

QUESTIONS SUBMITTED BY SENATOR KAY BAILEY HUTCHISON

FORCE HEALTH PROTECTION (FHP)

Question. After our experience in the Persian Gulf, it is clear that we have a ways to go when it comes to force health protection. When I reviewed your statement, I was pleased to read of the new and innovative programs that have been initiated. However, I am not so sure that we are conducting enough research. It has been over ten years since Desert Storm, and yet we still have to convene special research advisory committees to try to get to the bottom of Gulf War Illness. Would you please highlight DOD's current efforts in this area?

Answer. Gulf War veterans who suffer from fatigue, memory loss, muscle and joint pain, difficulty sleeping and a myriad of other symptoms need effective treatments. I agree that research has not yet provided complete and satisfactory answers for those of our Gulf War veterans with chronic multi-symptom illnesses. There are, however, many excellent federal and private sector medical research facilities throughout this country, working to understand the chemistry, physiology, causes and possible treatments of these frustrating chronic multi-symptom illnesses.

The Department of Defense remains actively involved with the Departments of Veterans Affairs (VA) and Health and Human Services (HHS) in funding a comprehensive spectrum of research proposals. The proposals have been given high marks for scientific merit by independent scientific review panels and complement or complete research which has already been funded and initiated and/or finished. Currently that program is funding studies on low level chemical exposures relevant to Gulf War veterans and is initiating new projects in risk communication research, neurobiology of stress, immune function, deployment toxicology methods and force health protection epidemiology. Moreover, continued programs on health behaviors intervention research are promising. The DOD Deployment Health Research Center is continuing work with the VA on the Millennium Cohort Study, the Recruit Assessment Program and the deployment health assessments. Finally, with money added by the Congress, peer-reviewed projects on Gulf War illnesses diagnostic criteria at the University of Texas Southwestern Medical Center and on comparative studies of chronic fatigue syndrome and fibromyalgia at Georgetown University are being negotiated for continued efforts. DOD is committed to continue support for a research program designed to assess and understand the health effects which have been recognized after the Gulf War and other military actions.

TRICARE

Question. I am growing very concerned about the increasing number of letters I am receiving from health professionals in Texas that have decided not to participate in TRICARE. What can we do to stem this tide? Do we need to look at reimbursement rates? How can the reimbursement process be accelerated?

Answer. Over time, providers choose to participate or not participate. Our most recent data shows that Texas has an average participation rate of 97 percent. This

is equal to the national average participation rate. The participation rate in Texas has remained fairly constant. It is noted that as some providers go from participating providers to non-participating providers others decide to participate with TRICARE. Although individual provider's participation status can change, the average participation rate for Texas has remained constant. The TRICARE networks in Texas continue to meet the program's standards with no deficiencies. TRICARE is not aware of any specific areas of the state where there is a participation problem either caused by reimbursement rates or some other factor.

The relationship of DOD payment levels to Medicare's for institutional and professional health care services is central to the ongoing success of TRICARE. However, TRICARE beneficiary access to care is severely impaired in some locations because providers in remote areas refuse to become CHAMPUS authorized or participating providers and demand payment in advance from patients. Providers cite low reimbursement as their main rationale for denying access to care for our beneficiaries.

Congress has given the Department the authority to adjust reimbursement rates to assure access to health care services for our active duty members and eligible beneficiaries. Improvements include the enactment of Fiscal Year 2000 National Defense Authorization Act (Section 716 authorizes higher provider reimbursement rates than normally allowable) and Fiscal Year 2001 National Defense Authorization Act (Section 757 authorizes the establishment of special locality-based reimbursement rates). These provisions allow the Department to increase reimbursement rates to the market level for specific services for providers not in the network, and pay a provider up to 115 percent of TRICARE Maximum Allowable Charges (TMAC) to be in a network. The final rule implementing these provisions was published in the Federal Register on August 28, 2001. TMA is considering requests on a case-by-case basis.

DEPARTMENT OF HEALTH AND HUMAN SERVICES (HHS)

Question. I am aware that there is great concern in the Pentagon regarding the threat posed by biological weapons. Many in the Congress had anticipated that DOD's fiscal year 2003 budget submission would contain the down payment for the construction of a government-owned, contractor-operated (GOCO) vaccine production facility. Regrettably, the Department's initiative has stalled. Instead of measurable progress, I understand DOD has now convinced HHS to consider paying for the facility. Do you believe that HHS is going to build a vaccine production facility whose laboratory space would be dominated by the production of DOD-specific vaccines?

Answer. DOD and HHS are continuing to work together identifying requirements for vaccines that address unique military requirements and the larger need for public health vaccines. Each Department will need to identify resources necessary to meet their needs. If a dedicated facility is needed to meet national requirements, it is expected that multiple agencies will share the cost to construct and operate such a facility.

DOD/VA COOPERATION

Question. What measurable progress has been made in terms of DOD/VA cooperation?

Answer. The Deputy Secretary of Veterans Affairs, Dr. MacKay, and the Under Secretary of Defense for Personnel and Readiness, Dr. Chu, have developed an excellent cooperative and collaborative relationship. They have established two councils, one for health matters and another for benefits. The health council is co-chaired by Dr. Roswell and myself. The members of the council are the senior health care leadership within the respective Departments. We meet every other month. We meet with Dr. MacKay and Dr. Chu on a quarterly basis to advise them of our progress in accomplishing their initiatives. This unquestionably demonstrates our mutual commitment to improving inter-departmental cooperation at all levels. Moreover, I have listed some outcomes of our mutual commitment below:

—*Community-Based Clinics (CBOC) Program.*—VA Medical Centers (VAMC) occupy clinic space provided by military facilities as a part of VA's CBOC program. For example, Louisville, Kentucky, VA Medical Center, manages three of Fort Knox's four primary care clinics. VA provides a broad range of services to support these clinics including: primary care, urology, orthopedics, women's clinic, podiatry, audiology, psychiatric, MRI and other radiology, medical library and orthotic laboratory services. VA's clinic at Fort Knox recorded over 10,000 unique visits for the year. The Army provides space for the clinic, provides equipment, and prescription services. The VAMC is approximately 47 miles from Fort Knox.

—*Allergen Extracts.*—The Walter Reed/U.S. Army Allergen Extract Laboratory, Washington, D.C., (USACAEL) provides delivery of diagnostic and therapeutic allergen extracts to 29 VA medical centers and outpatient allergy clinics. This agreement facilitates the treatment of 1,800 veterans per year with allergy injection therapy for allergic diseases such as insect venom anaphylaxis, asthma, and allergic rhinitis. In addition, it is estimated that, over 18,000 veterans are evaluated for allergic diseases annually using these high quality diagnostic allergen extracts. VA covers the costs of personnel, supplies, and equipment. VA benefits from the high quality services of USACAEL, which is one of the largest suppliers of therapeutic and diagnostic allergen extracts in the world, and from the economies of scale offered by participation in the program.

QUESTIONS SUBMITTED TO GENERAL JAMES B. PEAKE

QUESTIONS SUBMITTED BY SENATOR DANIEL K. INOUE

THIRD PARTY COLLECTION PROGRAM (TPCP)

Question. The military treatment facilities (MTFs) bill third party insurance companies for those beneficiaries who carry other health insurance. What are the Services doing to ensure that all reimbursable care is being billed?

Answer. The Army Medical Department (AMEDD) manages the most successful TPCP in the Department of Defense (DOD), collecting nearly 45 percent of the total DOD TPCP collections. For fiscal year 2001, we collected a greater percentage of the amount billed (43 percent) than DOD as a whole (35 percent), than the Air Force (31 percent), and than the Navy (30 percent). Variability of this metric across our like MTFs for fiscal year 2001, expressed as a range, is as follows: Medical Centers, 33 to 41 percent; large Medical Department Activities (MEDDACs), 30 to 51 percent; MEDDACs, 24 to 52 percent; OCONUS inpatient MTFs, 21 to 52 percent; and Health Clinics, 24 to 45 percent. Continuous improvement of the program includes the following actions in the concerted effort to bill for all reimbursable care.

All Services will be transitioning from an all-inclusive to an itemized billing methodology for outpatient services by the end of fiscal year 2002, and for inpatient services by the end of fiscal year 2003. The shift to an itemized billing methodology will increase acceptance of our claims by insurers through meeting their edit requirements and will facilitate full implementation of electronic billing. The result will be an increase in collections as a percent of amount billed, and a reduction in payment turn-around time, improving cash flow.

With the transition to itemized billing, all Services will be standardizing other health insurance (OHI) and insurance company names and addresses between the Composite Health Care System and the Third Party Outpatient Collection System. Standardization of this information between automation systems ensures accuracy, leading to more efficient and effective billing, increasing collections.

Implementing lessons learned from the TPCP Business Process Reengineering (BPR) demonstration conducted in TRICARE Region 3, resulting in improved identification of OHI, facilitating increased billing and collections. The AMEDD Uniform Business Office (UBO) has disseminated to MTFs performance measurement standards for outpatient itemized billing, which are based on the TPCP BPR metrics.

Requiring development and implementation of MTF UBO compliance plans, which include procedures to ensure compliance with DOD and industry coding and billing standards.

Documenting and disseminating best business practices identified by MTFs for improving billing and collections. A few of our other MTFs that have identified these best business practices, that we have disseminated for consideration by other MTFs, are: William Beaumont Army Medical Center (placing an employee or volunteer in the outpatient pharmacy to obtain/update insurance information from beneficiaries while they wait for their prescriptions to be filled); Irwin Army Community Hospital (mass mailing of the TPCP Insurance Information form to all known non-active duty beneficiaries in the catchment area, requesting they fill it out and return); Walter Reed Army Medical Center (request from the local Civilian Personnel Office a list of civilian employees that are also retirees/family members enrolled in the Federal Employees Health Benefits Program).

FACILITY CAPACITY AND COST

Question. Is data available on the number of instances in which beneficiaries have not been able to obtain care at a Medical Treatment Facility (MTF) and were re-

ferred to the civilian network due to medical personnel shortages. If so, what additional costs were incurred.

Answer. While our data systems do not allow us to query referrals caused specifically by manpower shortages, they do allow us to estimate the cost of insufficient capacity at our MTFs. In fiscal year 2001, 9 percent of the outpatient visits and 15 percent of the inpatient dispositions required by patients enrolled to Army MTFs were sent to the network for a total cost paid of \$251,696,358.

QUESTIONS SUBMITTED BY SENATOR ROBERT C. BYRD

OUTCOMES MANAGEMENT INITIATIVE

Question. General Peake, in the Fiscal Year 2001 Defense Appropriations Act and the Fiscal Year 2001 Supplemental Appropriations Act, the Committee on Appropriations added, with my support and the concurrence of Senator Stevens, a total of \$26 million for the Walter Reed Army Medical Center to conduct an outcomes management demonstration project. Please provide a status report of the Outcomes Management Program (OMP) at Walter Reed.

Answer. The Outcomes Management Program within the Walter Reed Healthcare System (WRHCS) has been successfully stood up and is now making its presence fully felt across that system. Almost 20,000 patient surveys have been completed and over 27,000 chronic disease management scorecards established since the inception of this program. As part of its objective to optimize clinician's productivity, in excess of 150 contract healthcare providers and support personnel have been deployed throughout the system as well. We have reengineered our primary care process within the WRHCS by redefining the role of each member of the primary healthcare team to ensure a coordinated effort to the care of each individual patient. The data shows the quality of the care provided has improved by almost any measure since Outcomes Management began. Some examples:

- The average Hemoglobin A1c of Diabetes patients, an index of blood sugar control, has improved with a decrease of 9 percent, from 8.3 percent to 7.5 percent.
- Over 97 percent of our congestive heart failure patients now receive optimal therapeutic agent care—beta blockers, angiotensin converting enzyme inhibitors and furosemide in appropriate dosage—compared with a national average of 65 percent.
- Emergency room visits by Diabetes patients have declined 18 percent between fiscal year 2000 and fiscal year 2001.
- Across the board improvements in compliance with recommended diagnostic and preventative health maintenance testing, consistently exceeding national standards or Department of Veterans Affairs performance levels.

Further evidence of improvement on healthcare operations is the significant increases in the variety and volume of patients being treated within the WRHCS. For example, Walter Reed Army Medical Center alone has seen an increase in outpatient primary care visits of 16 percent (same period fiscal year 2002 over fiscal year 2001) while ambulatory procedure visits have increased 4.5 percent and monthly outpatient specialty care clinic visits are up 4.2 percent over the base year.

Question. I am advised that this project improves the care of military health beneficiaries and has grown in popularity with patients and staff. How does OM help to fulfill the promises made by the Military Healthcare System (MHS)?

Answer. The first and most important obligation we have to our beneficiaries is that each individual will receive the best healthcare possible in whatever setting that care is received within our system. This includes our military treatment facilities as well as within our TRICARE network. OMI plays a significant role in our strategic planning to insure we meet that promise. In optimizing our IM/IT resources to increase the productivity of the healthcare provider and the quality of the care they provide. This is accomplished by presenting a constantly updated baseline or standard of care to which our system must practice and then arraying patient specific care data for providers allowing them to make better, more timely clinical decisions for their patients. In short, OMI will facilitate the Army Medical Department measuring the treatment provided to each patient with a chronic disease, against a nationally recognized standard of care in order to evaluate the quality and efficiency of the care provided within its treatment facilities.

Question. Please provide information and significant milestone events for the record regarding this Congressional initiative.

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- Across the board improvements in compliance with recommended diagnostic and preventative health maintenance testing, consistently exceeding national standards or Department of Veterans Affairs performance levels.

Further evidence of improvement on healthcare operations is the significant increases in the variety and volume of patients being treated within the WRHCS. For example, Walter Reed Army Medical Center alone has seen an increase in outpatient primary care visits of 16 percent (same period fiscal year 2002 over fiscal year 2001) while ambulatory procedure visits have increased 4.5 percent and monthly outpatient specialty care clinic visits are up 4.2 percent over the base year.

Question. Is this program considered worthwhile and being expanded outside the Walter Reed Health Care System?

Answer. Given the proper resourcing, the Outcomes Management program now being developed within the Walter Reed Healthcare System will serve as a template for the Army Medical Department and the Military Health System as a whole. We expect it to be a major component of our efforts at leveraging IM/IT assets to improve care, reducing long-term costs for chronic disease, and fully optimizing our healthcare resources. We are currently working to integrate the fielding of OMI with other AMEDD and MHS IM/IT initiatives and hope to complete that work soon. The current fielding plan now being worked during:

Fiscal year 2002: The National Capital Region. Complete fielding and training to all designated medical units within the area.

Fiscal year 2003: Fort Bragg, NC; Madigan Army Medical Center, Tacoma Washington; Fort Greely U.S. Army Health Clinic and Community Hospital, Fort Wainwright, AK; Elmendorf AFB Medical Facility, AK.

Fiscal year 2004: Fort Knox, KY; Fort Eustis, VA; West Point, NY; Fort Lee, VA; Fort Monmouth, NJ.

Question. What level of funding is necessary to sustain the program through fiscal year 2003?

Answer. To sustain the program within the Walter Reed Health Care System, continue the expansion of the clinical optimization strategy, execute the current fielding plan to new facilities in fiscal year 2003 and make identified improvements and modifications to the OMI software package expected to be required as the system expands rapidly through the fielding schedule and carry out technology transfer/mentoring initiative with a non-federal sector entity, \$12 million to \$16 million in funding will be required by the Outcomes Management Program in fiscal year 2003.

Clinical and administrative personnel will account for approximately 70 percent of the cost of the program with equipment accounting for 25 percent and travel, supplies, and software license fees for the remainder.

Question. In as much as this program appears to be highly successful, when do you anticipate that it will receive a Military Healthcare System funding stream?

Answer. Line item funding for the Outcomes Management at Walter Reed is on track to be included within the fiscal year 2004 to 2009 POM.

Question. When will policy be implemented to ensure expansion of this program outside the Walter Reed Health Care System?

Answer. Given the proper resourcing, the Outcomes Management program now being developed within the Walter Reed Healthcare System will serve as a template for the Army Medical Department and the Military Health System as a whole. We expect it to be a major component of our efforts at leveraging IM/IT assets to improve care, reducing long-term costs for chronic disease, and fully optimizing our healthcare resources. We are currently working to integrate the fielding of OMI

with other AMEDD and MHS IM/IT initiatives and hope to complete that work soon. The current fielding plan now being worked during:

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Fiscal year 2004: Fort Knox, KY; Fort Eustis, Va; West Point, NY; Fort Lee, VA; Fort Monmouth, NJ

Question. I am advised that the Outcomes Management technology is proving to be effective in the military environment. Would it be possible for the Department to extend this technology to support a field trial to medically underserved areas that have low income, but high disease rates?

Answer. Yes Sir, I believe we could. It would have to be somewhat limited in scope and duration but I think this work would be of great assistance to healthcare systems that care for dispersed, isolated and medically underserved populations. Authority for this kind of effort would also have to be defined but given that authority exists, and that a willing and able team could be assembled, this definitely could and should be done.

As I mentioned earlier, the OMI facilitates quality as well as efficiency gains. Providers that are isolated by topography and distance from medical resources and support would be well served by it. Once again I would say that to fully field and support a field trial of this type could cost between \$3 million and \$5 million annually depending on equipment, telecommunications, transportation, numbers of contracted medical and technical support personnel and of course the duration of the project. The Director of the OMI Program is prepared to meet with your staff to fully explore this if that is your intent.

Question. How would you organize a successful field trial in a non-federal sector (such as a public health system) to ensure that the benefits of the investment Congress has made to date are widely disseminated?

Answer. The success of the OM project is being shared with as large an audience as possible through the publishing of articles, individual and group presentations, and a demonstration site on the world wide web. We are also leveraging the investment by sharing the products and experience of this project with organizations within the Department of Health and Human Services tasked with supporting rural, underserved populations and with issues of medical quality and safety.

Preliminary planning does indicate that a project of this type lasting three to five years and involving a sizable population could cost between \$3 million and \$5 million annually. It is difficult without a better understanding of such an endeavor to precisely lay an implementation plan. My staff is prepared to explore this further if that is your intent.

QUESTIONS SUBMITTED BY SENATOR TED STEVENS

LIFE SUPPORT FOR TRAUMA AND TRANSPORT (LSTAT)

Question. General Peake, as you are aware, the Committee has provided funding for the Life Support for Trauma and Transport (LSTAT) program in the Army procurement account. Could you comment briefly on the merits of this self-contained, life support system?

Answer. The LSTAT program is of significant importance to the Army Medical Department as we support the Army Transformation Initiative. This spiral development program allows for its early use in qualified missions now and continues to refine the platform toward full spectrum battlefield requirements in the foreseeable future. Today, this FDA approved platform provides life-sustaining capability for National Guard search and rescue missions in Alaska as well as evacuation and inter-medical facility support in the Balkans. This support can be expanded with additional procurement of platforms. A post-September 11 emerging mission includes the potential need for military response to terrorist attacks and the consequence management of generated patients, especially where civilian medical infrastructure is compromised or overwhelmed. Several Army Reserve hospital units are being equipped with Clinically Operational Equipment Sets (COES) over the next few years to assist in this mission, and LSTAT capabilities complement this action.

Though important, these missions do not reflect the core AMEDD mission of providing support on the engaged battlefield. The LSTAT must reduce its weight, provide on-board oxygen generation and automated controls, and communicate within the Army information architecture to meet the challenges of the future Army Objec-

tive Force. So I must encourage the Congress to continue its support, not just in the procurement of LSTATs today, but equally important in its spiral development to the platform requirements necessary to meet the Chief of Staff's vision and our future battlefield needs.

NATIONAL PRION RESEARCH PROJECT

Question. General Peake, it is my understanding that peer review of the grant proposals for the National Prion Research Project will occur in December of 2002. When do you expect actual awards to be approved?

Answer. The National Prion Research Project will be conducted using a two-tier (peer and programmatic) review process, as recommended by the National Academy of Sciences' Institute of Medicine. Peer (scientific) review will occur in November 2002. Programmatic Review will occur in February 2003. Programmatic Review funding recommendations will be aided by an Institute of Medicine report on the status of Prion research (to be delivered in mid-January 2003). Grants will begin to be awarded in March 2003, with all awards made by September 2003.

QUESTION SUBMITTED BY SENATOR KAY BAILEY HUTCHISON

HEALTH PROFESSIONALS RECRUITING AND RETENTION

Question. It's no secret that in order to provide quality medical care to our troops and their families, we must recruit and retain the very best and brightest health professionals. What can we in Congress do to make military service attractive to doctors and particularly nurses?

Answer. The increasing demand for health care professionals and the robust nature of the civilian sector magnifies the differences in pay gap between the civilian and military sectors.

The stark reality of today's recruitment market is that the Army Medical Department must buy the majority of its new accessions. Without robust student recruiting programs, supported by sufficient allocations properly funded, accessions will not be maintained at a level necessary to meet the current and future needs. Recent years have seen an ever-increasing requirement to utilize student scholarship programs to obtain the same number of accessions into the force annually.

The retention of fully qualified, highly trained mature clinicians is of major concern to the Army Medical Department. As we continue to face challenges and expensive solutions in the recruiting environment, it simply becomes cost effective to retain those we have trained and developed.

A crucial factor in the retention of our clinical personnel is availability of various special pays which attempt to provide some degree of parity in compensation between our military health care providers and their civilian counterparts. While there have been many changes effecting the wages of civilian health care providers, the monetary ceiling for special pays has not been increased for the last ten years.

Congress directed a study be conducted to evaluate the effectiveness of special pays on retention and evaluate the civilian pay gap for the health professions. The Center for Naval Analyses (CNA) report—Health Professions Retention-Accession Incentives Study (HPRAIS) was recently sent to Congress. The results indicate that the civilian pay gap is one of the major dissatisfiers of physicians, and it has similar effects on other health care professionals. The results support most of the content of initiatives being proposed by the Services and Health Affairs. Congress may assist by authorizing and appropriating increased special pay rates or cap authorizations, and legislating a redesigned incentives optimization program that will provide the Services with the flexible tools necessary to revive health professions retention and recruiting.

Monetary incentives are not the sole factor evaluated when attempting to increase retention of the force. Issues of adequate facilities covered by adequate support staff to allow our clinicians to maximize their effectiveness are also crucial. Frustrations with inadequate or antiquated treatment environments coupled with the perception of spending excessive time to meet necessary administrative requirements will cause highly skilled and dedicated soldier clinicians to leave the service for the civilian sector.

Lastly, we are concerned that the currently proposed Senate Bill 1864 will further degrade the Services abilities to attract Registered Nurses. Consideration should be given to expanding the Bill to include DOD. In particular, DOD should be included with the proposal to establish the National Commission on the Recruitment and Retention of Nurses.

QUESTIONS SUBMITTED TO MICHAEL L. COWAN

QUESTIONS SUBMITTED BY SENATOR DANIEL K. INOUE

Question. The military treatment facilities (MTF's) bill third party insurance companies for those beneficiaries who carry other health insurance. What are the Services doing to ensure that all reimbursable care is being billed?

Answer. In December of 2001, all Navy MTFs were tasked with implementing a Business Process Reengineering plan with guidance provided by TMA. A list of business process improvements (BPIs) was developed and Region 3 was selected to demonstrate the effectiveness of the BPIs. As a result of the success in Region 3, all MTFs were directed by BUMED on October 24, 2001 to evaluate the Third Party Collection (TPC) BPIs for implementation. Each MTF was tasked with customizing these BPIs to their MTF to improve their collection efforts for TPC. Based on TPC revenue reported in the first and second quarters of fiscal year 2002, it appears that the BPIs that were developed and implemented at specific MTFs have proven effective in improving TPC efforts. Some of the program elements implemented include:

- Review of the administrative procedures for identification of other health insurance (OHI) utilizing the Third Party Collection Registration Form in beneficiary medical records and to improve the collection of OHI data to increase the number of claims generated.
- Reviewing written policies and procedures that impact effectiveness of the Compliance Program.
- Using audits and/systems reports and monthly reports to monitor compliance.
- The recent requirement for the establishment of a UBO Manager/Point of Contact at each of the Health Support Offices will provide oversight for the Third Party Collection Program regionally who will be required to maintain a close working relationship with the Navy Service TPC Program Manager at BUMED.
- Front Desk processes in Admission Offices and Outpatient Clinics are being standardized to assist the Business Offices in collecting OHI information from patients at each point the patient enters the MTF's.
- Currently MTF's have various reports from the Composite Health Care System (CHCS) to insure that all visits are billed. Beginning August 1, 2002 itemized billing will be based on Evaluation & Management Codes, Procedure (CPT-4) Codes, and Diagnosis (ICD-9-CM) Codes which is similar to the process used in civilian physician offices. Automated systems have been developed and improved to identify OHI information and identify procedures and/or diagnoses and downloading all of the information related to clinical procedures and ancillary services (pharmacy/laboratory/radiology) into a Third Party Billing System. Electronic billing is also being review to enhance the billing process.
- Data Quality issues are being addressed to improve Third Party reimbursement.
- BUMED is providing funding for MTFs to hire and train coders to provide more accurate billing.

Question. Is data available on the number on the number of instances in which beneficiaries have not been able to obtain care at a Military Treatment Facility (MTF) and were referred to the civilian network due to medical personnel shortages? If so, what additional costs were incurred?

Answer. Currently, our data systems do not allow us to link network referrals and military staffing shortages. Our medical staffing is driven by our Total Health Care Support Readiness Requirement (THCSRR) model. The THCSRR model determines the number of medical personnel required to staff all contingency platforms, which include those needed in a wartime theater and those needed for day-to-day operational requirements. There is also a sustainment component to the THCSRR model which calculates the number of medical personnel needed in training to support all officer and enlisted communities based on known attrition rates. This model is used primarily for Navy medical personnel requirements and does not link directly to network referral patterns within any existing data system.

Moreover, network referrals are not entirely due to military staffing, as they are also due in part to the complexity of care and mandatory access standards. We are currently working with our sister Services and the TriCare Management Activity (TMA) to develop specific metrics which would indicate the amount of care that is being referred into the network for MTF enrollees.

Question. The Army and Air Force have provided special pay in fiscal year 2002 for pharmacists, optometrists, and psychologists to assist in retaining these critical medical personnel. Why hasn't the Navy provided these special pays? And, how has this impacted the Navy's ability to retain these skilled personnel?

Answer. There is no difference in pay for psychologists between the Services. The Navy pays eligible psychologists the same diplomate pay as the Army and Air Force. This pay was initiated in October 1994. Likewise, the Navy, Army and Air Force pay pharmacists and optometrists the same Board Certification pay. However, during fiscal year 2001, DOD (HA) provided guidance allowing the Services to begin paying an Optometry Retention Bonus and a Pharmacy Special Pay based on each Service's "own accession requirements and capabilities". The Army and Air Force have funded the new pays. Due to funding constraints, the Navy has not yet begun paying the Optometry Retention Bonus or the Pharmacy Special Pay, however the Navy is considering future year funding options. These pay issues have adversely impacted the Navy's ability to attract and retain skilled personnel in these crucial specialties.

QUESTIONS SUBMITTED TO GENERAL PAUL K. CARLTON

QUESTIONS SUBMITTED BY SENATOR DANIEL K. INOUE

MILITARY TREATMENT FACILITIES (MTF)

Question. The military treatment facilities (MTFs) bill third party insurance companies for those beneficiaries who carry other health insurance. What are the Services doing to ensure that all reimbursable care is being billed?

Answer. We have taken great strides in improving the overall execution of our Third Party Collection Program throughout the Air Force Medical Service (AFMS). After a steady decline in revenue since fiscal year 1997, we have reversed the negative trend in third party reimbursement revenue. This began in fiscal year 2000, when six of our MTFs in Region 3 participated in a successful reengineering demonstration. Each of these MTFs increased their reimbursement revenue. Consequently, we've directed all of our MTFs to develop business plans using the re-engineered model. Focus to-date throughout the AFMS has been providing extensive training for program managers, program marketing to MTF personnel; and gathering and documenting Other Health Insurance (OHI) information. Complete and accurate OHI information is the cornerstone of a successful program. Gathering and verifying OHI information takes an MTF-wide effort. To ensure this effort is sufficient, our focus has been on establishing data collection and verification processes at all points of encounter, educating staff on the importance and benefits of the program, and equipping staff with the skills and tools to get the job done. This includes the hiring of certified coders to conduct medical record coding training and auditing, which will result in more accurate coding and subsequently "cleaner" claims, a prerequisite for outpatient itemized billing that begins in the Fall of fiscal year 2002. Finally, last year Congress passed legislation (through the National Defense Authorization Act Fiscal Year 2002), which directs the Secretary of Defense (SECDEF) to conduct a pilot program in which Brooke Army Medical Center and Wilford Hall Medical Center in San Antonio, Texas charge civilians who are not covered TRICARE beneficiaries, fees representing the actual costs of trauma and other medical care provided. The SECDEF has one year to implement this program.

Question. Is data available on the number of instances in which beneficiaries have not been able to obtain care at a Military Treatment Facility (MTF) and were referred to the civilian network due to medical personnel shortages? If so, what additional costs were incurred?

Answer. There is no real-time data that depicts beneficiaries' inability to obtain care at MTFs. Though we have data that shows a gradual decline in access to care, this data does not show why an appointment or a provider was unavailable. Other data sources indicate the provider shortages and provider availability problem. For fiscal year 2002 we are experiencing a combined shortage of 420 physicians and dentists. This shortage is expected to grow to 880 by fiscal year 2004. We fully expect these provider shortfalls to impact network referrals and private sector care costs. The resulting costs incurred in the private sector could be significant. In planning, we assume that 80-100 percent of a lost provider's productivity must go downtown, particularly in the area of specialty care. As a result of this shift to private sector care, the Air Force Medical Service (AFMS) projects annual losses between \$250,000-\$700,000 per lost provider and an additional annual loss of \$300,000 per lost provider for private sector ancillary costs. We also experience significant opportunity costs (idle fixed resources) that can easily double this amount. We estimate that the total costs could easily exceed \$2 billion in fiscal year 2004.

SUBCOMMITTEE RECESS

Senator INOUE. The subcommittee will reconvene next Wednesday, May 15. At that time we will hear testimony from the Secretary and the Chief of Staff of the Air Force. Until then, we stand in recess.

[Whereupon, at 12:05 p.m., Wednesday, May 8, the subcommittee was recessed, to reconvene at 10 a.m., Wednesday, May 15.]

**DEPARTMENT OF DEFENSE APPROPRIATIONS
FOR FISCAL YEAR 2003**

WEDNESDAY, MAY 15, 2002

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 10:17 a.m., in room SD-192, Dirksen Senate Office Building, Hon. Daniel K. Inouye (chairman) presiding.

Present: Senators Inouye, Stevens, Cochran, and Shelby.

DEPARTMENT OF DEFENSE

DEPARTMENT OF THE AIR FORCE

**STATEMENT OF HON. JAMES G. ROCHE, SECRETARY OF THE AIR
FORCE**

ACCOMPANIED BY GENERAL JOHN P. JUMPER, CHIEF OF STAFF

OPENING STATEMENT OF SENATOR DANIEL K. INOUYE

Senator INOUYE. Good morning. Appearing before the committee this morning is the Secretary of the Air Force, the Honorable James Roche, and the Chief of Staff of the United States Air Force, General John Jumper. Mr. Secretary, General Jumper, we welcome you here and look forward to your testimony.

At this moment in history, the Air Force faces a complex and daunting challenge, one that perhaps is more demanding than any previously faced by our current generation of military leadership. For example, our troops are actively engaged in hostilities overseas, fighting terrorism in its breeding grounds, and our uniformed services also have been called to protect us here at home against terrorist threats, a vulnerability uncovered by the tragic attack on our Nation only months ago. While fighting the war on terrorism today, you must continue to plan and prepare our forces for future battles against sophisticated enemies.

The Air Force has certainly played its part in facing the challenge. Last year alone, our Air Force pilots flew close to 20,000 sorties in support of Operations Noble Eagle and Enduring Freedom. This comes in addition to more than 16,000 sorties flown last year over the skies of Iraq and Yugoslavia.

Mr. Secretary and General Jumper, let me say that the committee and I are extremely proud of the work done by our Air Force men and women in uniform in support of these operations and we congratulate you, sir.

To continue our military efforts to address the terrorist challenge, the administration requested fiscal year 2002 supplemental appropriations totaling \$14 billion for the Department of Defense (DOD). The lion's share of these funds will be used to support the war on terrorism directly. And I can assure you this committee will do all it can to support your Department's efforts by providing these much needed funds as quickly as possible.

Nonetheless, the Air Force, like the United States Army, Navy, and Marines, must continue to prepare for the future even as we fight today. Transforming our forces to engage future enemies is a challenge that will remain for years to come, but transformation is not simply developing new futuristic weapons systems. It requires new concepts for battle and fundamental changes to the very culture of the military service.

In the case of the Air Force, let me ask in simple terms. Is the Air Force ready to train an increasing number of pilots to fly unmanned combat aircraft instead of putting them in cockpits? In other words, are we having enough men and women who are trained in the new age of high technology?

Mr. Secretary and General Jumper, we will want to explore this and many other questions with you following your prepared statements. In particular, we hope to discuss with you the health of your tactical fighter programs, the C-17 aircraft financing plan, the troubled air space program, and of course, the small matter regarding leasing of tanker aircraft.

But before I ask you to proceed, I would like to call upon my co-chairman, Senator Stevens, for any opening remarks.

STATEMENT OF SENATOR TED STEVENS

Senator STEVENS. Thank you very much, Mr. Chairman. I apologize to all for being late this morning. I got caught in a traffic jam in a tunnel.

This year we have before us real rate of production for the F-22, the new multiyear contract for the C-17, authority to recapitalize the air refueling tanker fleet, the EELV, a dramatic leap forward in space launches, the JASSM advanced precision munition, and the Predator and Global Hawk. These systems and others are entering mature phases of research and development, and by the end of the decade, we expect to have a dramatically advanced air and space dominance.

And this is not possible because of decisions we made this year, but it is because of the determination to support the Air Force in the past 10 years. The committee advocated the first multiyear contract for the C-17. We battled to sustain the F-22 and accelerated the funds for JASSM, and we pushed to enhance the capabilities and quantities of UAV's. I do believe we are where we are because of the leadership that we have.

I want to especially commend General Jumper for his leadership in the past three commands, Commander of the Air Force, Commander of the European Command, for the Air Combat Command, and I really think now as Chief, your efforts to bring advanced technology and far beyond a better air superiority that have directly contributed to the unprecedented range of opportunities we enjoy today.

So, Mr. Chairman, I want to be brief. Again, I apologize for delaying. Thank you very much.

Senator INOUE. Thank you.
Senator Cochran.

STATEMENT OF SENATOR THAD COCHRAN

Senator COCHRAN. Mr. Chairman, thank you. I am pleased to join you in welcoming our distinguished witnesses today. We appreciate their cooperation with the committee, and I look forward to hearing their testimony.

Senator INOUE. Thank you.
Senator Shelby.

STATEMENT OF SENATOR RICHARD C. SHELBY

Senator SHELBY. I just want to welcome the Secretary and General Jumper and look forward to their testimony. Thank you, Mr. Chairman.

Senator INOUE. Thank you.

Now may I call upon the Secretary. Secretary Roche.

Secretary ROCHE. Thank you, Mr. Chairman and Senator Stevens and distinguished members of the committee. It is a distinct honor to appear before you today representing the Air Force team with General John Jumper. As you have noted, General Jumper is one of the finest officers in the American armed forces and certainly someone with whom I am deeply honored to serve.

With your indulgence, Mr. Chairman, I would like to ask John at this point to introduce a very special guest whom we think you would like to get to know, Technical Sergeant William Calvin Markham, one of our air commandos who spent a number of months, 3 in fact, in Afghanistan doing some of the fine work. John.

CLOSE AIR SUPPORT

General JUMPER. Sir, if we could ask Tech Sergeant Markham to stand up. Sergeant Markham went into the interior of Afghanistan in the middle of October and stayed for 29 days straight in the field working close air support with his Army colleagues to bring close air support from Navy aircraft, Air Force aircraft, to include bombers and fighters of both of our services to bear on the enemy. It is heroes like Sergeant Markham that we read about in the newspapers, and he is here today to join us to lend some credence to our testimony this morning, sir.

Senator INOUE. We congratulate you and welcome you, sir.

Sergeant MARKHAM. Thank you, sir.

Secretary ROCHE. Mr. Chairman, we are committed to exercise our responsibility, together with our sister services, to provide for this Nation's defense now and in the foreseeable future. You have our full attention and we are ready to get down to the important business at hand.

With your permission, Mr. Chairman, I will make some opening remarks, as will General Jumper, and we request that our written statement, the Air Force posture statement, be included in the record, sir.

Sir, America's Air Force has had numerous opportunities over the past several months to implement and validate significant changes in the concept of military operations and, indeed, the conduct of war. With the full support of the Secretary of Defense, we have encouraged and exploited the rapid advancement and employment of innovative technologies to create a portfolio of powerful air and space capabilities. We have begun to reorganize and find efficiencies throughout the Air Force, and we have taken significant action to implement the findings of the Space Commission in our new role as the Department of Defense executive agent for space.

We proceed, however, eager rather than complacent, recognizing that much work and many more opportunities to improve await us. Despite our dedication to demanding critical and global operations, we have not faltered in our steps to continue the task of transforming our force to match the demands of this new century.

But first and foremost, Mr. Chairman, as you noted, we can all be justifiably proud of the American airmen who serve our country at home and abroad. Elaborating on your point, sir, in operations Northern Watch and Southern Watch, we have quietly amassed a total of almost 250,000 sorties in the last 10 years. Operation Enduring Freedom has demanded over 45,000 sorties to date, some of which have broken records of mission range, hours flown, and combat reconnaissance, and tanker support to joint operations, mobility demands, and humanitarian supplies delivered have all been unprecedented. As an example, sir, our tankers have flown close to 10,000 sorties to date. Fifty-five percent of all of our sorties have been in support of Navy and Marine Corps colleagues.

For the first time in the history of warfare, the entire ground operation of landlocked Afghanistan, infiltration, exfiltration, sustainment of supplies and support equipment has been accomplished by air. In Noble Eagle, as you noted, sir, over the skies of America, 20,000 airmen, 265 aircraft, 350 crews mainly from the Air National Guard and Air Force Reserve, but also from our Active Air Force and allies, flew over 21,000 tanker, fighter, and airborne early warning sorties, as well as prepositioned C-130's for emergency purposes.

Our North Atlantic Treaty Organization (NATO) partner nations have deployed the airborne warning and control system (AWACS) to our country to help defend American air space. This is the first time since the Monroe Doctrine of 1823 that a continental European force helped to defend the continental United States. This month we bid farewell from a grateful nation to these fine airmen who helped us in time of need and who are now heading home.

TRANSFORMATION

As we continue our transformation, support our airmen, reinvigorate the military industrial base, and become an even more efficient team, our vision remains a total air and space force providing global reconnaissance and strike, including troops and their support, across the full spectrum of operations.

INTELLIGENCE SURVEILLANCE AND RECONNAISSANCE

But we have pressing needs. We need to modernize our intelligence surveillance, reconnaissance platforms, and tankers so that

we can do the jobs we need to do. We need to develop capabilities to engage near instantaneous attack to exploit the advances in intelligence, surveillance, and reconnaissance, and here we do that by linking manned and unmanned systems, overhead systems, et cetera.

GUARD AND RESERVE

And we have to understand exactly what the role of our Guard and Reserve will be in the steady state for homeland defense of the United States. We have a strategy developing for our air logistics centers. We need to continue to do that.

READINESS

Finally, sir, we cannot wait until we are on a par with potential enemies in the realm of air superiority, especially with respect to our fighter and attack capabilities. As General Jumper, the highly respected, revered colleague at my side today, is fond of saying, when we go to war, we never want to have a fair fight.

AIR POWER

It is fundamental to the defense of this Nation that we must own the skies and maintain the capability to operate freely in any air space we require, the definition of air dominance. We are the guardians of the high ground, and we cannot afford to allow any adversary to control the skies over any area where our soldiers, marines, sailors, or airmen must operate. We achieve this in concert with our naval air power colleagues.

A recent RAND study observed that no American soldier has been killed in combat by an enemy air attack since 1953, a compelling statistic that speaks to both the superiority of air power and the extent to which we as a Nation must maintain that kind of dominance.

F-22

This, Mr. Chairman, is the crux of the reason we so fervently seek to acquire the F-22 aircraft and in sufficient numbers. We cannot accept the loss of air superiority and air dominance. The F-22 will enable our pilots to strike in all weather, night, day, and in anti-access, anti-aircraft, and emerging threat scenarios.

Other focus areas include development of concepts and strategies to seamlessly integrate our manned and unmanned systems, as well as retaining our people, especially those in mid-career who will benefit from the provisions of this budget for improved family housing, pay, and facilities.

And we wish to pause and give a special thank you to you and your colleagues for the support of our airmen over the last many years. It has made a huge difference, an absolute huge difference, including spare parts. The fact that spare parts have been flowing now for the last couple of years has made a major difference to our operating forces.

Mr. Chairman, American airmen are able to perform the extraordinary feats asked of them because we are blessed with the full support of the American people, the Congress, and the President of

the United States, all of whom have been graciously supportive of our efforts and missions. We sincerely appreciate the confidence in our commitment and our capabilities, as well as the wisdom, vigilance, and patriotic sense of duty that join us in our journey to provide our Nation with superiority in air and space throughout the century.

You have gone to the current theater of operations, sir, as have General Jumper and I, and I know you were as impressed as we were with the airmen you met, the dedicated team of men and women, that you and your colleagues in the Congress have raised and have maintained. And on their behalf, may I please say thank you.

Senator INOUE. General Jumper.

STATEMENT OF GENERAL JOHN P. JUMPER

General JUMPER. Mr. Chairman, thank you for the opportunity to appear before the committee today. I am proud to sit here beside my boss and offer the committee our comments. They will be brief this morning, as Secretary Roche covered the highlights of the current state of our Air Force.

I would like to take a moment, though, Mr. Chairman, to thank you and the distinguished members of the committee on behalf of all our Nation's airmen, Active duty, National Guard and Reserve.

As the Secretary said, we both have had the opportunity, as have many of you, to travel in the area of operation over recent months and to witness firsthand the superb performance of our young people in uniform, and I say this of all uniforms, not just the Air Force, doing superb work for our Nation. In every crisis—and I have been doing this now for more than 35 years—I continue to be extremely impressed by the dedication and commitment of our young people, in this case, our young airmen out there in the field.

AIR FORCE RECRUITS

This comes as a surprise to many in our society who would believe that these youngsters are raised in the era of Beavis and Butthead and the Simpsons and taught to disrespect anything of authority or anything that smacks of institution, but you know, Mr. Chairman, I get to go quite often down to Lackland Air Force Base where we graduate our basic trainees, and it is inspiring to see these youngsters on their graduation day all decked out in their bright new blue uniforms. When you go, you see the same scene at least once every time. Some young newly minted airmen standing in front of his mother, shaking his mother saying, yes, Mom, it is me. They do not even recognize the kid they sent off 6 weeks prior.

And you go shake the hands of these youngsters, and they all tell you, sir, the Air Force saved my life. I was on a downhill spiral to nowhere. Somebody took me by the cuff of the neck and shoved me in the direction of the Air Force, and it saved my life.

Or you hear comments like, sir, this is the first time I have ever had a chance to be proud of myself or anybody acknowledged that I was actually worth something.

And this is the opportunity that our military gives these youngsters, and when you show them how to be proud and you provide

the right leadership, they go out and perform the way that they do for our Nation. And this generation, Mr. Chairman, I can tell you, properly led and properly motivated, is no less dedicated or committed or patriotic than any generation that ever served this Nation. And we thank you for giving them the resources they need to do their job.

SPARE PARTS

I have had more than one knuckle-dragging maintainer out on the flight lines in hostile territory tell me that he would be glad to give up a pay raise in order to get spare parts he needed to fix the airplane. Thanks to you, Mr. Chairman, and members of the committee, they have both, the pay raise and the parts they need to do their job. We are starting to see that readiness turn up in a way that makes us all proud.

INFORMATION TECHNOLOGY

Mr. Chairman, we have seen nothing less than a transformation in the way we have used our military over the last few months, with people like Tech Sergeant Markham out in the field using the miracle of modern information technology to put bombs on targets, using aircraft like the B-52 for close air support. General Curtis LeMay would roll over in his grave at the thought of a B-52 doing close air support. But it is these youngsters like Sergeant Markham who put these systems together and make the processes work in ways that we never dreamed of to take care of the problem that is in front of them and to confront an enemy as elusive as the al Qaeda hiding in caves. There has been no greater demand on our technology—unmanned aerial vehicles, global positioning system (GPS)-guided bombs, laser-spotting equipment that Sergeant Markham used to put weapons on target—than this very low tech environment that we were in in the country of Afghanistan.

SURFACE-TO-AIR MISSILES

Now, as we contemplate this, Mr. Chairman, not every future war, as you said, is going to be low tech, and we have high tech systems that are being developed out there that we are going to have to be ready to face. A whole new series of surface-to-air missiles, the SA-10's, 12's, and 20's, will challenge us in the sky.

RUSSIAN AIRCRAFT

The Russian, the former Soviet Union, aircraft manufacturing companies are pumping out very capable airplanes. From time to time, we get our hands on these airplanes, and the next generation of airplanes that they put out are going to be very capable. When our guys fly their airplanes, they beat our guys flying our airplanes almost every time.

F-22

And that is why we need this F-22, Mr. Chairman, not only for the air superiority in the air-to-air role that the Secretary talked of, but as he also said, to be able to take care of this threat on the ground. The F-22 is often marketed as an air-to-air dog fighting

airplane, but it is going to do much more than that. Most of the reason we need it is to be able to penetrate those most difficult threats we will face in the future to take out these surface-to-air missiles.

PREPARED STATEMENT

So, Mr. Chairman, we come to you today proud of our Air Force and representing proud airmen who are out there serving this Nation day in and day out, and it is a pleasure and a privilege for us to be here. I look forward to your questions, Mr. Chairman. Thank you.

[The statement follows:]

JOINT PREPARED STATEMENT OF JAMES G. ROCHE AND GENERAL JOHN P. JUMPER

Mr. Chairman and members of the committee, the Air Force remains focused on transformation. It is a continuous journey, and fundamental to succeeding in the joint services' task to provide for this nation's security. This fiscal year 2003 budget takes significant strides along this path, and will enable us to remain the world's most capable air and space force.

During the past year, the Air Force has had numerous opportunities to implement and validate significant changes in the conduct and strategies of war, exploit the rapid advancement of innovative technologies, and deliver global reconnaissance and strike for America's national security. Our successes are America's successes; they are the direct result of the tireless and unconditional service by men and women of the Total Air Force and their families.

We recognize much work and many opportunities to improve await us. Despite our unassailable dedication to a demanding operational pace at home and abroad—including NORTHERN WATCH, SOUTHERN WATCH, NOBLE EAGLE, and ENDURING FREEDOM—we have not faltered in our steps to continue the tasks of our unprecedented transformation. We are pressing forward to develop and refine our operational and organizational processes and strategies to address the changing national security and economic environments. We are focusing on the horizontal integration of our manned, unmanned, and space assets in order to provide real-time actionable, exploitable intelligence to commanders. We are committed to leveraging technology to combine our air and space capabilities in order to increase asymmetric advantages for our nation. And, as our transformation continues, we will support our people, revitalize the military industrial base, and seek efficiency at every turn. We are the world's preeminent Air and Space Force, remaining true to our vision by providing Global Vigilance, Reach, and Power across the spectrum of military and humanitarian operations for America and our allies.

We are able to perform the extraordinary feats asked of our Air Force because we are blessed with full endorsement from the American people, the Congress, and the President of the United States—all of whom provide unwavering support to our efforts and missions. We sincerely appreciate this confidence in our commitment and our capabilities to provide our great nation with superiority in air and space throughout this century.

PREFACE

If Americans had not fully understood the idea of "asymmetry" before September 11th, they received a horrific education on that day. In a lesson reminiscent of one 60 years earlier, air assets were employed in a malicious fashion on an unsuspecting people. This time, however, the attacks resonated a particular evil, for civil airlines were used to wreak destruction and death upon civilians.

The World Trade Center, the Pentagon and a field in Pennsylvania were the battlefields of asymmetric warfare. A terrorist group exploited the United States' asymmetrical vulnerabilities, far in excess of their relative size and the physical results of the attacks. Within minutes of these attacks, the United States, through Operations NOBLE EAGLE and ENDURING FREEDOM, was providing education on an asymmetry of its own making—the object lesson of joint and combined warfare visited on the perpetrators of the September 11 strikes. The Air Force is fully prepared to execute the missions required—with our air, space and special forces assets—to carry this global war on terrorism to its conclusion, ending as President Bush declared, "at a time and place of our choosing."

Operation NOBLE EAGLE (ONE)

Operation NOBLE EAGLE unofficially began three minutes after North American Aerospace Defense Command (NORAD) received word from the Federal Aviation Administration of two hijackings. F-15 Air Defense fighters from Otis Air National Guard base in Massachusetts raced toward the skies over New York. Thirty minutes later, a similar attack unfolded in D.C. Within minutes, Guard F-16s from Langley AFB were on an intercept track while other Guard F-16s headed to the skies over the Capital. Though notified too late to thwart the attacks, the jets were in place to stop any further strikes, including the aircraft that crashed in Pennsylvania.

Within hours of these attacks, the Air Force had established combat air patrols across America with air refueling support to keep them aloft, and command and control assets to direct them. By December, these sorties exceeded 8,000. Meanwhile, as the Air Force air defenses secured the skies, numerous other combat support enablers—strategic and tactical lift, civil engineers, medical teams, combat communications, command centers, chaplains, and security forces—rolled into action. The Air National Guard generated over 100 C-130's to support the movement of FEMA, FBI, human organs and blood, Combat Support Teams (CSTs), medical equipment, and combat communications. In addition, over 70 personnel arrived from Andrews AFB to help coordinate emergency medicine at the Pentagon alongside the Surgeon General of the Air Force.

Within 24 hours, the Air Force swiftly deployed 500 medics to McGuire AFB, to respond to any Federal Emergency Management Agency (FEMA) tasking for equipment and/or personnel needed at the World Trade Center. State-of-the-art medical emergency facilities were assembled, which included four Expeditionary Medical Support packages (EMEDS) (lightweight modular systems). Critical Care Air Transportable Teams (CCATT), which provide emergency medical attention while in-flight, were quickly established at both the Pentagon and McGuire AFB. The port mortuary also was activated, with over 600 Air Force Active duty, Guard and Reserve personnel deploying to Dover AFB. They assisted in the identification and preparation of the remains of the Pentagon attack victims, working alongside the Armed Forces Medical Examiner, FBI, Army and Navy personnel. Critical Stress Management Teams conducted counseling to personnel assigned to recovery efforts at both locations. Finally, since the National Disaster Medical System was activated, the Air Force Medical Service (AFMS) also set up its aeromedical evacuation assets at both McGuire AFB and Andrews AFB.

Meanwhile, demonstrating their invaluable integration in the Total Force, Air Force Reserve and Air National Guard airlift crews were among the first to bring in critical supplies, equipment and personnel, including emergency response teams from FEMA, fire trucks, search dogs, and earth moving equipment. At the time of this writing, more than 10,000 Air Force Reservists and over 20,000 Air National Guard members have been mobilized, and many more continue to provide daily support as volunteers. Thousands of Air National Guardsmen, Reservists, civilians, contractors, and Active duty members are ensuring air and space security over America.

Operation ENDURING FREEDOM (OEF)

When the President decided on the appropriate course of action, air and space forces were called into action. At the outset, Air Force bombers proved instrumental to putting weapons on targets in Afghanistan. The vast mobility capabilities of the Air Force quickly moved assets into the theater, while simultaneously making possible Navy and Air Force fighter attacks.

ENDURING FREEDOM also revealed an improvement from even the most recent operations. Air and space precision assets paired with multi-service special forces on the ground proved an effective, efficient and devastating mix of capabilities. Additionally, we have pushed developing technologies forward and have found operational successes in advanced employment of Unmanned Aerial Vehicles (UAVs).

This operation is about creating effects—deterrence and defeat of terrorism—so it is more than simply munitions-on-targets. The Air Force is at the forefront of psychological campaigns, applying robust information warfare campaigns while also leading the humanitarian relief mission—essential to any long-term stability in the region. Airdropping millions of rations to a starving people, Air Force mobility forces directly affected the future of the new Afghan government.

“Let’s Roll!”

As it has throughout its history, America will champion the cause of freedom and defeat those who would attempt to deny us this most basic tenet. Guaranteeing our success is “. . . the strength of our country—the skill of our people and the superiority of our technology.”

INTRODUCTION

The world's premier Air Force begins 2002 under new leadership. The Secretary and Chief of Staff bring unique and complementary experiences to bear upon the dynamic promise of American air and space power in the 21st Century. The Air Force is in the business of global reconnaissance and strike, including the full application of unparalleled mobility forces. Our efforts are fuelled by a vision of Global Vigilance, Reach, and Power to help the Nation assure our allies and friends, while dissuading, deterring or decisively defeating any adversary. The specific concept of "core competencies"¹ well known among successful organizations has been adapted by Air Force leaders to characterize the capabilities that are central to our mission: air and space superiority, information superiority, global attack, precision engagement, rapid global mobility, and agile combat support.

The Air Force, and the Nation, entered 2001 aware of the challenges and opportunities of a new administration. The Department of Defense was to undergo significant evaluation, with the expectation of dramatic changes to follow. President Bush brought an eminently qualified team to Defense and National Security, and the Air Force welcomed the injection of energy and attention the Nation's defense was to receive. Long a force for innovation, airmen continued their leadership throughout the months of military reinvention. Capabilities-based planning was emerging as the Quadrennial Defense Review (QDR) focal point, and the Air Force strove to maximize the assessment of new technologies, revolutionary concepts of operation and visionary organizational changes. However, amidst this important task, terror struck the United States. The Air Force, and the Nation, exited 2001 at war.

This new adversary, and those of the future, will pose a formidable challenge to American interests at home and abroad. They will attempt to intimidate, deter or defeat our nation through a variety of means, to exploit our asymmetrical vulnerabilities and avoid confronting U.S. military power directly. These strategies will include the use or threatened use of weapons of mass destruction, and the use of terrorism on U.S. soil. They will also attempt to counter the tremendous asymmetric advantages of U.S. air and space power.

To meet these challenges, Air Force strategy calls for a capabilities-based approach to defense planning. This enables the Service to answer a broad range of challenges posed by potential adversaries, while also developing the capabilities it needs for the future. This capabilities-based planning must remain tied to ongoing Air Force transformation that continues to develop new technologies, concepts of employment and organizational adaptations.

The Road Ahead

The transformation of the military now runs parallel to the transformation of our Nation. Just as the military is exploring new capabilities and concepts of operation (CONOPs) to engage threats, America as a whole is experiencing new appreciation for the cost of freedom. The Air Force, the Department of Defense and the American people are up to the challenge.

Though a shock, the events of September 11th did not fundamentally alter the course for a transformed military; rather, they served as an affirmation of our current direction. Turning away from decades of restrictive force-to-threat planning, the Air Force along with the Defense Department is on course to define desired effects, and then secure capabilities which allow us to reach that end. Additionally, the QDR and the Defense Planning Guidance (DPG) address organizational changes, which add to the effectiveness of new military methods.

This describes the heart of Air Force transformation. Assessing existing and potential adversaries' capabilities against our own, we are developing Task Forces for a variety of mission requirements, from strategic response to homeland security. For example, Global Strike Task Force, which describes how we will operate in an anti-access scenario, is the next step in our journey to fully achieve our mission while also opening doors to adaptive and innovative operational plans, and relevant organizational structure.

In order to draw the greatest effectiveness from these capabilities, the Air Force will exploit America's technical dominance to elevate our asymmetric advantage over any adversary. This involves harnessing the attributes of stealth, precision,

¹According to two leading scholars, successful enterprises "consolidate corporate-wide technologies and production skills into competencies that empower individual organizations to adapt quickly to changing opportunities." The 3 identifying characteristics of core competencies are: (1) They transcend a single product or service and provide potential access to a wide variety of markets; (2) they are perceived by customers to deliver significant benefit; and (3) they should be hard to imitate. See C.K. Prahalad and Gary Hamel, "The Core Competence of the Corporation," Harvard Business Review, May-June 1990.

standoff, space, and information technology. The success of our capabilities-based CONOPS depends upon reducing the find, fix, track, target, engage, and assess (F²T²EA) cycle and achieving persistent ISR capabilities. Key to this is the horizontal integration of manned, unmanned, and space assets. By facilitating digital conversations at the machine-level we will provide the Joint Force Commander with the decision-quality information required to ensure success—the “sum of the wisdom” resulting in a cursor over the target. With determined exploration and exploitation of space capabilities—culture, principles, personnel and assets—we will widen our asymmetric advantages and set the bar beyond reach of any adversary. Such transformation will guarantee America’s Global Vigilance, Reach, and Power—establishing powerful national mechanisms to assure, dissuade, defeat or deter.

These are the building blocks to true transformation—technologically elevated capabilities, focused CONOPs and embedded structural changes. The Air Force remains at the forefront of each of these transformational elements. We ensure the freedom to operate around the globe and in the sky and space above, under any circumstances, and for whatever mission the Nation requires. This is asymmetry—exploitation of capabilities no other force in the world possesses—and it is fundamental to redefining jointly fought warfare on America’s terms. Maintaining this advantage is critical, and a constant challenge. In the year ahead, we will meet this test by solidifying the roots of our success: Readiness, Transformation, and the resource that makes these possible—our People.

THE YEAR IN REVIEW

In 2001, the Air Force had an enormous impact on the peacekeeping and combat missions around the world. From the Korean Peninsula to Kabul, across every continent and over all bodies of water, Air Force civilian, Active, Guard and Reserve forces were executing global reconnaissance and strike missions. Through combined exercises, humanitarian interaction around the globe, and decisive combat action, we assured our friends and dissuaded, deterred or defeated our adversaries.

In the Balkans, contributions to the region included fighter, tanker, command and control, ISR, and airlift aircraft. Combat search and rescue (CSAR) forces, special operations units and unmanned aerial vehicles (UAVs) also flew in support of the operation. In 2001, the Air Force flew approximately 1,000 sorties, enforcing no fly zones over the former Yugoslavia.

In Southwest Asia (SWA), the Air Force maintained a continuous, steady-force presence of more than 8,000 airmen in support of Operations NORTHERN WATCH (ONW) and SOUTHERN WATCH (OSW). Air Force ISR assets provided crucial intelligence and situational awareness, particularly in the form of indications, warning and intelligence. We were the vital element in monitoring Iraq’s compliance with United Nations’ directives. Coalition forces flew over 22,000 combat sorties in SWA during 2001, 70 percent of which were flown by the Air Force.

In response to the terrorist activity of September 11th, we began providing support to homeland defense via Operation NOBLE EAGLE and support to the war against terrorism via Operation ENDURING FREEDOM. By the end of 2001, we had flown 11,000 combat air patrol, surveillance, and refueling sorties protecting U.S. cities and other high-value assets. We also maintained an alert readiness status on the ground in order to scramble and intercept threat aircraft. Nearly 14,000 airmen have deployed to Southwest Asia in support of ENDURING FREEDOM. This number represents nearly every specialty in the Air Force, from engineers to explosive ordnance disposal, pilots to special operators. Of the over 18,500 total coalition sorties flown, almost 46 percent have been flown by the Air Force. These sorties included fighter, tanker, command and control, special operations, UAV, ISR, and airlift aircraft. Initially, the Air Force was the sole provider of airlift for humanitarian relief to the people of Afghanistan. By the end of December, Air Force mobility teams had delivered over 2.4 million humanitarian daily rations and over 4,300 tons of wheat, rice, and cold weather gear. Ultimately, in the land locked country of Afghanistan, everything brought in to build up and sustain our forces was brought in by air.

The Caribbean and South America continued to be the focus of the ongoing war on drugs. Counter-narcotic missions were flown around the clock by all interagency organizations. The Air Force contributed aircraft and crews flying missions as fighter-interceptors, airlift, ISR and CSAR. Of the almost 3,000 sorties flown, the Air Force flew approximately 25 percent. These efforts directly contributed to seizures that totaled over 75,000 kilos of narcotics.

Establishing operational imperatives for 2001 and beyond, the Secretary of Defense named the Air Force as executive agent for national security space. We now shoulder the responsibility for planning and programming of space systems for the

Department. The Secretary and Undersecretary of the Air Force will direct efforts to nurture a space culture and ensure that the advancement of space capabilities receives focused and heightened emphasis. Throughout the year, we also maintained approximately 100 satellites in earth orbits that directly supported, and continue to support, not only the Air Force but also the other Services and the civilian population. Global Positioning Satellites assisted travelers worldwide. Data provided by Air Force weather satellites and communications and missile launch-detection satellites was used by all services. In order to maintain this robust capability, we launched, deployed, and initialized operations of eight additional assets in 2001.

The Air Force provided an American presence in regions of the world where the United States is working to build goodwill and improve relations. It also enabled quick humanitarian relief during natural and man-made disasters. During the month of January, following a devastating earthquake in India measuring 7.7 on the Richter Scale, two C-5s and four C-17s transported 115 short tons of humanitarian cargo to Ahmedabad, India. In April, a C-17 airlifted 10 cheetahs from Africa to America as part of a gift to the United States from the people of Namibia. Additionally, Air Force engineers from Active and Air Reserve Component RED HORSE units accomplished several school construction and water well drilling humanitarian projects throughout Central and South America.

When the floodwaters rose in Houston in June, a C-17 transported federal relief workers and 30,000 pounds of relief supplies to Texas. Additionally, the Air Force deployed a 92-person Expeditionary Medical Support System (EMEDS) to the area to relieve local hospital emergency rooms workload. The EMEDS cared for over 1,000 patients from this disaster, and the AMS envisions placing EMEDS throughout the country to offer added future regional quick-response capabilities. Later, in August and September, Air National Guard and Air Force Reserve C-130 aircraft equipped with modular airborne fire-fighting systems flew 185 missions and dropped over 800,000 gallons of fire suppressant on wildfires in Idaho and California. Additionally, they flew 45 support sorties lifting 414 firefighters and over 300,000 tons of cargo into the area.

Whether at home or abroad, in combat, humanitarian operations or training, we strive to accomplish the mission effectively, efficiently and safely. Effective risk management directly contributes to readiness and warfighting capability. In 2001, a combination of targeted mishap prevention efforts and chain-of-command commitment resulted in sustained low mishap rates in all major areas. On the ground, a record low was achieved for off-duty sports and recreation fatalities with four total. In the on-duty ground fatality category, the Air Force tied the fiscal year 1998 all time record low of three. In the air, Class A Flight Mishap performance yielded the third lowest mishap rate in USAF history.

The Air Force-wide fielding of safety tools and metrics such as the web-based Safety Automation System continues to improve operational and acquisition risk management decision-making. These efforts, coupled with aggressive seasonal safety campaigns, enable leaders at all levels to take proactive action aimed at specific trend areas. The Air Force's commitment to safety as a combat multiplier continues to enhance force preparedness and mission accomplishment.

"The Expeditionary Air and Space Force (EAF) After 2 Years"

Our considerable mission accomplishments in 2001 have in large measure been made possible by the continued maturation of the EAF. Throughout the year, we called upon all facets of our Air Force—Active, Guard, Reserve, civilian, and contractors—to meet the demands of the war on terrorism and our steady-state commitments. In addition to the rotational deployments in support of OSW, ONW, Icelandic Operations, and counter-drug operations; we were called upon to support wartime efforts at home with ONE, and overseas with OEF. The large demand on the Air Force increased the OPSTEMPO drastically and placed a sizeable stress on our most valuable asset, our people. The Air Force is stretched thin, standing up several expeditionary bases overseas while at the same time defending the skies over the United States with numerous aircraft on ground and airborne alert. Our people have risen to the occasion in winning this war. We will maintain the Air and Space Expeditionary Force (AEF) structure throughout this effort to the maximum extent possible however, everyone in the Air Force realizes the mission has changed and the requirement to deploy for longer periods of time may increase.

The Expeditionary Air and Space Force—Sum of the Parts

Often misunderstood is the difference between the elements that collectively define the Expeditionary Air and Space Force. Whereas the EAF is a construct and is the Total Air Force, the AEFs are a subset and represent the core of our deployable combat power and forward presence capability. The EAF also enables the

Air National Guard and the Air Force Reserve to participate more heavily in Air Force expeditionary operations. The increased predictability of the AEF rotation cycle allows us to schedule voluntary participation well in advance. This voluntary participation currently provides about 25 percent of the aviation package and 10 percent of the Expeditionary Combat Support. This support brings both OPSTEMPO relief as well as highly trained and skilled talent to the operations. This interaction lays the basis for the development of our transformational initiative, Future Total Force (FTF) (explored later).

AEF Prime consists of operational capabilities neither organically assigned to AEFs, nor incorporated in the rotational cycles. This includes regional command and control, intelligence, space, special operations, and the umbrella of deterrence provided by our nuclear forces. AEF Prime enables much of the global reachback we rely on for logistics and analysis.

AEFs are not individual organizations, autonomous fighting forces, or units. Instead, our 10 AEFs represent buckets of capabilities the Air Force can draw upon to satisfy the requirements of theater commanders—flexible, responsive, adaptable. A nominal AEF has about 12,600 people supporting 90 multi-role combat aircraft, 31 intra-theater airlift and air-refueling aircraft, and 13 critical enablers. The enablers provide command, control, communications, intelligence, surveillance, and reconnaissance, as well as combat search and rescue. AEFs are composed of squadron and sub-squadron elements, which are on-call for a period of three months in a 15-month cycle. If deployed, forces from AEFs make up Air and Space Expeditionary Task Forces (AETF). Finally, we have two Air and Space Expeditionary Wings (AEWs) that provide crisis response capability beyond what the two in-cycle AEFs can cover. They also contain unique capabilities, such as stealth aircraft, that are not distributed across the ten AEFs.

Air Force Reserve Command made major AEF contributions in 2001 having met virtually 100 percent of both aviation and combat support commitments, while also deploying 14,000 plus personnel in volunteer status in the current 15-month AEF cycle (Dec. 1, 2000–Feb. 28, 2002). The challenge for 2002 will be to meet ongoing AEF commitments with volunteers from a Reserve force which has had a large portion of its operations and combat support mobilized for homeland defense and the war on terrorism.

The Air National Guard alone contributes nearly 25,000 men and women every 15 months to the AEF rotations. During AEF cycles one and two thus far, Guard units provided over 20 percent of the total force aviation packages and nearly 10 percent of all expeditionary combat support requirements.

EAF Mobility provides the ability to deploy and sustain expeditionary forces. It includes airlift and air-refueling capabilities—the linchpin of power projection. Many mobility units accomplish the AEF role when specifically assigned to an AEF eligibility period and the EAF Mobility role all other times.

EAF Foundation consists of support capabilities not organically assigned to AEFs. This includes acquisition, logistics, health care, education and training. Due to the expeditionary nature of the Air Force, individuals normally assigned to an EAF Foundation organization can still be assigned to an AEF and deploy to contingency operations during their three-month eligibility period.

The EAF is a force structuring mechanism because it frames Air Force modernization, recapitalization, and transformation efforts. The AEFs and EAF Mobility provide the rotational basis for steady state expeditionary operations. Therefore, current and future programs must ensure adequate capability in the EAF to respond to global contingencies while providing predictability and stability for our people.

EAF Today

Our current level of commitment exceeds the capability we have available in our two on-call AEFs and one on-call AEW. In career fields such as Security Forces, Engineers, Communications and Information, and Medical, we have reached into future AEFs to source enough people to meet the current requirement. Low Density/High Demand (LD/HD) assets such as Airborne Warning and Control System aircraft (AWACS) and special operations aircraft have deployed almost their entire inventory to meet the war effort. We have been aided greatly in this LD/HD challenge with the deployment of NATO AWACS that have deployed to the United States in support of ONE. For the first time ever, the on-call AEW and portions of the remaining AEW were employed. Additionally, a large portion of the total tanker force deployed to support Air Force and Navy strikes, while our mobility forces rapidly moved thousands of airmen and support equipment overseas allowing us to quickly engage the enemy on our terms, not theirs.

Fully Capable AEFs

Providing the flexibility needed for full spectrum operations requires continued efforts to round out capabilities of our AEFs to make them inter-changeable. Currently, our 10 AEFs are not all the same. For example, only three of the AEFs have precision, standoff strike capability, and only nine have an F-16CJ squadron for suppression of enemy air defenses. Until the disparity is rectified, the EAF construct will have limits—many LD/HD and stealth systems remaining tasked at maximum levels.

As the EAF continues to mature and technologies advance, we will expand the capabilities each AEF can provide. With enhanced intelligence, surveillance, and reconnaissance (ISR) we will enlarge the battlespace an AEF can control; improve our ability to do real-time targeting; and dramatically increase the number of targets an AEF can engage. Finally, we will continue to improve our expeditionary combat support capabilities—effective, responsive logistics are the key to sustaining expeditionary forces and operating from austere locations.

Reflection and Resolution

After a morning of terror on September 11th, there was reassurance. Aircraft over American cities lent calm rather than fear, for they were the Active, Guard and Reserve Air Force keeping watch. We reacted within minutes of the attacks to establish a defensive posture and to prepare our offensive forces, just as we spent 2001 reacting successfully to humanitarian and combat operations around the globe. While meeting the requirements of the new war on terrorism, we will continue our transformation journey. The capability to deliver massed, discriminate and precise effects anywhere in the world within minutes, and the persistent ISR to evaluate actions are within reach for America's air and space forces. This is the contribution of the Air Force to the Nation—asymmetric capabilities that assure, dissuade, deter or decisively defeat.

READINESS

Though no organization in America was ready for the attacks of September 11th, none was more ready for the immediate aftermath than the Total Air Force team. From humanitarian to combat operations, the operational demands before the attacks were tremendous. Though significant milestones were reached in terms of reducing the effects of high tempo operations, the advent of war placed many of those gains on hold. The war on terrorism has disrupted the AEF schedules, which will create training, organization and resource impacts in the near future. Unaffected though, is our objective of 10 fully capable AEFs—each a flexible, identical cross-section of capabilities for the Joint Force Commander to employ. America's competitive edge is due in large part to its emphasis on realistic, comprehensive training, and we must continue to ensure our forces get that training. Equally important is ensuring our personnel have the resources needed to accomplish their jobs.

Recapitalization

Our fielded forces have aged to the point that they will not be able to compete with emerging and future threats. In order to deal with the global security environment, the Air Force must rebuild its aging infrastructure and modernize its outdated weapon systems. Higher priorities, however, require that we pursue a structured recapitalization process that will ensure tomorrow's warfighters have the advanced tools, technology, and equipment needed to preserve America's air and space dominance.

The budgetary constraints and spending reductions mandated in the 1990s caused the Air Force to seriously underfund modernization and infrastructure improvements. For example, in 1990 the Air Force purchased 257 aircraft; by 1996, that number had fallen to 30. This dramatic cutback in hardware acquisitions signaled an unavoidable shift in USAF priorities. Modernization stalled in order to maintain core operational capabilities and keep the fleet of older aircraft flying. Unfortunately, this financially driven reprioritization placed the nation's mid- and long-term air power readiness at significant risk.

We now face a dangerous situation. Our aircraft fleet is getting older, less capable, and more expensive to maintain—all at the same time. Reversing this negative trend requires the Air Force to structure its recapitalization plans to avoid large-scale procurement spikes and critical modernization gaps.

The recapitalization of our airframes and weapons systems is only a partial solution. The Air Force needs to upgrade its infrastructure and physical plant, which include sustainment, restoration, modernization, transportation, support equipment, and communications systems. At the same time, the Air Force must be prepared to conduct real-world operations on a global scale. While recapitalization is important

we can never forget investing in our people. The Air Force needs to take particular care in preserving this resource and expanding its capabilities. With the help of Congress, we have made considerable progress in addressing pay, benefits, and quality of life issues but more remains to be done.

Understanding the range and nature of Air Force capabilities is a prerequisite to comprehending the readiness and transformational requirements. Securing our task forces' potential capabilities demands insightful and bold initiatives. How comprehensively we elevate the systems, processes, and people will determine how effectively America will be able to operate on the global stage in the decades ahead.

CORE COMPETENCIES

Air and Space Superiority

Air and space superiority is the ability to control the entire vertical dimension, from the surface of the earth to the highest orbiting satellite, so the joint force has freedom from attack and freedom to attack. This is the essential first step in achieving battlespace dominance. As was true with operations in the 20th Century, dominance of the vertical dimension will remain the most critical capability for 21st Century Joint Force.

Air Superiority

The Air Force is investing in a range of systems encompassed in the entire F²T²EA kill chain. Among the air superiority assets that contribute to this targeting and attack process are the legacy air-to-air platforms. While we await the fielding of new systems, we strive to maintain the viability of our current assets. The F-15 and F-16 programs continue to pursue modernization of radars, engines, and enhanced combat capability to ensure near-term fleet maintenance and air superiority in air-to-air combat environment. Finally, key weapon advances rest with continued development and production of the Joint Helmet Mounted Sight as well as the AIM-9X and AIM-120 next-generation air-to-air missiles. While modernization of current systems is required to make them as capable as they can be, our greatest advantage with current systems is our robust training and the availability of ranges to conduct that training.

Self-defense against enemy air defense systems is a key element to ensure air superiority. Several electronic warfare programs support this important capability. The Joint Services Electronic Combat Systems Tester meets our operational requirement for a mobile verification system to confirm installed electronic countermeasures systems on F-15, F-16, and A-10 are operable. It tests end-to-end electronic combat capabilities, identifies system problems before takeoff, and provides the highest level of confidence to the warfighter that the EW suite is operational.

Comet Pod is a new infrared (IR) countermeasures system designed to provide covert, preemptive protection for the A-10 against IR surface-to-air missiles (SAMs). Fielding this system will greatly enhance survivability of the A-10 in its low-altitude close air support role. Additionally, the Advanced Strategic and Tactical Expendable program addresses multiple Combat Mission Needs Statements and provides accelerated ramp-up for production of the MJU-46 covert IR flare. This operational requirement acceleration responds to today's air war threat in Afghanistan and currently provides protection to special operations aircraft in the combat zone.

The AF leads the way in Radio Frequency (RF) Towed Decoys on fighter and bomber platforms. These countermeasures provide protection against advanced SAM threats and increase the viability and lethality of current platforms to conduct operations in the modern RF threat arena. These defensive systems have proven invaluable in combat over the last decade, and will continue to add to our legacy force capabilities.

Combat Search and Rescue (CSAR)

The CSAR mission provides friendly forces protection and assurance by recovering downed aircrew members or other persons in isolated locales and returning them to friendly control. Primarily charged with supporting combat personnel, CSAR continues to play an important role in civil search and rescue activities. The aging nature of the CSAR fleet, however, increasingly jeopardizes the Air Force's ability to accomplish the CSAR mission. Moreover, CSAR assets lack appropriate compatibility with our advances in strike, command and control, intelligence, surveillance and reconnaissance systems, though some advances in information fusion have been completed.

Other improvements are forthcoming. Air Force Reserve Command (AFRC) will modify nine HC-130's with the APN-241 ground map radar, which enhances position awareness and increases system reliability. Additionally, AFRC is beginning the upgrade of the forward-looking infrared for the HH-60G helicopter fleet.

Space Superiority

Space superiority ranks with air superiority as a top priority. The ability to exploit and assure U.S. access to space assets while denying the same to our adversaries is of great importance, and as the ultimate high ground, space provides America with military advantages that cannot be duplicated.

Space Commission

In 2001, the Secretary of Defense named the Air Force as Executive Agent for Space in his implementation of Space Commission recommendations. This made the Air Force responsible for department-wide planning, programming, and acquisition of space systems. Consistent with the National Reconnaissance Office's (NRO) long standing approach, the Air Force will manage space systems with a "cradle to grave" philosophy, integrating systems acquisition with operations. To accomplish this, the Space and Missile Systems Center has been transferred from Air Force Materiel Command to Air Force Space Command. The Under Secretary of the Air Force is now dual hatted as the Director of the NRO, and will have acquisition authority for all Air Force and NRO space systems, as well as Milestone Decision Authority for all DOD space programs. This will allow a comprehensive review of all space systems, to determine the optimal method of satisfying national/military requirements. The first National Security Space Program Assessment was accomplished this year, comparing DOD and NRO program budgets against existing plans. This assessment will be used in drafting the first National Security Space Plan, due in mid-CY02.

Spacelift Range System (SLRS)

Achieving and maintaining space and information superiority requires an operational space launch capability that can deploy satellites to orbit with speed and flexibility—the high ground of military operations. The Spacelift Range System modernization program is replacing aging and non-supportable equipment to improve reliability and efficiency; reducing the cost of operations and standardize equipment on the Eastern and Western launch ranges.

SLRS modernization follows a phased approach. To date, the completion of new downrange satellite communications links, a new fiber optic network, and new range scheduling systems are providing government and commercial users more flexibility at the spacelift ranges. In 2001, these improvements enabled the rapid launch of 3 systems in just 4 days using Cape Canaveral AFS equipment—an unprecedented feat for America's spacelift ranges. The next phase replaces old, base-unique systems with modern, standardized range safety, flight operations and analysis, communications, tracking, telemetry, planning and scheduling and meteorological systems. Once completed, the SLRS modernization program, coupled with the Evolved Expendable Launch Vehicle (EELV) program, will meet the future launch demands of national security, civil, and commercial payloads.

In addition, Air Force spacelift ranges are central to supporting the Department of Defense's cooperation with the National Aeronautics and Space Administration (NASA) in the development of technology, operational concepts, and flight demonstration for the next generation of reusable launch vehicles. This cooperation also offers the basis for the evolution and future development of reliable, rapid, and assured access to space for air and space vehicles.

Information Superiority

Information systems are integral to every mission of the Air Force. Success in achieving superiority in this domain requires an effects-based approach, superior battlespace awareness, well integrated planning and execution, and properly trained and equipped information operations (IO) organizations. Information superiority means that our information systems are free from attack while we have freedom to attack an adversary's systems.

Information is both a critical capability and vulnerability across the range of military operations from peace to war. In coordination with Joint Forces, the Air Force engages daily in conducting IO functions across this spectrum of military operations. We provide information superiority to our Air Force commanders and Joint Forces CINCs as well as to friendly multinational forces by conducting information operations in the air, space, and information domains.

Command and Control, Intelligence, Surveillance, and Reconnaissance (C²ISR)

Currently, many military operations are limited in the area of C²ISR capabilities, which increases the amount of time, it takes to locate and destroy many targets. While we are aggressively pursuing and fielding solutions to streamline this process, some of our current C²ISR systems, which our forces rely on, are vulnerable to ad-

versary manipulation. The challenge still exists to improve our own ability to disrupt the C²ISR systems of our adversaries. Of further concern to our C²ISR capabilities is limited radio frequency spectrum availability. Spectrum is the medium that supports the mobility, dispersion, and high tempo of operations. To meet this critical need for spectrum we must develop a strategy aimed at sustaining expanding spectrum access as we face evolving national security responsibilities.

Our operational and tactical command and control airborne platforms and ground systems organize and direct efforts to create desired effects, whatever their form. Our C² assets include the air and space operations center (AOC) with its decentralized component control reporting centers (CRC) and Theater Battle Management Core Systems (TBMCS); the Airborne Warning and Control System (AWACS); the Joint Surveillance Target Attack Radar System (JSTARS); and the Multi-Platform Radar Technology Insertion Program (MP-RTIP).

The other half of C²ISR is central to achieving battlespace superiority—knowledge. ISR assets gather and processes the data into decision-quality information. Currently, our limited numbers of airborne ISR systems are in extremely high demand. The RC-135 Rivet Joint, U-2, Distributed Common Ground System (DCGS), Predator, and Global Hawk UAVs have proven indispensable during OEF and the expanding war on terrorism by providing real-time target data, threat warning, and battle damage assessment.

The CRC is the JFACC's ground tactical execution node for C² and battle management. It provides wide-area surveillance, theater air defense, identification, data link management, and air battle execution. The current system was developed in the 1970s and must be replaced. The CRC replacement, the Battle Control System, will exceed year 2010 requirements for time-critical targeting, open system architecture, small deployment footprint, remote operations, multi-sensor fusion, and AEF responsiveness.

Air and Space Operations Center (AOC)—The Falconer

As the primary element of the Theater Air Control System, the AOC is responsible for planning, executing, and assessing the full range of air and space operations. It is the premier operational system at the disposal of the Joint Forces Air Component Commander (JFACC). By fusing the data from a vast array of C² and sensor systems, the AOC creates a comprehensive awareness of the battlespace so the JFACC can task and execute the most complex air and space operations across the entire spectrum of conflict.

Especially significant among these operations is time-critical targeting. This is the development of swift reaction to the threat within theater battle management. Accomplishing this requires combining C², rapid intelligence collection, analysis, and dissemination with positive control of airspace and the tasking of combat forces to coordinate the entire air battle with joint and coalition partners and component commanders. It is the ultimate goal of the targeting process—to reduce the F²T²EA cycle from hours to minutes.

The Air Force has long understood the need to address standardization of command and control of air and space forces. The last decade witnessed the AOC as equivalent to a “pick up game,” requiring on-the-job training and hundreds of individuals working long hours to produce an air tasking order. Throughout 2001, we aggressively addressed this problem and the Falconer AOC is now on path to becoming an efficient weapon system. Our focus will be refining the AOC into a standardized weapon system run by operators formally trained in C² Operations. We must also improve the weapon system's modularity, scalability and interoperability to meet requirements ranging from Major Theater War (MTW) to a Humanitarian Relief Operation (HUMRO) or Non-combatant Evacuation Operation (NEO).

If there are adequate resources to develop Advanced Technology AOC, we will “right-size” the AOC to meet each mission's requirement. The system will be interoperable with internal and external U.S. National, Allied, Coalition and Joint Nodes. Utilizing emerging technologies to maximize reachback, we will dramatically reduce the footprint of the AOC while enhancing JFACC decision processes and timelines, and reduce costs. Supporting combat operations during Operations NOBLE EAGLE and ENDURING FREEDOM validated our strategic vision for C² systems. We will continue to develop the AOC, which sets the standard for new Air Force capabilities-programming efforts, and keep it on course to revolutionizing the operational level of warfare.

The “engine” of the AOC is the TBMCS. It is an integrated, automated C² and decision support tool that offers the senior air and space commander and subordinate staffs a single point of access to real- or near-real-time information necessary for the execution of higher headquarters taskings. TBMCS supports a full range of functions including threat assessment, target selection, mission execution, battle

damage assessment, resource management, time-critical target identification and prosecution, and defensive planning. During ONE and OEF, TBMCS was rapidly deployed supporting both CENTCOM and NORAD operation centers. TBMCS will evolve into an open-ended architecture capable of interface with a variety of joint and coalition data buses, displays and links.

The Airborne Warning and Control System (AWACS) remains the premier air battle management and wide-area surveillance platform in the world. Still, aging aircraft issues, obsolete technologies, and the proliferation of advanced adversary systems necessitate several upgrade programs. This year, one-third of the AWACS fleet completed an improved radar system upgrade, which will reach full operational capability in fiscal year 2005. The next computer and display upgrade will replace the 1970 vintage processors with an open architecture system. Finally, a satellite communications access program will provide improved connectivity with regional and national C² centers.

Joint Surveillance Target Attack Radar System (JSTARS) provides battle management, C², and ground moving-target detection. We will replace the on-board computers with commercial-off-the-shelf equipment by 2005 under the JSTARS Computer Replacement Program (CRP). The CRP is the foundation of all JSTARS communications and sensor upgrades, and should reduce life-cycle costs and minimize the number of obsolete parts.

Another 707-airframe C²ISR asset is the RC-135 Rivet Joint—the premier aircraft in its class. We continue to modernize the Rivet Joint's sensors using an evolutionary, spiral development program. Recapitalization and modernization efforts promise to keep the RC-135 and U-2 viable well into the 21st Century. As we look to the future, we are examining the growth of the Rivet Joint as part of the Multi-sensor Command and Control Constellation. Although the U-2 is not currently in production, we continue to modernize the aircraft with updated sensors and aircraft modifications to support our ongoing mission needs. Advanced imagery sensors will allow the U-2 to collect top-notch data for the battlefield commander. Aircraft modifications, such as cockpit, defensive and power system upgrades will ensure U-2 survivability and viability. Air Force DCGS continues to provide robust processing and reporting of the U-2, Global Hawk, and Predator collected data. System modifications/upgrades and increase in capacity will ensure continued delivery of timely intelligence to enable time critical target prosecution.

Unmanned Aerial Vehicles (UAVs) provide unmatched access for information, surveillance and reconnaissance missions. Their capabilities expand ISR collection coverage while reducing the need to place our people in harm's way. We are committed to the production and fielding of Global Hawk as the next generation of high altitude airborne ISR platform. We have transitioned Global Hawk from an Advanced Concept Technology Demonstration (ACTD) program to a formal acquisition program. In the spring of 2001, Global Hawk successfully completed a deployment to Australia, where it supported maritime reconnaissance and achieved a number of UAV aerial firsts, including the first trans-Pacific crossing.

Due to this success, and a high level of confidence in the platform, Global Hawk was deployed in support of OEF. The development of advanced sensors will enable Global Hawk to support the time critical targeting mission more completely. Finally, demand for the older Predator UAV remains high. The successful weaponization of Predator holds the promise of significantly shortening the time critical targeting timeline. Based on the tremendous successes of Predator A, testing is underway on an improved version, the larger Predator B.

Air Force weather satellites enable information superiority every day during joint operations around the globe. The Defense Meteorological Satellite Program (DMSP) constellation provides global weather imagery and other environmental data to support mission planning. Augmented with civil satellites, joint forces are provided timely, accurate pictures of the weather affecting operations. The Air Force is modernizing environmental data collection with the new National Polar-orbital Operational Environmental Satellite System (NPOESS). In conjunction with the Department of Commerce, development of the NPOESS will provide the nation a consolidated system for all national weather monitoring needs. NPOESS will cost the DOD significantly less than building and fielding a DOD-unique follow-on system and will provide enhanced environmental monitoring capability to support emerging weapons systems and concepts of operations.

The Multi-Platform Radar Technology Insertion Program (MP-RTIP) is developing a scalable X-band electronically-scanned array (ESA) for use on a variety of platforms for air-ground surveillance, including a future 767 manned, wide-area surveillance platform, the Global Hawk, and potentially a NATO manned platform variant. On the 767 platform this array would provide five to ten times the air to ground surveillance capability of current JSTARS, reduce target revisit times, im-

prove moving-target track capability, and enhance radar resolution. Furthermore, MP-RTIP on a 767 is envisaged as the first development spiral toward achieving a Multi-sensor Command and Control Aircraft (MC²A) capability as part of an overarching and transformational Multi-sensor Command and Control Constellation (MC²C) to support future employment of the task forces addressed later in the text.

Communication

Achieving information superiority depends considerably on the availability of a robust, worldwide communications capability. Communications are critical to the joint fighting forces deployed worldwide. We are modernizing Military Satellite Communications (MILSATCOM) systems to keep pace with this demand. Inseparable from such modernization is Tasking Processing Exploitation and Dissemination (TPED). TPED describes how information is transferred among our numerous systems and highlights bandwidth as a serious topic. Bandwidth is a critical parameter—more is better—defining how much and what kind of information we can disseminate. Over the next ten years, our need for reliable, redundant, and secure communications is expected to increase 15 to 20 times beyond the current capacity. The MILSATCOM systems in use today simply cannot meet that demand and supply CINC's with sufficient protected coverage to adequately support the warfighter. Further, in an environment of extremely high worldwide demand and competition, commercial providers cannot be leveraged for they lack the protected bandwidth, security, and coverage necessary to fully support military operations.

Despite shortcomings, the MILSATCOM system is making significant contributions to current, daily operations. The scope and speed of joint operations, including OEF, simply would not be possible without MILSATCOM systems, notably the Defense Satellite Communications System (DSCS) and the Military Strategic and Tactical Relay System (Milstar). In fiscal year 2001 we successfully launched one DSCS and one Milstar satellite. Additionally, a complete modernization of satellite communications is underway. Wideband Gapfiller Satellites (WGS) are low-cost, high bandwidth communications satellites intended to greatly increase the on-orbit bandwidth available to the warfighter. WGS satellites will help bridge the requirements gap until the Advanced Wideband System (AWS) is brought on-line. Similarly, the Milstar constellation is planned for replacement beginning in 2006 by the new Advanced Extremely High Frequency (AEHF) satellites. The Air Force awarded a System Development and Demonstration contract in November 2001 to design the AEHF satellite system.

To leverage the full capability of our new technologies, we are combining our efforts with the other Services to form the joint Global Information Grid (GIG)—a globally interconnected, end-to-end set of information capabilities and associated processes that allow warfighters, policymakers, and support personnel to access information on demand. Currently as the AEF deploys to support combat operations, it connects to the global information grid via the Theater Deployable Communications (TDC) package. This package is replacing legacy deployable AF communications equipment with scalable, lightweight, and reliable transmission, networking, and network management equipment. TDC allows timely reachback to the United States for intelligence, logistics and people support that otherwise would have to deploy forward. During OEF operations, we successfully deployed TDC to support combat operations, demonstrating that TDC is the capability needed to support AEF communication requirements.

Contributing to the GIG, the AF is building an enterprise architecture ensuring our diverse projects and initiatives are closely integrated to deliver maximum capability to the warfighter. In support of the enterprise architecture, the AF “infostructure” architecture facilitates system integration by providing timely and cost effective communications and information technology capabilities. The AF infostructure leverages commercial and government developed technologies and ensures these technologies are controlled and integrated.

To provide our people better access to information and applications needed for their specific missions, we have fielded additional capabilities through the Air Force Portal. The Air Force Portal is envisioned as the single access point for practically all our information needs. Leveraging commercial successes in web-enabled information technology and communications, our members now have access to the Air Force Portal almost anywhere in the world.

Information Warfare (IW)

Multi-faceted information warfare planning and execution is another challenge of information superiority. In the effort to create specific effects to accomplish campaign objectives, the Air Force closely coordinates information operations (IO) plans between and among supported and supporting commands to prevent redundancy,

mission degradation, or fratricide. The numerous organizations participating in these coordination efforts include representatives from the COMAFFOR for Computer Network Operations and the Air Intelligence Agency, to IO squadrons and IW flights. To enhance the effectiveness of these organizations, we specifically designed tools for the IW planning and testing efforts. In an effort to normalize IO as a warfighting asset, we integrated AIA into the Air Combat Command, the IW lead for the Combat Air Forces. They directly support the Joint Force Commander through the JFACC/COMAFFOR.

We continue to make every effort to define requirements and layout a viable long-term strategy/roadmap to provide IW capability to the warfighter. The IW MAP has become a leading edge planning tool for the Air Force in this arena. Its expressed purpose is: (1) To define, document, and advocate Air Force IW requirements, (2) To integrate those requirements into the Air Force Capabilities Investment Strategy, (3) To identify solutions meeting validated IW needs, and (4) To provide IW Mission Area expertise to the warfighter and to the Air Force corporate process. Subsequently, the MAP helps to focus disjointed efforts, reduces duplication, promotes integration among architectures and enhances operations.

Information Assurance (IA)

The Air Force maintained a robust IA capability through a Defense in Depth strategy that integrated people, operations, and technology for multi-layered, multi-dimensional protection. People were trained to do the IA mission and protect the network. We changed policies and procedures to ensure IA operations are effective and efficient. We also implemented finally, technological advances to provide physical protection to our information weapon system. Consequently our IA posture has never been better.

Training initiatives included a year long IA Campaign that focused our attention on such corporate issues as IA roles and responsibilities, network threats and countermeasures, computer network defense, and EAF web security which significantly improved our collective IA knowledge and capability. We also continued our emphasis on individual certification for network operators and maintainers through the development of a Job Qualification Standard toward mission-ready, deployable people.

Addressing procedures, we implemented a Time Compliance Network Order (TCNO) process. TCNO allows senior leadership to track and ensure completion of critically important computer security configuration changes. This resulted in a ten-fold reduction of network infections attributed to malicious code attacks from 2000 to 2001. Another important operational initiative is the deployment of Scope Network teams to our installations to fine-tune base-level networks. Scope Network's mission is to optimize and tune networks and firewalls and ensure their proper configuration. They deploy throughout the year to measure, analyze, train, and mentor at the base level.

Finally, our primary IA technology initiative is a layered equipment suite to discourage hackers and filter viruses as well as provide tools to identify vulnerabilities like the Combat Information Transport System (CITS), and the Network Management System/Base Information Protection (NMS/BIP). These systems provide a standard tool suite to each Air Force installation.

The requirements for global-level detection and early warning of natural disasters, conventional military or chemical, biological, radiological, nuclear and high-yield explosive (CBRNE) aggression remain as critical as ever. At the same time, September 11th introduced a new category of threat that will challenge the ability of America's C⁴ISR networks to cope with strategic-level surprise, fait accompli or limited objectives strategies, among others. Information superiority, the mastery of prediction, assessment and employment of data, is arguably our Nation's most pressing challenge.

Global Attack

Global Attack is the ability to create desired effects within hours of tasking, anywhere on the globe, including locations deep within an adversary's territory. It also includes the ability to retarget quickly against objectives anywhere, anytime, for as long as required.

Among Air Force programs supporting these capabilities is our bomber fleet. Our B-1, B-2, and B-52 bombers provide a global rapid response, precision and standoff strike capability, 24/7 battlespace persistence, and a level of time-critical targeting (TCT) capability. The new transformation era reinforces and re-emphasizes our ongoing basic bomber modernization plan—increase lethality, survivability, flexibility, supportability, and responsiveness.

All three platforms now carry the highly accurate 2,000-pound Joint Direct Attack Munition (JDAM), and are all being fitted to carry new standoff precision guided

weapons. In addition, future integration programs will see the inclusion of smaller precision weapons. To improve their survivability, bombers are receiving a range of upgrades to include defensive system, situational awareness and electronic countermeasure upgrades. To enable attack of time-critical targets, the Air Force is upgrading bomber avionics and communication systems and linking them directly with remote sensor and targeting systems.

To enhance our ability to kick down the door in remote theaters and clear the way for follow-on forces, the Air Force is planning for a mix of new generation manned and unmanned, air superiority and ground attack aircraft. However, until the F-22, Joint Strike Fighter (JSF), and Unmanned Combat Aerial Vehicle (UCAV) become an operational part of our inventory, we will continue to rely heavily on our legacy fighters—the F-15, F-16, F-117 and A-10—to provide a potent mix of air-to-air and air-to-surface capability. These platforms are all programmed to receive upgraded voice and data communication systems linking them to a joint command and control net. Programmed improvements to avionics and situational awareness systems will allow for better all-weather/night operations, combat identification and response to time-critical and moving targets.

F-15E modernization incorporates robust data-link capability and integration of smart weapons to ensure all-weather, deep strike lethality. The recent addition of Global Positioning System (GPS)-guided, precision guided munitions (PGMs) on the F-117 give it an adverse-weather capability. However, these aging platforms are growing more expensive to maintain and operate, and their combat effectiveness is expected to eventually decline as projected surface-to-air and air-to-air threats with greater capabilities emerge. The introduction of the stealthy F-22 and JSF will maintain America's technological advantage and ensure our ability to defeat next-generation threats while replacing our aging force structure with leap-ahead capabilities.

One of our Guard and Reserve's top modernization priorities is incorporating precision targeting pods into their F-16 aircraft. From 1998 through 2000, we outfitted all our Reserve units and selected Guard units with LITENING II pods. This acquisition gave Guard and Reserve F-16s a critical precision strike capability while configuring these units with the system capabilities of the Active F-16 force. Additionally, the Guard will join the Active force in procuring Advanced Targeting Pod (ATP) for an initial operating capability in 2003.

Two critical F-16 programs, the Combat Upgrade Integration Details (CUPID) and the Common Configuration Implementation Program (CCIP), will bring decisive combat capability (night vision, helmet-mounted cueing, and data links) to our F-16 fleet. Additionally, the Falcon Structural Augmentation Roadmap (STAR) will ensure the F-16 fleet is structurally sound to perform its mission through its designed service life. Collaborative programs between our Active and Reserve components increase our overall procurement flexibility and close the gap in combat capability.

Intercontinental Ballistic Missiles (ICBM)

The recent DOD Nuclear Posture Review (NPR) announced a transition from the Cold War nuclear triad to a new capabilities-based triad in response to the more complex, evolving security environment. Consistent with NPR direction, the Air Force is providing for long-term sustainment of ICBM capabilities. Minuteman III (MMIII) ICBMs will be deployed through 2020 and supported by on-going life extension programs. We will begin to look at alternatives for a follow-on ICBM to be fielded as MMIII reaches the end of its service life. Peacekeeper (PK) ICBMs will be retired beginning in CY02. As the PK system is deactivated the Air Force intends to transfer some warheads currently on PK to the MMIII, thereby avoiding a costly life extension program on certain MMIII warheads. This replacement effort will ensure that the newest warhead with all modern safety features remains a part of the ICBM force, an essential nuclear strike element in the nation's capabilities-based triad.

Precision Engagement

Our current operations emphasize the powerful advantage of being able to create precise effects rapidly. The Air Force offers tremendous capabilities to meet this national requirement from pinpoint humanitarian responses to precise weaponry. Precision is fundamental to all of our operations and, in particular, to transformational combat operating concepts. Along with information superiority and stealth, precision engagement enables our forces to identify an adversary's key centers of gravity and relay that information to strike assets, thus reducing risks by avoiding unnecessary engagements (a concept generally referred to as "parallel warfare"). Enhancing precision engagement will allow us to accomplish this cycle in near real-time. This

would allow us to maximize the leverage gained from the fluid interaction of joint forces in more effective prosecution of operations.

We have made significant progress in our efforts to develop and field a new generation of weapons that can attack and destroy pin-point, hardened, and relocatable targets at night and in most weather conditions while greatly reducing the risk. By rapidly adapting new technology employed under actual combat conditions in Operations ALLIED FORCE and ENDURING FREEDOM, we now have an array of precision weapons that can be employed from nearly all of our combat aircraft. Our high priority precision engagement programs now include the Joint Air-to-Surface Standoff Missile (JASSM), Joint Standoff Weapon (JSOW), Joint Direct Attack Munition (JDAM), Wind Corrected Munitions Dispenser (WCMD), and eventually the Small Diameter Bomb (SDB).

JASSM is a precise, stealthy, cruise missile that will enable us to destroy heavily defended, hardened, fixed and relocatable targets from outside of area defenses. JASSM program recently entered low rate initial production and will be delivered to the field in 2003.

JSOW is an accurate, adverse-weather, unpowered, glide munition. We are currently procuring two variants, the AGM-154A and AGM-154B, which are capable of destroying soft and armored targets at ranges exceeding 40 nautical miles.

JDAM employs GPS-aided guidance, incorporated in a tail kit, to deliver general-purpose bombs or penetration warheads with near-precision accuracy. We will use JDAM in all weather conditions from multiple platforms to destroy high-priority, fixed, and relocatable targets. The first operational use of a 2,000-pound JDAM was from a B-2 during Operation ALLIED FORCE and JDAM has been used extensively during OEF. The F-22 will employ the 1,000-pound JDAM against anti-access and air defense systems. Using the 500-pound JDAM currently in development, the B-2 that carries up to 16 2,000-pound JDAMs in OAF, would be able to carry up to 80 500-pound JDAMs in future conflicts. This will provide the first step in the Air Force's transition to miniature munitions. Succeeding steps include the Small Diameter Munition (SDM). SDM, under development for the F-22, will offer standoff capabilities against the most difficult surface-to-air threats. The F-22 will carry up to eight SDMs internally.

WCMD has an inertial-guided tail kit that enables us to accurately deliver the Combined Effects Munition, Sensor Fuzed Weapon, and the Gator Mine Dispenser from medium to high altitude in adverse weather. WCMD became operational in late 2000 and has been successfully employed in OEF from the B-52.

Key to precision engagement is the GPS navigation signal used by sensors and shooters to assist in targeting the enemy with pinpoint accuracy. Successful joint operations rely on the GPS signal: search and rescue, rendezvous, and mapping are only a few examples. Rigorous upgrades to both satellites and warfighter equipment are currently in work to protect the ability of American and allied forces to employ the GPS signal on the battlefield and deny it to our adversaries while preserving civil use.

Precision capabilities allow the United States to engage in operations with dramatically reduced risk to friendly forces, significantly less costs in men and materiel, and with greater likelihood of success. The strike side of precision engagement enables us to employ one weapon per target to destroy it with minimal collateral damage and greatly increase the number of targets that can be struck per sortie.

The benefits are exponential. By minimizing the number of sorties required to strike a target, we shrink the forward footprint necessary and minimize the number of airmen, soldiers and sailors in harm's way. Indeed over the last decade, the Nation has faced numerous engagements wherein precision has proven the method for success. From the Balkans to Kabul, combatant commanders have required precision capability, not large-scale conventional operations. However, this demand has dramatically reduced our large Cold War reserve munitions stockpiles. As current operations continue to tax existing PGM inventories, the Air Force is working to expand the capacity of our industrial base to fill preferred munitions requirements. This strategic effort, along with our continued acquisition of JDAM, JASSM, JSOW and WCMD, will increase PGM capabilities over the next several years. The changing nature of warfare with its emphasis on precision engagement, necessitates that munitions recapitalization and development of transformational small weapons will remain among our top priorities.

Precision strike, however, is more than simply very accurate munitions. It is also the ability to generate precise effects other than destruction. For that reason we also invest in various non-lethal weapons, offensive information warfare capabilities, and directed energy weapons that enable the U.S. military to affect targets without having to destroy them. This enables effects-based operations that match precise capabilities to desired effects—the ultimate in deterrence.

Rapid Global Mobility

Rapid Global Mobility ensures the nation has the global reach to respond quickly and decisively anywhere in the world. As the number of forces stationed outside the United States has declined, the need for an immediate response to overseas events has risen. Given that access to forward bases will remain critical and become increasingly risky, the rapid deployment and agile sustainment of expeditionary air and space forces will be key to our ability to operate across the spectrum of conflict.

Airlift and tanker aircraft give the United States the ability to swiftly reach out and influence events around the world. OEF and ONE have, again, shown the utility of rapid global mobility. We have also witnessed the potential need to provide critical tactical lift capability for immediate response at home. However, even with the success of these ongoing operations, the Air Force desperately needs to continue airlift and tanker modernization efforts to ensure the United States maintains its ability to operate globally. As part of our on-going effort to assess our airlift requirements in light of current and anticipated needs, Air Mobility Command is undergoing a comprehensive review of our air mobility force structure.

Global Air Traffic Management (GATM)

In addition to aging aircraft problems, the Air Force mobility fleet must also respond to the added requirements of a new air traffic architecture. GATM focuses on increasing system capacity and flight efficiency, while continuing to meet flight safety standards. The most critical technology elements are satellite-based navigation, increased use of data links rather than voice for pilot/controller communication, and improved surveillance that will enhance both ground and cockpit situational awareness. Incorporation of these technologies will ensure our mobility fleet maintains unrestricted access to global airspace.

An essential means to ensure the AF's ability to support its 54.5 million-ton miles per day airlift requirement is through the procurement of additional C-17s. The AF has identified a need for at least 180 C-17s, and will award a follow-on multi-year procurement contract to reach that number. A mobility tiger team with Active, Reserve and Guard representation will continue to study beddown plans for these additional aircraft.

The average age of our KC-135 tankers is now over 41 years and operations and support costs are escalating as structural fatigue, corrosion, systems supportability, and technical obsolescence continue to take their toll. To keep these aging aircraft operational, we are modernizing the avionics and navigation systems on all Active, Guard, and Reserve KC-135s. Called Pacer CRAG (compass, radar and global positioning system), the project provides for a major overhaul of the cockpit to improve the reliability and maintainability of the aircraft's compass and radar systems. The project also meets the congressionally mandated requirement to install the global positioning system in all Defense Department aircraft. As an added safety measure for formation flying, a traffic collision avoidance system (TCAS) will be installed. TCAS gives pilots the ability to actively monitor other aircraft and provides advance warning of potential mid-air collisions.

The ongoing war on terrorism is further stretching the tanker fleet, motivating the Air Force to consider accelerating replacement options. The Boeing 767 Global Tanker Transport Aircraft (GTTA) is a promising alternative to quickly replace the KC-135E, our least capable and most costly to maintain tanker aircraft. While considering this and other lease options, the Air Force is focused on acquiring the world's newest and most capable tanker; increasing fuel offload, increasing availability, and increasing reliability—all with far lower support cost.

The Air Force is pursuing a two-phased modernization plan for the C-5 fleet. Phase I is the Avionics Modernization Program (AMP) and Phase II is the Reliability Enhancement and Re-engining Program (RERP). C-5 AMP replaces unreliable/unsupportable engine/flight instruments and flight system components, installing GATM equipment to assure complete access to global airspace and installing navigation/safety equipment to reduce risk of mid-air and ground collisions (i.e. TCAS). C-5 RERP improves aircraft reliability, maintainability and availability by replacing the power plant and other unreliable systems. Several C-5 aircraft will undergo multi-year testing to evaluate the potential for modernizing this aging, but important mobility asset. The results of that evaluation will determine the need for additional C-17 acquisitions or other alternative.

Modernization of the C-130 fleet is proceeding with a two-pronged approach to maintain an intra-theater airlift capability well into the 21st Century. Procuring 168 new C-130Js to replace our oldest C-130s and modifying the remaining fleet will reduce total ownership costs and simplify maintenance, training, and operational employment. New C-130Js will replace eight EC-130Es and 150 of our most worn-out C-130E combat delivery aircraft. In addition, 10 C-130Js will replace the

Reserve's 10 WC-130H aircraft at Keesler Air Force Base, MS. These aircraft and crews are specially trained and equipped to penetrate severe storms while collecting and transmitting extensive meteorological data necessary to track and forecast the movement of these severe storms to a special ground station. C-130Js will also replace the Air National Guard's aging Commando Solo platform, as well as complete other Guard units. The remainder of the AF's C/AC/EC/HC/LC/MC-130 fleet will undergo an Avionics Modernization Program (C-130 AMP). This will include state-of-the-art avionics and a new "glass" cockpit that will eliminate the need for a navigator in the combat delivery aircraft. Along with increased reliability, this modernization will make the fleet compliant with the GATM and the DOD's navigational safety requirements.

Rapid Global Mobility is also dependent upon expeditious airfield support. Moving aircraft tails in-and-out of a field quickly can determine success or failure of an operation. The Air Force is procuring the Tunner (60K) and Halvorsen (formerly next generation small loader or NGSL) loaders to replace older equipment, providing a new capability to interface directly with all military and commercial cargo aircraft. The Tunner is optimized for high volume to support operations at major aerial ports while the Halvorsen is C-130 deployable to support mobility operations at forward, austere bases.

Large Aircraft Infrared Countermeasures (LAIRCM)

The Air Force has begun a new self-protection initiative to counter man-portable air defense systems (MANPADS). LAIRCM will use state-of-the-art technology to provide an active IR defense for the AF's airlift and tanker aircraft. LAIRCM builds on existing systems designed to defend helicopters and small, fixed-wing aircraft. It will add a laser, which provides the increased power needed to protect aircraft with large IR signatures like the C-17 and the KC-135. Operational capability is expected on the first C-17s in late fiscal year 2004. Additional airlift and tanker aircraft will be LAIRCM-modified in the future.

CV-22

The CV-22 is the Air Force designation for the special operations variant of the V-22 Osprey—a vertical takeoff and landing airplane designed for long range, rapid, clandestine penetration of denied areas in low visibility, adverse weather, and/or at night. With twice the range and speed of a conventional helicopter and state-of-the-art avionics system, the CV-22 will be able to complete most of its missions under the cover of darkness without being detected. We will use the CV-22 to infiltrate, exfiltrate, and resupply Special Operations Forces (SOF) and to augment personnel recovery forces when needed. Currently, the entire V-22 program is undergoing a major restructuring that will address technical and safety concerns. Flight tests of the two CV-22 test vehicles, suspended through 2001, will resume in 2002 and continue through 2005.

VIP Special Air Mission / Operational Support Airlift (VIPSAM / OSA)

The Air Force continues to modernize the VIPSAM/OSA fleets to provide senior leaders with improved capabilities to respond to national crises. Aging CINC support aircraft are being replaced with modern commercial aircraft with intercontinental range and robust communications (leased Gulfstream Vs, designated the C-37, and Boeing 737-700 designated the C-40B). This innovative strategy to leverage the commercial aircraft industry should be completed by fall 2002. The President's VC-25s will receive major upgrades to the passenger cabin infrastructure. Additionally, major upgrades to the communications suite will provide airborne capabilities comparable to that of his White House office. The four C-32s (Boeing 757s) will also receive advanced "office-in-the-sky" upgrades to include broadband data and direct broadcast service. As funds become available, remaining VIPSAM aircraft will be evaluated for similar upgrades.

Agile Combat Support (ACS)

Responsiveness, deployability, and sustainability—the cornerstones of American expeditionary operations—are the mandate of agile combat support. The basic objectives established set to achieve these goals remain intact. The Air Force established set objectives to elevate the capabilities of the ACS elements by developing lighter, leaner, and more rapidly deployable forces; creating more responsive planning and execution capability; executing improved agile combat support command and control; and assuring an agile, responsive, and survivable sustainment capability.

While progress has been made toward achieving these objectives, much of the deployment strain in support of OEF has fallen on our expeditionary combat support forces. Some high-demand support areas have exceeded their on-call capabilities in current AEF rotation cycles, as a result of our surge mode activities, which are like-

ly to continue for some time. Consequently, we are continuing to make gains in right-sizing deployment teams so they are postured efficiently and effectively for expeditionary needs. We are placing high emphasis on the development of expeditionary site planning tools that provide the means to tailor our deployment capability based on assets pre-positioned in the theater.

Reconstituting our current bare base systems and wartime stocks, as well as developing and acquiring bare base assets and other types of support equipment that are “lighter and leaner” and more rapidly deployable are also integral to achieve force responsiveness. Essential investments in infrastructure and pre-positioning are mandatory ingredients of improved reception and beddown capabilities at our fighter and bomber forward operating locations (FOLs).

The fielding of the Integrated Deployment System at all of our AF Wings has improved the responsiveness of our Wing deployment process. Our information technologies must continue to mature with expansion of such capabilities as the virtual logistics suite hosted on the Air Force Portal. These essential components provide real-time situational awareness for ACS command and control that leverages logistics and combat support across simultaneous operations in multiple theaters that now include the CONUS. The CSAF’s Logistics Review (CLR) and ongoing Logistics Transformation are reengineering our logistics processes to achieve an agile, effective, well integrated logistics chain that is responsive to AEF requirements.

Whether forward deployed in AEF operations, or completing homeland security missions, we must be prepared to operate under any conditions. Protecting critical bases of operations and defeating CBRNE weapons and their means of delivery is one of the most complex challenges facing the DOD. Our balanced response to the proliferation of these weapons, integrates the four pillars of counterproliferation—proliferation prevention, counterforce capabilities, and active and passive defense measures.

Our counter-NBC operational readiness initiative sets Air Force-wide standards for readiness, identifies shortfalls and develops capabilities to effectively cope with CBRNE attacks. This initiative includes a counter-NBC roadmap and an enhanced counter-chemical warfare CONOPS. The roadmap is an innovative investment strategy that cuts across Air Force plans and programs to increase counter-NBC visibility, while offering enhancements for effective air and space operations in NBC environments.

Regardless of contamination, combat or humanitarian settings, the medical service plays an important role in agile combat support. Through training initiatives and innovation in field systems this year, AFMS has raised the bar on its capabilities. The results of these efforts are the addition of state-of-the-art equipment and training facilities which guarantee AFMS’ ability to respond effectively when the nation calls.

One example is EMEDS , which is a lightweight modular medical system that allows the AFMS to tailor its response to each situation. Another revolutionary disaster response system is the Lightweight Epidemiological Advanced Detection and Emergency Response System (LEADERS), designed to enhance the current medical surveillance process and provide the earliest possible detection of covert biological warfare incidents or significant outbreaks of disease. The Air Force will continue to work with its civilian counterparts to develop and fine-tune this technology over the coming year.

Along with developing relevant facilities and equipment, the AFMS is expanding its training capabilities through the development of the Coalition Sustainment of Trauma and Readiness Skills (CSTARS) program. CSTARS creates learning opportunities in which civilian academic centers serve as training platforms to provide clinical experience to help sustain necessary readiness skills for AFMS providers. The CSTARS arrangement allows for synergistic relationships between academic medical centers and military medical assets, while simultaneously improving wartime readiness and homeland security capability. Finally, AFMS training also extends to allied and friendly nations. The Institute of Global Health (IGH), located at Brooks AFB, Texas, is a worldwide educational program for medical providers to develop and improve their medical response skills. Programs are tailored to the host nation’s infrastructure and resources and are taught on-site.

This cross-section of examples of initiatives that will help achieve the four ACS objectives are producing meaningful results. There is, however, more to be done to better prepare our ACS capability for supporting the EAF vision. For example, we need to fill readiness shortfalls in key logistics resources strained by expanded operations including people, skills, spares, munitions, bare base assets, vehicles, etc. We need to improve our capability to rapidly develop deployment and sustainment plans for fast-breaking contingencies. Enhancements need to be made to our ACS command and control capability to make it more responsive, better integrated, and suffi-

ciently robust to support AEF needs worldwide. Finally, modernization of equipment and the tools essential to complement skilled personnel require investments in R&D in Science and Technology initiatives that will help reduce our “footprint” while improving our ACS capability.

Additional Readiness Concerns

Facilities and Infrastructure

Air Force installations and facilities that are available when and where needed, and with the right capabilities, form the foundation supporting current and future operational requirements and readiness. Our installations and facilities are the platforms from which we launch and recover Air Force and Joint weapon systems while simultaneously providing work and living environments for personnel and their families. For example, bases like Whiteman AFB, Missouri and Ramstein AB, Germany, are important nodes in the global network that sustains OEF operations while also sustaining thousands of airmen, dependents, and their communities.

Regular and planned upgrades are an essential part of keeping a healthy infrastructure upon which to build and sustain air and space capabilities. In fiscal year 2002, operations and maintenance (O&M) sustainment funding precluded fully maintaining Air Force facilities and infrastructure and will increase the backlog of necessary repairs. In the near term the Air Force facilities recapitalization rate falls short of DOD’s 67-year facilities recapitalization goal. In fiscal year 2002, our military construction (MILCON) and O&M restoration and modernization accounts allowed us to achieve a recapitalization rate of 163 years. With Congressional assistance we were able to reduce our fiscal year 2002 rate to 118 years.

In the fiscal year 2003–07 Adjusted Program Objective Memorandum we were able to fully fund O&M sustainment across the FYDP and achieve a restoration and modernization recapitalization rate trajectory that will meet the OSD’s 67-year goal by 2010. This track must be maintained. Sustaining and modernizing our facilities and infrastructure will ensure we have the right facilities at the right time and place to support military readiness.

Vehicle Replacement Program

The Air Force vehicle fleet is in serious need of recapitalization. Underfunding of the program during the past decade has created a backlog of more than 41,000 general and special purpose vehicles that have exceeded their life expectancy. This backlog represents half of the entire Active, Guard and Reserve vehicle fleets. The backlog continues to grow each year, despite efforts to lease vehicles and extend vehicle life expectancies through enhanced technology. Current funding is below the annual requirement. On-going operations have created a need for 879 additional leased and procured vehicles valued at \$42.4 million to support the mission. Failure to replace aging vehicles has a direct impact on of readiness and ultimately our combat capability.

Realignments and Closures

Reductions in Air Force manpower and force structure continue to outpace those in infrastructure. As a result, the Air Force continues to fund unneeded facilities while struggling to maintain its vital operational readiness. Our physical plant today is too costly, and we have too much of it. Excess infrastructure continues to waste precious dollars that could be better used for force modernization and quality of life. The Air Force needs to close unneeded installations and direct the savings into readiness areas: base operating support, real-property maintenance, family housing, and military construction at crucial operational bases. The Air Force will comply with the Secretary of Defense’s guidance for conducting the Base Realignment and Closure (BRAC) process in 2005, as authorized in the 2002 National Defense Authorization Act.

Environmental Leadership

The Air Force continues to be a leader in the stewardship of our environment through compliance, pollution prevention, resource conservation, and environmental restoration. We have achieved the Defense Planning Guidance goal for 2002 for the environmental restoration program, to have cleanup remedies in place for 50 percent of our active installations high-risk sites. The next goal is to have remedies in place for 100 percent of the high-risk sites by the end of 2007. We are on track to achieve that goal, as well as having remedies in place for all medium risk sites by the end of 2011 and all low-risk sites by the end of 2014.

The Air Force has a tremendous range of flexible, rapidly responsive capabilities—the skill sets that allow us to meet any mission requirement. Constant im-

provement will require innovation, creativity and re-assessment, but also the funding support to recapitalize critical components.

Towards Developing Systems

Experimentation and Wargames

We conduct experiments and wargames to evaluate near- and far-term air and space capabilities and operational concepts. Joint Expeditionary Forces Experiment (JEFX) is the Air Force's large-scale experiment, which is fully integrated with Joint Forces Command's Millennium Challenge series of experiments. It is a live and constructive event focused on improving time critical targeting; command and control of intelligence, surveillance, and reconnaissance; and alliance participation in an open-floor Combined Air and Space Operations Center. The Global Engagement (GE) wargame is held every other year to explore the potential capabilities of joint air and space power and future concepts 10 to 15 years into the future. GE V demonstrated air and space power's unique capability to ensure access to operational areas where the enemy employs robust anti-access strategies. In August 2001, we completed a year of post-game analysis from GE-V. This analysis showed the Air Force is on the right vector toward the future in the area of force capabilities and is making great strides in addressing time critical targeting requirements. GE V also provided substantive recommendations for improvements in space control, information operations, and forward logistic support.

Planning is underway for the next Global Engagement (GE VI), scheduled for November 2002. This game will explore mid-term joint /combined operational concepts, such as rapidly dominating the battlespace and setting conditions for transitioning to sustained joint operations.

During odd-numbered years, we conduct the Air Force Future Capabilities wargame that takes a longer view, striving to shape our strategic vision by testing alternative concepts, systems, and force structures that may appear 20 to 25 years into the future. These wargames have produced new air and space concepts, such as long-range standoff warfare, reach-forward C² capability, space force application, and the link between C², ISR and target engagement, which continue to mature through follow-up analysis and subsequent wargames. We have just concluded the 2001 Futures Game that focused on defining C² and ISR for the 2020 air and space campaign; overcoming anti-access strategies; survivability of space capabilities; future transformational capabilities; computer network operations; and conducting future joint/coalition operations. Insights from this game will be developed, analyzed and investigated further throughout 2002.

Advanced Concept Technology Demonstrations (ACTDs)

ACTDs marry new operational concepts with mature technologies meeting warfighter needs in two to four years at a reduced cost. The Air Force currently has 21 ongoing ACTDs. An example is the Hyperspectral Collection and Analysis System ACTD that will demonstrate various hyperspectral sensors on operational platforms and integrate them into the existing tasking, processing, exploitation, and dissemination architecture. Another example is the Thermobaric Weapon ACTD, which provides an energetic thermobaric penetrator payload to defeat enemy tunnel facilities and weapons with two to three times the lethality of conventional high explosive payloads.

Battlelabs

Since their inception in 1997, Air Force battlelabs have developed over 120 initiatives, including the application of commercial scheduling software for the Air Force Satellite Control Network, telecommunications firewalls for base phone systems, and the use of speech recognition to reduce mission planning time. The recently commissioned Air Mobility Battlelab, with a charter to rapidly identify and assess innovative operational and logistics concepts, joined the ranks of the Air and Space Expeditionary Force, Command and Control, Force Protection, Information Warfare, Space, and Unmanned Aerial Vehicle Battlelabs.

Enhancing Fundamental Practices

Agile Acquisition

The Air Force launched Agile Acquisition to streamline and synchronize the business of defining, funding, developing, acquiring, testing and sustaining the weapon systems our Air Force uses to defend America's freedom. The goal is simple: Field today's technology . . . TODAY. While we've had many individual successes in the past, individual successes do not translate into fundamental reform. We must get to the point where doing things smartly is not news. Agile Acquisition is the strategy to achieve systemic improvement.

As a strategy, Agile Acquisition has three major thrusts: First, we will relentlessly attack our own processes and get rid of those steps that are not value added. Second, we are going to free our leaders to lead and demand that they take the initiative. We are going to train them to be innovative and think creatively, provide periodic refresher training, and then hold them accountable for being agents of change. Finally, we're going to offer a lot of help through our new Acquisition Center of Excellence, which opened for business on December 2001.

The acquisition reform of Lightning Bolts 2002 gives us the tools to make those changes. They will focus our acquisition efforts and, at the same time, reinforce our other initiatives to transform and improve the services and products we provide. The Lightning Bolts will also reinforce and complement the headquarters reorganization announced in December 2001 by the Secretary and Chief of Staff. In addition, the AF is an active member of DOD's Rapid Improvement Team, chartered to streamline the Information Technology system acquisition process to less than 18 months. Towards that end, we are leading prototype programs aimed at eliminating serial and redundant oversight processes, expanding participation by interested parties, and sharing accountability from program inception. Achieving agile acquisition is not a luxury; it is a requisite for success. We must provide absolutely the best and newest capabilities to our fighters in the shortest time possible. Our acquisition processes, too often seen as a roadblock to real progress, must become as agile as our warfighters.

Another key aspect of acquisition reform involves bringing the warfighter into the process early on. This is an essential element of our capabilities-based concept of operations which is discussed in a later section.

Long Term Depot Maintenance Plan

Depot maintenance is another critical element of our overall warfighting capability. The current depot posture has been influenced by the downsizing of our operational force; the reduction of our organic infrastructure; the introduction of new technologies; and recent depot legislative changes. In order to maintain a ready and controlled source of depot maintenance, the Air Force has prepared a Long Term Depot Maintenance Plan for submission to OSD and Congress by the summer recess of the Congress.

The overarching objective of this plan is to ensure that Air Force equipment is safe and ready to operate across the whole range of contingencies, from training to supporting major theater wars. Partnering with private industry is a key element of our plan and provides the best value approach for maintaining our depots. And, benchmarking our depots is essential for us to understand where best to invest. Leveraging the best of public and private capabilities ensures the Air Force will take advantage of what each does best. Partnering is also the method by which we will be able to most efficiently utilize our current facilities as well as bring in technologies to support core capability requirements in the future. However, taxing programs to fund capital improvements is a contentious process. We continue to explore the concept of depot capital appropriations to smooth out the investment streams.

The Air Force Long Term Depot Maintenance Plan will provide military strength by ensuring we possess an organic "core" capability sized to support all potential military operations. It will be a living document and postures our three organic depots to continue to support the warfighter.

Organizational Experimentation—Future Total Force

In the 21st Century, the U.S. Air Force anticipates deriving its strength from the flexibility and the diversity of its integrated Active duty, Air National Guard, Air Force Reserve and civilians more than ever before. Optimum use of Air Force component resources is critical in providing the complete potential of American air and space power. Future Total Force (FTF) efforts will include new ways to optimize the components to make the best use of our resources and people and to build on a foundation of high standards and strong cooperation among the components.

In the 1990s, the restructuring of the Air Force placed a greater emphasis on the force structure in the Air Reserve Component. Today, the Guard and Reserve account for over 65 percent of the tactical airlift, 35 percent of the strategic airlift capability, 60 percent of air refueling, 38 percent of fighters, and significant contributions to rescue, bomber, and combat support missions. Additionally, the Guard and Reserve have an increasing presence in space, intelligence and information systems. Guard and Reserve units also provide support in pilot training; radar and regional control centers manning; at the Edward's Test Center, California; Test and Evaluation missions in Arizona; instructing in weapon system school houses; conducting flight check functions at Air Force depots; and helping to develop the Homeland Defense mission. Today, the Guard and Reserve components are providing day-to-day

mission support. They are no longer simply a “reserve” force—their collective capabilities make operating as an expeditionary Air Force possible.

Future success will depend upon our ability to develop an even closer partnership between the components and a “seamless” integration of all assets. FTF will explore expanding the integration of our people and systems, seeking efficiencies and leveraging their individual strengths by combining operations into new organizational structures—blended units. Together, Active, Civilian, Guard and Reserve form a more capable, more efficient and more effective organization than any could provide individually.

Blended units will integrate Active, Civilian, Guard, and Reserve capabilities in creative new ways, that may appear as radical departures from the past but which have already been part of the Air Force business practice for years. Flying and support functions, for example, will be so integrated with component personnel as to be invisible to outside observers. This will focus attention on conserving valuable manpower, resources, and skills while reducing overall costs. Finally, blended units will maintain the ability to deploy rapidly and will explore new avenues toward an overall goal of providing a “best mix” of personnel for the assigned mission.

Developing blended units will not be without challenge. Out-dated laws and policies would have to change to reflect requirements in command and control, fiscal and personnel issues. Demands for more efficient use of resources (personnel and aircraft), greater flexibility and integration of personnel and administrative systems, higher reliance on the commercial marketplace skills of individuals, and rapid adjustment to changing cultural, social, and economic influences on the Air Force institution will serve to further promote blended organizations.

The Guard and the Reserve are more than just our partners in providing air and space power, they are an integral part of today’s Air Force and form a special link between the Active duty Air Force and America’s citizens. To a great extent, they are citizens first. Blended units would take advantage of that connection to the citizenry and their broad base of knowledge and experience, in both civilian and military matters. The Air Force goal is to create a truly “seamless” force of airmen—one organization of airmen who are interchangeable but who also operate in a different status at particular periods in their air and space careers. The Air Force is committed to evolving its FTF to meet the highly complex security demands in its future.

Enhanced Homeland Security Missions

As operators of two legs of the nuclear triad, the Air Force remains at the heart of homeland security. Since its establishment in 1947, the Air Force has been active and successfully deterring aggressors, intercepting intruders, and providing ballistic missile warning. The September 11th attacks brought homeland security to the forefront with the publication of Executive Order 13228, establishing the Office of Homeland Security. The Air Force is being called upon to counter a new class of foreign and domestic terrorist threats through both defensive and offensive actions. Air defense capabilities remain on high alert to intercede and prevent further misuse of our nation’s civil aviation assets. Expeditionary capabilities have been called upon to help destroy terrorist operatives where they live. In all actions, the air and space expeditionary force construct provides the flexibility to place forces where and when we need them.

Ground-Based Midcourse Defense (formerly: National Missile Defense)

The Rocket Systems Launch Program provided targets and interceptor vehicles for two National Missile Defense tests in 2001. Using decommissioned Minuteman II’s, simulated incoming missiles were launched from Vandenberg AFB while a Minuteman II stage two and three combination, with test interceptor on board, was launched from Kwajalein Island. In the two tests supported this year, both successfully intercepted the target vehicle, meeting a huge technical milestone in the quest for homeland missile defense.

CONCLUSION

Air Force capabilities provide America with a unique set of strengths—asymmetric advantages. However, today’s technological advantage is no guarantee of future success. Maintaining our current leadership position requires addressing our aging infrastructure, modernizing outdated weapon systems and harnessing technology to achieve our vision. To be sure, this requires funding, but a significant part of the improvements rests with ingenuity. In fact, how we maximize the collective potential of our Active, Guard, Reserve, and civilian resources will affect our ability to exploit the advantages our core competencies create. Realizing this potential through better business practices, more sophisticated training methods, acquired

technologies, and other innovative means will be even more challenging given our ongoing efforts in the war on terrorism. Yet the risks of failing to meet the requirements for readiness are unacceptable. Readiness is one prerequisite for American military success. Another is transformation.

TRANSFORMATION

New Impetus to Transform—The evolving geopolitical context

The terrorist attacks of September 11th have forever changed the world we live in. Now, more than ever, our military must transform to preserve the asymmetric advantages it currently enjoys—specifically, its air and space capabilities. These advantages are in danger of eroding in the face of emerging security threats including the diminishing protection of geographic distance; the proliferation of weapons of mass destruction; rapidly advancing technologies (such as sensors, information processing, and precision guidance) available to adversaries; escalating competitions in space and information operations; greatly reduced access to forward bases; the prospect of operations in urban areas; and finally, the prominent threat of global terrorism, especially within our open borders. The demonstrated superiority of our air and space forces over Afghanistan, and the asymmetric advantage they continue to provide the nation must not be taken for granted. Success is not a birthright, we must continue to transform to stay ahead of our adversaries.

America's future success requires us to fully exploit our current technological dominance to seek asymmetric advantage over our adversaries. Such transformation will encompass the horizontal integration of manned, unmanned, and space assets and require us to successfully address emerging and time-critical targets. It will require digital communications at the machine level which result in providing Joint Force Commanders with decision-quality information. The sum of this wisdom is a cursor over the target.

Transformation can include multiple technologies that enable new missions, significantly improved old systems and processes, or using existing capabilities or organizations in new ways. Ultimately, transformation will drive how the military is organized, trained, and equipped. Transformation can also involve changes in military doctrine or tactics, techniques, and procedures that determine force deployment, employment, or the way forces are led or interact with each other to produce effects. It is also important to remember that transformation extends into every aspect of the Air Force—be it warfighting or support capabilities. For example, transformation of our business systems is currently being embraced to take advantage of new technologies and processes already proven in commercial industry. These ideas and products will enhance our efficiency and increase the crossflow of information across Air Force communities.

A recapitalized force is fundamental to the realization of transformational forces. Though we are shortening acquisition cycles, new systems still take years to reach the field. Therefore transformation in the immediate future must begin by using legacy systems in new ways. We will continue to adapt and innovate in order to push the envelope of our capabilities.

Transformation—Realizing Potential Capabilities

In the 2001 QDR, the Secretary of Defense provided specific direction for military transformation. Future defense planning will shift from the previously "threat-based" approach to a "capabilities-based approach," focusing on "how an adversary might fight, rather than specifically on whom the adversary might be or where a war might occur." To support the SECDEF's goals, the Air Force remains in a continued state of evolution and transformation, aggressively pursuing advanced technologies, innovative methods of employment, and bold organizational changes. Transformation is nothing new to the Air Force. It has been an innate characteristic of airmen from the Wright Brothers to airmen operating in the 21st Century.

Continued AF transformation will enable the United States to defeat an adversary by giving the Joint Forces Commander the exact warfighting effects he needs, at the right place, and at the right time. AF transformations will help DOD achieve its "operational goals;" give the United States more operational flexibility and capability to address the future security environment; defeat adversaries' asymmetric strategies; reduce friendly casualties and collateral damage; and sustain America's current asymmetric advantages into the future.

Capabilities-Based Concepts of Operations (CONOPs)

AF warfighters are working hard to lay the foundation for the next step in our transformation to a capabilities-focused Expeditionary Air and Space Force. Our goal is to make warfighting effects, and the capabilities we need to achieve them, the drivers for everything we do. The centerpiece of this effort is the development

of new Task Force Concepts of Operations (CONOPS) that will guide our planning and programming, requirements reform, and acquisition. We have identified several Task Force CONOPS that we are fleshing out—Global Strike Task Force (GSTF) is a prominent example and is the farthest along in development.

GSTF defines how the AF plans to operate when faced with an anti-access scenario. It will meet the immediate needs of our regional CINCs by leveraging our current and near-term capabilities to overcome anti-access threats like the next generation surface-to-air missiles and other defensive networks. By incorporating the stealth and supercruise capabilities of the F-22 with advanced munitions like SDB we will enable our stealth assets like the B-2s and F-117 to take apart the enemy defenses. This capability guarantees that follow-on air, space, land, and sea forces will enjoy freedom from attack and freedom to attack. Key to the success of the entire family of Air Force Task Forces will be the horizontal integration of manned, unmanned, and space ISR assets. A key component of horizontal integration is the Multi-sensor Command and Control network that will help provide the actionable, exploitable intelligence the JFC needs to make effective decisions.

What warfighting effects will the AF provide? What capabilities do we need to deliver these effects? Our family of Task Force CONOPs will provide the answers to these questions. With this focus, we then understand what key requirements are needed to support these CONOPs.

Advanced Capabilities

Manned Assets

Stealth provides the ability to fly largely undetected in hostile airspace and penetrate air defense systems. Stealth will be absolutely essential to establish air superiority in the decades ahead against rapidly improving air defense systems and fighters. The F-22, JSF, UCAVs, improved B-2 bombers, and highly stealthy stand-off weapons comprise the critical stealth capabilities under development now and into the future.

The F-22, with its revolutionary combination of stealth, supercruise (i.e. supersonic-cruise without afterburner), maneuverability, and integrated avionics, will dominate the skies. The F-22 is clearly needed to counter the rapid deployment of third generation fighters to potential U.S. adversaries. In addition, when outfitted with the SDB, the F-22's ability to penetrate an adversary's anti-access airspace and destroy his most critical air defense capabilities, will enable 24 hour stealth operations and freedom of movement for all follow-on forces—fully leveraging our nation's asymmetric technological advantages.

In 2001, flight-testing continued to demonstrate the revolutionary capabilities. Specifically, the F-22 successfully completed an AIM-120 guided missile launch, and initial radar detection range measurements (met specification requirements the first time out—an unprecedented accomplishment).

On 14 Aug the Defense Acquisition Board approved the F-22's entry into low-rate initial production (LRIP). Entering operational service in 2005, this transformational leap in technology is the linchpin to preserving the nation's most important military advantage for the warfighter: the capability to rapidly obtain and maintain air and space dominance.

Acting in concert with the F-22 will be the JSF. The JSF program will develop and field an affordable, lethal, survivable, next-generation, multi-role, strike fighter aircraft for the Air Force, Navy, Marine Corps, and our allies. With its combination of stealth, large internal payloads, and multi-spectral avionics, the JSF will provide persistent battlefield stealth to attack mobile and heavily defended targets. Furthermore, JSF planned reliability and maintainability will enable an increase in sortie generation rate and mission reliability, and will reduce the logistics footprint as compared to legacy aircraft.

On 25 October 2001, the Secretary of Defense certified to Congress that all JSF Concept Demonstration Phase (CDP) exit criteria had been accomplished; the technological maturity of key technologies was sufficient to warrant entry into the System Development and Demonstration (SDD) phase; and both CDP contractors achieved greater than 20 hours of short take-off, vertical landing (STOVL) aircraft operations. On October 26, 2001, the JSF program officially entered the SDD phase with the award of contracts to Lockheed Martin for the airframe and Pratt & Whitney Military Engines for the propulsion system. During the SDD phase, the program will focus on developing a family of strike aircraft that significantly reduces life-cycle cost, while meeting the Services' operational requirements. The program will use a block upgrade approach, based upon an open system architecture, which addresses aircraft and weapons integration and supports the Services' Initial Operational Capability (IOC) requirements in the 2010–2012 timeframe.

International partners will share the cost of JSF development. The United Kingdom signed an agreement in January 2001 to contribute \$2 billion to the SDD program, and negotiations are underway with other potential international partners. International participation in JSF will result in substantial benefits to the United States in such areas as future coalition operations and interoperability; financial savings; appropriate U.S.-foreign industry technology sharing; and strengthening political-military ties with our allies.

For ballistic missile defense, one of the most important manned assets is the Airborne Laser (ABL). ABL is a transformational boost-phase intercept weapon system that will contribute significantly to our multi-layered missile defense architecture. Structural modification of a 747 aircraft, the first of two ABL prototypes, was completed in CY01. In CY02, ABL will begin an intensive period of subsystem integration and flight testing, progressing toward a lethal demonstration against a ballistic missile. The ABL program transferred to the Missile Defense Agency in October 2001 and will return to the Air Force for production and deployment. The ABL will also provide critical data for the development of a Space Based Laser (SBL).

Unmanned Assets

Unmanned Combat Aerial Vehicles have the potential to provide revolutionary suppression of enemy air defenses (SEAD) and strike capabilities to future joint force commanders. Our UCAV X-45 system demonstration program with DARPA will demonstrate the feasibility of UCAVs to affordably and effectively accomplish these missions in the high threat environments of the 21st Century. The first demonstration aircraft test flights will begin in 2002. UCAVs will eliminate the operator from harm's way for high-risk missions and, in conjunction with manned platforms, be a crucial enabler for GSTF and other Air Force Task Forces.

Space Based Assets

Maintaining and developing space superiority is critical to the transformation of the U.S. military to meet the challenges ahead. At the forefront of this development is leveraging the resident expertise of our space warriors, and integrating their cultural strength and wisdom with air forces in order to achieve maximum operational effects. The ability to exploit and deny access to space is of great importance in this new era where dominance in information systems may determine battlefield success or failure. The Air Force is investigating or pursuing revolutionary new capabilities to ensure adequate space situational awareness (in addition to traditional space surveillance) as well as defensive and offensive counterspace capabilities.

We are transforming our space situational awareness with a much needed improvement to the nation's missile detection and warning capability. The highly accurate Defense Support Program (DSP) satellite system on orbit today was developed over 30 years ago to provide strategic missile warning. Modernization to meet 21st Century warfighter needs is critical. The new Space Based Infrared system (SBIRS) provides a single architecture for the nation's infrared detection needs—a "system of systems"—meeting our security requirements for 24/7 strategic and tactical missile warning, missile defense, technical intelligence and battlespace characterization. This transformational space system consists of two primary components: SBIRS High and SBIRS Low. SBIRS High includes four satellites in Geosynchronous Orbit (GEO) and two in a Highly Elliptical Orbit (HEO) that will work hand-in-hand with the 20-30 Low Earth Orbit (LEO) satellites being developed through the Ballistic Missile Defense Organization's (BMDO), (since renamed the Missile Defense Agency (MDA)), SBIRS Low program. Both programs currently are under review. SBIRS High has experienced unacceptable cost growth and is being considered for restructuring. SBIRS Low may be delayed as the state of the program's maturity is being evaluated.

Air Force Satellite Control Network (AFSCN)

AFSCN is a global system of control centers, remote tracking stations, and communications links used to establish initial contact with all deploying military satellites, and to control early checkout operations. In addition, the AFSCN enables common satellite operations such as telemetry, tracking and commanding, mission data receipt and relay, and emergency satellite recovery. We also use the AFSCN to update the navigational database of GPS satellites, which ensures effective support to the warfighters. In fiscal year 2002 we initiated an AFSCN modernization program using commercial-off-the-shelf equipment. It is critical that we continue this effort since much of our current infrastructure is so old that spare parts no longer exist. Moreover, since nearly 50 percent of the total AFSCN workload supports National requirements, the system's viability is essential. Preservation of both the AFSCN infrastructure and the frequency spectrum it uses for military satellite operations is vital to successful national security space operations.

Launch Systems

Our heritage launch systems continue with a 100 percent success rate this year. The Evolved Expendable Launch Vehicle (EELV) will build on past successes while transforming today's fleet of Delta, Atlas, and Titan space launch vehicles into low-cost, efficient space transportation systems. The EELV will deliver navigation, weather, communications, intelligence, early warning, and experimental satellites to orbit on time and on budget to meet warfighter needs. Boeing Delta IV and Lockheed Martin Atlas V rocket families are currently in Engineering Manufacturing and Development to provide launch services beginning next year through the year 2020 and beyond. Our partnership with industry will meet military, government, and commercial spacelift requirements at 25 percent to 50 percent lower costs than current systems.

Space-Based Radar (SBR)

From the ultimate high ground, space-based ISR will provide near continuous overflight of enemy targets to complement airborne and ground-based sensor platforms. SBR will revolutionize battlespace awareness by providing deep-look, wide area surveillance of areas in a manner unaffected by political sensitivities and most denial efforts—absolute leap-ahead technology. Persistent ISR will be achieved with day/night, all weather detection and tracking of moving and fixed targets; improved mapping, charting, and geodesy; and responsive targeting data from sensors to shooters. Due to its basing mode, SBR can provide the nation a non-provocative, long-range capability to enable early situational awareness in advance of hostilities and throughout the spectrum of conflict. This will allow us to tighten the timelines for prompt attack of both anti-access systems and enemy centers of gravity. SBR is being designed to fit into the portfolio of other ISR assets.

Information Warfare (IW) and Information Assurance (IA)

Of primary importance to IW operations is the horizontal integration of manned, unmanned, and space systems to achieve the machine-to-machine interface of command and control, communications, computers, intelligence, surveillance and reconnaissance (C⁴ISR) systems. This integration provides executable decision-quality information to the commander in near-real-time. Second is our ability to protect these systems from adversary manipulation through defensive information warfare. Third, is the ability to deny adversaries these same capabilities through offensive information warfare.

Information superiority enables our military to achieve “decision cycle dominance” and allow us to act and react much more rapidly and effectively than our adversary—creating transformational military advantages. While technology will never completely overcome Clausewitz's “fog of war,” achieving information superiority as described here could certainly minimize it for us and maximize it for our adversary.

Information superiority also yields additional benefits. First, a reduced forward deployment requirement expedites the time to begin effects-based operations and reduces the number of personnel and equipment exposed to threats. Second, by avoiding massive attrition tactics, it would result in far fewer casualties and collateral damage. Third, under the right circumstances, effective offensive information warfare capabilities, which include computer network attack, military deception, public affairs, electronic warfare, and psychological operations (PSYOP), could prevent the need for destruction by influencing our adversaries to capitulate before hostilities begin. This latter possibility will be crucial in many of the environments the military will have to operate in the future, such as urban areas and various military operations other than war, in which employing highly destructive kinetic weapons would not be desirable.

In the future, the Air Force will field C⁴ISR capabilities that enable dynamic assessment, planning, and the rapid execution of global missions. The system will be tailorable across the spectrum of operations and be horizontally and vertically integrated across components, functions, and levels of command. Joint Force Commanders will be able to exploit knowledge and awareness to use the right tools at the right time in the right way—and do it all faster and with higher fidelity than the adversary.

Predictive Battlespace Awareness (PBA)

PBA involves those actions required to understand our adversaries to the extent of being able to accurately anticipate his actions before they make them. This includes understanding how our adversaries organize and employ their forces. It means knowing their centers of gravity, capabilities, and weaknesses. PBA is an ongoing intelligence effort which begins long before forces are deployed. Ultimately,

PBA allows finite ISR assets to be focused on confirmation of anticipated actions instead of the more time-consuming discovery.

Communication Enhancement

We are now transforming the way information technology is used in the Air Force as we implement the One Air Force . . . One Network initiative. This enterprise-wide approach to IT will allow more responsive and more robust service to the whole Air Force. In addition, Global Combat Support System-Air Force (GCSS-AF) will integrate combat support information systems, thus removing the business inefficiencies resulting from numerous, independent stand-alone systems. With GCSS-AF, the Air Force will finally have the means to provide an enterprise view of combat support information. GCSS-AF, through the Air Force Portal, will provide the warfighter, supporting elements, and other Air Force members the means to seamlessly integrate agile combat support information necessary to efficiently field and sustain our Air and Space Expeditionary Forces.

Another piece of integration is the Joint Tactical Radio System (JTRS). We aggressively accelerated development of this enabler of machine-level, digital conversations between our C²ISR and strike platforms so that the “sum of our wisdom” results in a cursor over the target. JTRS will also provide a flexible and adaptable information exchange infrastructure, which moves the joint force forward in getting operators and commanders the timely decision-quality information needed in today’s warfighting environment.

Precision Engagement

The small diameter bomb, the first “miniature” munition in development, will provide an evolutionary capability in kills per sortie. The SDB weapon will use a common carriage system for fighters and most bombers, to carry at least four and potentially up to 12 SDB weapons per 1760 data bus aircraft station. This will allow a fighter-size platform to carry 16 or more SDBs and a bomber to carry up to 288. We will employ the SDB from low-to-high altitude, from standoff or direct attack ranges, and in adverse weather conditions. Each SDB weapon will employ GPS-aided guidance and be independently targeted. The Phase I SDB will have a capability against fixed or stationary targets, while the Phase II SDB will add a seeker with Automatic Target Recognition to provide a capability against mobile and relocatable targets.

To increase our capability against time-critical and moving targets, we are experimenting with existing and miniaturized versions of precision weapons on UAVs. The range and loiter time of the “hunter-killer UAV” coupled with the direct feed of real-time targeting data, will increase our opportunities against moving targets—tightening our decision cycle and maximizing our warfighting effects. What these systems and our other advancing capabilities indicate is that we are within range of our goals of persistent ISR, the finding to targeting to assessing within minutes cycle, and fidelity in the integration of our systems. We seek near instantaneous attack capabilities once a target is approved for attack.

Innovation and Adaptation

All of the new systems and technologies in the world cannot supplant ingenuity. Whether modifying current systems, developing streamlined efficiencies in organizations, or simply thinking creatively, innovation and adaptation are at the heart of any transformation, and embedded in Air Force heritage. The same visionary essence behind the flight at Kitty Hawk works today to link emerging technologies with dynamic future concepts of operation. The driving spirit of innovation in past times of war exists today in the impetus to evolve our air and space capabilities and elevate the security of the nation. Innovation and adaptation will be tremendously important again in fiscal year 2003, and they will resonate in all the systems we develop, in our fundamental practices, how we organize and even in our evolving roles and missions in homeland security.

The prerequisite to achieving the transformation force outlined in the QDR is our commitment to a strong Science and Technology (S&T) program. S&T is the critical link between vision and operational capabilities. We continue to invest in a broad and balanced set of technologies derived from basic and applied research, and advanced technology development on a continuum of maturity levels from short- to long-term. This time-scaled approach keeps emerging capabilities in the pipeline and fosters revolutionary developments.

The Air Force S&T community is working closely with operators and strategic planners to explicitly link research activities with our core competencies, critical future capabilities, and future concepts of operation. This effort has produced eight short-term goals and six long-term challenges to focus our S&T investment. The short-term S&T objectives are focused on warfighter priorities in the following

areas: Target Location, Identification, and Tracking; Command, Control, Communications, Computers, and Intelligence; Precision Attack; Space Control; Access to Space; Aircraft Survivability and Countermeasures; Sustaining Aging Aircraft; and Air and Space Expeditionary Force Support. Long-term S&T challenges also involve revolutionary capabilities in Finding and Tracking; Controlled Effects; Sanctuary; Rapid Air and Space Response; and Effective Air and Space Persistence. Successful pursuit of these challenges and objectives will meet the transformation goals of the Air Force and maintain our air and space dominance today and well into the 21st Century.

Our new homeland security environment will necessitate both traditional and non-traditional responses, with significant coalition, joint, and interagency involvement. Whatever the threat, the AOC provides the critically important real-time predictive battlespace awareness for decision-makers. The Air Force will work closely with the other agencies to form a tightly knit web of resources that will be readily available to answer the call. In this way, Homeland Security efforts will be interwoven and fundamentally aligned with the Air Force's top priorities.

Additionally, Air Force counterair and ISR capabilities are significant contributors to the multi-layered missile defense system, incorporating air and space-based elements that provide effective, affordable, global protection against a wide range of threats. Future space capabilities such as the SBIRS will greatly enhance our ability to track and engage ballistic missiles while space-based radar technologies will identify and track fixed and mobile ballistic missile launchers. Finally, the ABL will engage ballistic missiles in their boost phase, while the F-22, working with advanced ISR systems, will defend against cruise missiles.

Consequence Management

The Air Force has played an important role in consequence management. We have provided critical resources such as airlift, command and control, and disaster preparedness response forces to other lead agencies and the Joint Forces Civil Support Teams. The AFMS is acquiring a variety of modular packages that can be used to support civilian authorities requesting our assistance at home or abroad. Within two hours of notification, the Small Portable Expeditionary Aeromedical Rapid Response (SPEAR) teams deploy ten specialists with the capability to provide a broad scope of care, including initial disaster medical assessment, emergency surgery, critical care, and patient transport preparation. This will increase the state medical response capability for homeland security. Additionally, Air National Guard men and women both command and contribute to the nation's current Civil Support Teams—including critical mobility requirements that support the air transportation of these teams to sites of potential CBRNE or WMD attacks.

In the QDR, the Secretary of Defense identified Homeland Security as a top priority for the Department of Defense. The Air Force has a role in each aspect of preventing, protecting from, and responding to attacks against our homeland. The Air Force has a robust array homeland defense capabilities today and will improve and transform as necessary for the future. As in the past, we stand ready today to contribute these unique capabilities and develop new technologies to aid our national command authorities in combating threats or attacks to our homeland.

Conclusion

The same relative advantages of speed, flexibility, range, lethality and the like that have defined air power since its inception also define the collective talents of airmen—military and civilian alike. The partnership among all of the components of the Air Force is elevating the nation's air and space capabilities to even greater heights than ever conceived. Yet we are not satisfied. We will continue to aggressively pursue our critical future capabilities through every avenue, drawing on all of our resources, and finding no satisfaction in compromise. While funding is critical to securing new and revitalized systems, the Air Force is focused on the source of the most exponentially beneficial results—our innate skill at integration, innovation, and visionary implementation of ideas and processes. Ultimately, it is from our airmen, our most essential resource of people that transformation will accelerate, accelerate and continue.

PEOPLE

"People are a priority" is not just a slogan in the Air Force, it is an imperative. Historically, the Air Force has been a retention-based force and continues to be so today. We rely on recruiting and training technically and mechanically gifted individuals to develop and operate our advanced air and space systems. Though we exceeded our fiscal year 2001 recruiting and accession goals, there are some critical skills in need of special attention—scientists and engineers in particular. We must

take action now to address these and other developing personnel gaps in the uniformed and civilian Air Force alike.

Before September 11th, we were deploying our people at a rate three times higher than we were a decade earlier. Though we were narrowing the gap between force structure drawdowns and increased commitments, the marker has been shifted significantly and we anticipate a growth in requirements. The addition of Operations NOBLE EAGLE and ENDURING FREEDOM and the creation of new homeland security requirements to an already strained personnel tempo (PERSTEMPO) warranted an assessment of our total manpower requirements. We are working with our sister services and OSD on this issue.

Recent events have accentuated the contributions our Total Force—Active duty, Air National Guard, Air Force Reserve, and civilians—brings to our National Defense team. We must now size this force appropriately to meet new demands by capitalizing on positive recruiting results, honing retention programs, and examining closely tasks that might better be performed by civilians, of members of the Guard or Reserve. To attract and retain the best people in a high-technology world, we will accelerate our efforts to develop, educate, train and compensate our people to continue to lead the world as a technologically superior military force.

Retention is more than a quality of life issue. It involves letting our people know that what they are doing matters. It is about instilling our Airmen with pride in a mission well done. At the end of their careers they will remember being part of a team that made a difference. To this end, we have initiated a major “re-recruiting” program.

Recruiting

The Air Force exceeded fiscal year 2001 enlisted recruiting goal of 34,600 by almost 800. We still require 99 percent of our recruits to have high school diplomas and nearly 75 percent to score in the top half of test scores on the Armed Forces Qualification Test. In addition, we brought 1,155 prior-service members back on Active duty, nearly double the number from fiscal year 1999.

We must enlist airmen whose aptitudes match the technical requirements we need. In fiscal year 2001 we implemented targeted recruiting programs for mechanically skilled recruits. These efforts paid off, allowing us to exceed our recruiting goal for these skills by 763. We did, however, fall short of our recruiting goal by 203 in the general skill area. This includes the Security Forces career fields, which have become vital in light of current operations.

The Air Force is postured well to increase recruiting goals to meet new requirements. Previously approved increases in advertising, a more robust recruiting force with broader access to secondary school students, and competitive compensation prepares the Air Force to meet future recruiting challenges. We budgeted \$77 million for recruiting advertising in fiscal year 2002, which is nearly five times the amount from fiscal year 1998. For fiscal year 2002, we programmed an additional \$9 million for the enhanced initial enlistment bonus program, and the prior service reenlistment program, up from \$123.8 million in fiscal year 2001. These bonus programs help to recruit hard-to-fill critical skills and to encourage recruiting during historically difficult recruiting months.

Officer recruiting faces many of the same challenges as enlisted recruiting. However, we continue to draw America’s best and brightest, even given the lure of a competitive job market. In the ROTC program, we implemented several initiatives to attract more candidates, offering contracts to freshmen cadets rather than waiting until their sophomore year, and a one-year commissioning program to attract both undergraduate and graduate students. Overall in fiscal year 2001, we achieved 105 percent of our line officer accession target, up from 97 percent in fiscal year 2000. Recent legislation, which increased the maximum age for appointments as cadets into Senior ROTC scholarship programs, further increases our recruiting opportunities. We are also examining changes to the program to reduce attrition during the ROTC cadet years.

Of particular concern, however, is the area of military and civilian scientists and engineers. We fell short of our accession goal for these groups by nearly 250, and have begun an all-out effort to plus up recruitment and target retention of these critical specialties. For example, in fiscal year 2003 we begin a college sponsorship program to attract scientists and engineers from universities where there is no ROTC program. Thanks to prompt Congressional action, we have the authority to implement bonuses, adjust funding to create retention allowances, and work toward implementing special salary rates for the most difficult to retain fields. At the December 2001 Scientist and Engineer Summit, the Secretary and the Chief of Staff embraced these and other initiatives to remedy the accession challenge. The Air

Force recognizes the great need for these bonuses and has programmed funds accordingly. However, funding levels were cut during the appropriations process.

We have also found recruiting health care professionals especially difficult. Many medical, dental, nurse and biomedical specialties are experiencing critical shortages. For example, only 80 percent of our clinical pharmacy positions are currently filled. We are now reviewing accession initiatives for pharmacists.

In fiscal year 2001, the Air Force Reserve exceeded its recruiting goal for the first time in five years—accessing 105 percent of their target. However, there are significant challenges ahead in recruiting citizen-airmen. Historically, 30 percent of Reserve accessions come from eligible members (i.e. no break in service) separating from Active duty. In fiscal year 2002, recruiting will have to make up that part of the goal, more than 3,000 people, from other applicant sources until Stop Loss is lifted. Once lifted, we expect there will be challenges in filling many vacated positions. One of the biggest challenges for Reserve recruiters this year is Basic Military Training (BMT) quotas. While recruiting services increased emphasis on enlisting non-prior service applicants, BMT allocations have not kept pace. This problem is forecasted to worsen this year as a result of Stop Loss. Reservists are working diligently to increase BMT allocations and explore solutions to address BMT shortfalls.

The Air National Guard has placed recruiting and retention emphasis on Air Force Specialties where shortages exist by offering enlistment and reenlistment bonuses, Student Loan Repayment Program, and the Montgomery GI Bill Kicker Program. As a result, many of the Air National Guard critical maintenance AFSCs have seen real strength growth from 2–6 percent over the last two fiscal years. These incentives have contributed greatly toward enticing and retaining the right talent for the right job. Though recruiting and retention rates have increased, the Air National Guard realizes that potential problems exist that may affect future sustained capability.

Retention

Over 128,000 Active duty airmen, 46 percent of the enlisted force, are eligible for reenlistment in fiscal year 2002/03. Although positive about a career in the Air Force, our people are being lured away by the availability of higher-paying civilian jobs. To sustain our readiness posture for rapid deployment, we must retain our highly trained, experienced, and skilled people. By keeping our experience, we reduce recruiting and training requirements and continue to build and maintain our technical expertise.

Retention will continue to be a priority and a challenge in the future. We are aware Stop Loss and the increased tempo of ONE and OEF may have a negative affect on retention and we are planning for offsets already. We must provide a robust compensation package that rewards service, provides for a suitable standard of living, ensures a high quality of life, and retains our high caliber professionals. We must continue to reduce out-of-pocket expenses incurred through frequent moves, deployments, and other temporary duty. Our airmen must view a military career as a viable and competitive option if we are to maintain an all-volunteer force. To that end, we have initiated an aggressive campaign to “re-recruit” our force, through individualized mentoring and career counseling. This effort began with scientists and engineers, as well as Battle Managers, and will include other critical skills in the coming months. Pilots were to be the initial focus, but the demands of ONE and OEF required that we delay the re-recruiting of this group. Congress has rallied to the Air Force’s needs in all of these, and we will rely on continued help, particularly in the year ahead.

Officer retention trends continue to raise concerns. We monitor these trends through the officer cumulative continuation rate (CCR), or the percentage of officers entering their 4th year of service (six years for pilots and navigators) who will complete their 11th year of service, given existing retention patterns. Although the fiscal year 2001 CCR for pilots increased from 45 percent in fiscal year 2000 to 49 percent, it’s significantly lower than the high of 87 percent in fiscal year 1995. We have fully manned our cockpits, but our rated pilot staff manning has fallen to 51 percent. Airline hires in fiscal year 2002 will be down from over 3,000 last year to approximately 1,500 this year; however, we anticipate the hiring will surge again shortly thereafter. Therefore, we can expect the USAF pilot shortage to continue for at least the next eight years until we fully realize the effects of the ten-year Active duty service commitment for undergraduate flying training. We are optimistic that our “re-recruiting” effort will further enhance pilot retention and help alleviate the shortage sooner.

The mission support officer fiscal year 2001 CCR has held steady at 44 percent. However, retention rates for several high-tech specialties have decreased—scientists (36 percent), developmental engineers (42 percent), acquisition managers (40 per-

cent), and air battle managers (47 percent). Conversely, navigator rates improved in fiscal year 2001, rising three percentage points to 72 percent. Navigators are a critical rated resource being used to fill many pilot vacancies at headquarters level. In the next few years, we expect a rapid decline in this large retirement-eligible population. We also need to retain every experienced air battle manager (ABM) we can to preserve our warfighting capability. This high-demand, low-density career field retention is negatively impacted by increased operations tempo.

The Air Force Reserve exceeded Command retention goals for their enlisted airmen during fiscal year 2001. Again, it was the team effort of the members, first sergeants, supervisors and commanders that led the Reserve to this exceptional achievement. Bonuses also continue to be an effective tool in retaining our members. The flexible Aviation Continuation Pay (ACP) program is an important part of our multi-faceted plan to retain pilots. In fiscal year 2001 we offered ACP payments through 25 years of aviation service, resulting in a substantial increase in committed personnel. Because of this success, we plan a similar design for the fiscal year 2002 ACP program, and extension of this program to navigators and ABMs.

Seventy-eight percent of our enlisted skills are now receiving re-enlistment bonuses, up two percentage points from fiscal year 2000. The authorization to pay officer and enlisted critical skills retention bonuses should help retain individuals in high demand by the civilian sector. We are initially targeting this new authority to Science, Engineering, and Communications and Information. Also, the authority to increase special duty assignment pay provides the flexibility to target our most pressing enlisted skills. The Fiscal Year 2002 National Defense Authorization Act (NDAA) authorizes installment payment authority for the 15-year career status bonus, and an educational savings plan to encourage re-enlistment in critical specialties. Additionally, the Air Force Reserve is studying special duty pay initiatives for senior enlisted positions, such as command chief master sergeants and unit first sergeants for future implementation.

The Air National Guard's number one priority is to increase their traditional pilot force, which has maintained a steady state of 90 percent. During the past year, the Guard continued to see an increase in ACP take rates to 93 percent. ACP has accomplished its goal by retaining qualified full-time instructor pilots to train and sustain our combat force. The Guard and Reserve continue to pursue substantial enhancements to the Aviation Career Incentive Pay (ACIP) and Career Enlisted Flyer Incentive Pay (CEFIP) to increase retention in the aviation community, as well as attract/retain individuals to aviation. These initiatives, which affect over 13,343 officers and enlisted crew members in the Guard and Reserve, are aimed at those traditional aviators who do not qualify for the ACP for AGRs and the Special Salary Rate for Technicians.

Training

Training the world's best Air Force is challenging in today's rigorous, expeditionary environment. Increased accessions stress our training facilities and personnel. During surge periods, we operate at maximum capacity by triple-bunking students in two-person dorm rooms. We are currently seeking funds to improve the training infrastructure.

Lower than required enlisted retention rates are increasing our training burden. Also, fewer experienced trainers are available to train 3-level personnel. Despite these challenges, our technical training schools have been able to meet their mission. We increased our use of technology and streamlined the training processes to produce fully qualified apprentices ready to support the warfighter.

Even with the EAF, our tempo can make educational pursuits difficult. Our learning resource centers and Advanced Distributed Learning initiatives address this situation by offering deployed personnel education and testing opportunities through CD-ROM and interactive television. Additionally, we have joined with the other Services, the Department of Labor, and civilian licensing and certification agencies to promote the recognition of military training as creditable towards civilian licensing requirements.

Defining the Air Force's institutional training and educational requirements for leadership development allows the services to weigh resource decisions better and to emphasize to our people the institution's investment in their careers. The Air Force is pursuing leadership development and career mentoring strategies, to prepare the Total Force for the 21st Century. These competency-based strategies are focused on understanding the leadership needs of our transforming force and creating a development process that will better prepare Airmen to serve and lead. The Air Force is examining more deliberate career broadening, emphasizing two categories of competencies—occupational (what we do) and universal (who we are). We are also examining potential changes to the professional growth of officers including

the rationalization of advanced degrees and professional military education. Force readiness, sustainability, and mission performance all depend on selecting, training, and retaining the best individuals with the necessary skills, as well as motivating every member of the service and taking care of Air Force families.

Civilian Workforce Shaping

Today, less than 10 percent of our civilians are in their first five years of service. In the next five years, more than 40 percent will be eligible for optional or early retirement. Historical trends indicate that approximately 33 percent of white-collar employees and 40 percent of blue-collar employees will retire the year they become eligible. In addition, downsizing over the past decade skewed the mix of civilian workforce skills, compounding the loss of corporate memory and lack of breadth and depth of experience.

While we are meeting mission needs today, without the proper civilian force shaping tools, we risk not being ready to meet tomorrow's challenges. To help shape the civilian workforce, it is imperative that we fund civilian force development initiatives to include skill proficiency and leadership training, and tuition assistance programs. The fiscal year 2002 NDAA did authorize the payment of expenses to obtain professional credentials.

In addition, management tools are essential in shaping the force by opening the door to new talent so we can gather the right skill mix. These initiatives include pay comparability and compensation, a streamlined and flexible hiring process, recruiting incentives for technical skills and student employment programs. Also, the fiscal year 2002 NDAA provided the authority for a pilot program allowing for payment of retraining expenses and extended the use of Voluntary Separation Incentive Pay (VSIP) and Voluntary Early Retirement Authority (VERA) for workforce restructuring. To incentivize key senior personnel to accept critical positions, we continue to support implementation of a last move home benefit.

Quality of Life

Quality of life ranks as one of the Air Force's top priorities, so our quality of life initiatives attempt to balance the intense demands we place on our mission-focused Total Force. With continued congressional support, the Air Force will pursue adequate manpower; improved workplace environments; fair and competitive compensation and benefits; balanced deployments and exercise schedules; safe, affordable, and adequate housing; enhanced community and family programs; improved educational opportunities; and quality health care, as these have a direct impact on our ability to recruit and retain our people and sustain a ready force.

The fiscal year 2002 NDAA provided for the largest raises for mid-level and Senior NCOs (7–10 percent) to improve pay based on their education and experience levels. Junior enlisted members received a 6–6.7 percent pay raise and captains and majors received a 6–6.5 percent raise while all other personnel received a 5 percent raise. Basic Allowance for Housing rates effective 1 Jan 02 will be based on 11.3 percent out-of-pocket for the National Median Housing Cost for each grade and dependency status. Additionally, the fiscal year 2002 NDAA authorizes several additional travel and transportation allowances that will reduce out-of-pocket expenses for our military personnel.

Higher priorities have led to a deferral of much-needed infrastructure sustainment, restoration, and modernization of the workplace. Together with spare parts and equipment shortfalls, budget limitations impede successful execution of mission requirements, cause lost productivity, and negatively impact quality of life. It will take increased funding levels focused on infrastructure restoration and modernization to allow us to optimize the condition of the workplace environment and, furthermore, help eliminate the risk to our near- and long-term readiness.

Providing safe and adequate housing enhances readiness and retention. The Air Force Dormitory Master Plan and Family Housing Master Plan identify and prioritize our requirements, while DOD is championing the reduction of out-of-pocket housing expenses by fiscal year 2005. We project significant improvements in our military family housing by reducing our inadequate units from 59,000 at the beginning of fiscal year 2002 to 46,000 at the beginning of fiscal year 2003, and with the help of privatization efforts underway, eliminating inadequate units by 2010. During fiscal year 2001–04 we plan to privatize over 21,000 housing units at 26 installations. Similar improvements are being made in our unaccompanied housing, where more than 1,600 dormitory rooms will be constructed as a result of the fiscal year 2002 program.

The Air Force continued to set the standard in providing quality childcare and youth programs. In addition to 100 percent accreditation of Air Force child care centers, the Air Force achieved 100 percent accreditation of all of its before- and after-

school programs for youth 6–12. In fiscal year 2001, the Air Force expanded the extended duty childcare program for members required to work extended duty hours and in fiscal year 2002 will test using this program for members working at missile sites and those who need care for their mildly ill children. Many youth initiatives implemented in fiscal year 2001 are part of the affiliation of the Air Force's youth program with the Boys & Girls Clubs of America.

The Air National Guard also identifies childcare as a readiness issue. With increasing demands from Commanders and family members, the ANG formed a Childcare Integrated Process Team (IPT) to study innovative childcare options. The IPT yielded a website developed for internal use by ANG field units to pursue childcare alternatives in relationship to the unit's location, demographics, and legal issues. Additionally, the Guard has proposed a cost-sharing pilot program based on the Air Force childcare cost model.

Tremendously important to child and family quality of life are the commissaries and exchanges. The Air Force continues to support these benefits as vital non-pay compensation upon which Active duty, retirees, and Reserve component personnel depend. Commissaries and exchanges provide significant savings on high quality goods and services, and a sense of community for airmen and their families wherever they serve. As a result, commissaries and exchanges are cited as a strong influence on retention and a highly valued component of quality of life.

Additionally, lodging facility improvements and temporary lodging facilities have become a higher quality of life priority. Constructing facilities in sufficient quantity and maintaining existing facilities not only supports our members and families in TDY and permanent change of station status, but also yields significant savings in travel costs and ensures force protection. All new construction and renovations meet the recently adopted VQ standard—"one size fits all ranks"—mirroring the industry standard of 280 square feet per room with private baths for all grades.

Physical fitness is unquestionably a force multiplier, and investment in fitness facilities, equipment, and programs directly impacts readiness. An independent assessment of our fitness centers documented a requirement of \$645 million for construction and renovation at Active duty and Reserve bases. The Air Force committed \$183 million in fiscal year 2000–05 Quality of Life funding and has steadily increased annual MILCON funding, including \$52 million this year.

Meanwhile, today's Air National Guard member families are in immediate need of dedicated full time family readiness and support services—specifically information referral support and improved communications and education capabilities. The Air National Guard has developed a program solution in fiscal year 2001 to fund a full-time contracted family readiness program at each Wing and Combat Readiness Training Center. While funding for fiscal year 2002 has been added in the fiscal year 2002 Supplemental Appropriations, there is no sustained funding in the FYDP. Properly funded and resourced, the ANG family readiness program will significantly enhance mission capabilities by reducing pressures on personnel and their families and improving their Quality of Life.

Healthcare

The recent implementation of DOD health care initiatives, such as TRICARE for Life, provided the missing link to the Air Force Medical Service's population-based health care strategy. Now, the AFMS has the foundation to provide whole care to its beneficiaries. The TRICARE Senior Pharmacy Benefit, started 1 April 2001, brought an expanded benefit to the Air Force's retired population. TRICARE for Life, the program that makes TRICARE second payer to Medicare, and TRICARE Plus, the program that allows seniors to enroll in a primary care program at selected MTFs, both began concurrently on 1 October 2001. These new programs will undoubtedly enhance the quality of life for the Air Force's older retiree population. TRICARE Plus will also strengthen the AFMS's medical readiness posture by expanding the patient case mix for our providers.

The AFMS continues to make great strides in its population health initiatives and customer satisfaction. Central to the AFMS's population health plan is its Primary Care Optimization program, which improves clinical business processes through maximizing medical support staff skills and duties and through robust information management that supports effective decision-making. The Primary Care Manager by Name program provides much-needed continuity of care and, ultimately, better patient management by providers. Other population health initiatives include the Air Force Suicide Prevention program, which has served as a model for DOD and the nation in their efforts to address this significant public health issue. As a result of AFMS' initiatives, health care customer satisfaction continues to rise in the Air Force. According to the latest Customer Satisfaction Survey Results, 90 percent of the Air Force's enrolled beneficiaries indicate they would enroll or re-enroll in

TRICARE Prime if given the option. The overall satisfaction with clinics and medical care exceeds national civilian HMO averages.

Conclusion

The Air Force implemented structural and cultural changes via EAF concept to enhance responsive force packaging, as well as to provide more stability/predictability in deployment and home station scheduling. We must continue to address force-wide balanced tempo issues with manning, infrastructure and equipment, training, recruiting and retention, and mission requirement assessments. High OPSTEMPO has taken its toll: our people are still deployed three times more often than prior to Desert Storm-based on a force 60 percent its former size. Air National Guard and Air Force Reserve participation has steadily increased since Desert Storm, which has created unique challenges for Guardsmen and Reservists balancing civilian careers with increased military requirements. Trends show demand for air power will only increase; EAF holds promise by giving airmen predictability and stability. We must also take care of our families with adequate housing programs, medical facilities, and base support services. Our efforts continue to pay off, yet they must be actively renewed and revitalized—flexible enough to adapt to new circumstances and demands in a changing world.

CLOSING THOUGHTS

The events of September 11th reaffirmed the importance of the Air Force's current focus on People, Readiness, and Transformation. Our future success hinges on our ability to recruit and retain highly qualified airmen, to provide these dedicated warriors with the resources required to accomplish their mission, and to continue to explore new and innovative approaches to the art of warfare.

While the world's security environment changed dramatically, one thing that remains constant is America's need for Global Vigilance, Reach, and Power. That is your Air Force Vision, and what we strive to deliver every day. Fully exploiting our advantages in air and space capabilities is not an option—the risk of failing to do so is too great. We must remain the dominant air force in the business of global reconnaissance and strike (attack and mobility).

Through recapitalization efforts, we hope to maintain the fundamental basis from which to perpetuate our transformation journey. This is a daunting task, and it cannot be achieved without substantial costs. Integration of systems, mastering real-time targeting, and the exploitation of new CONOPs, are more than mere objectives, they determine our ability to project power in tomorrow's battlespace.

With America's continued support, the United States Air Force is poised for unprecedented success. The future holds sober challenges for America's military forces. Some may find easy remedy, while others will require tremendous sacrifice. In whatever scenarios lie ahead, the United States will be able to look to the Air Force for asymmetric capabilities that ensure our dominance of air and space. These capabilities, when employed in joint warfighting operations, will prove to be the resident military strengths that will enable America to assure, dissuade, deter or decisively defeat the adversaries of freedom.

F-22 AIRCRAFT

Senator INOUE. Thank you very much. You ended your presentation with the F-22. What is the status of the F-22?

General JUMPER. Sir, the F-22, as you know, is in testing. When we get the F-22 out at Edwards Air Force Base—I was out there 2 weeks ago. I spent a day looking into the F-22 and its test program and talking to the pilots who fly it. The pilots who fly it are blown away by its capabilities. It is orders of magnitude improvement over anything we have, and they are very confident in its capabilities.

As you know, we are working through several issues with the F-22. One of them is a vibration problem on the tail surfaces. This problem is a problem that manifests itself on not the whole vertical surface but on the movable part of the rudder, and it is one that, although it has a very low probability of any sort of a catastrophic failure, it is something we have to pay attention to.

We have a series of fixes that we know will deal with this problem. It is not dissimilar to the problem that they have had with the F/A-18 in its development and previously in the F-15 during development. So, we have fixes to this problem and we are working those fixes. We will get this problem dealt with before we press on with any next stage of development.

The other problem we are dealing with is software stability. At any stage of a program like this, in a software-intensive airplane, this is a problem we have to deal with. We have got ways to deal with that too.

There is nothing in here in the F-22 program that I see right now as a show stopper. We are having trouble getting the test airplanes built and delivered and we are working that with Lockheed Martin. The strike, of course, had an effect on that and we are working our way through that. But when the airplane is delivered, when the guys get it up in the air, it is doing magnificently. So, I think overall I was very encouraged when I left Edwards Air Force Base and talked to the testers out there.

Senator INOUE. As you are aware, the Secretary of Defense, in preparing for the fall budget review, called upon the services to look at four major weapons systems: Comanche, Crusader, V-22, and the F-22. Do you believe that what is happening now will satisfy the Secretary as to whether we should keep it or not?

General JUMPER. Well, sir, I do not think there is any thought of actually canceling the program. I think there is a discussion about the numbers, and we welcome the opportunity for us to justify the program again and the numbers. And he has left the book open to talk about the full range of capabilities for the F-22, the current version or other versions that might provide us a better air-to-ground capability. So, we think it is another opportunity for us to defend the program, and if we cannot defend it properly, shame on us.

Secretary ROCHE. If I may, Mr. Chairman. He is giving us the opportunity that if we can make a case for more, we can make the case for more or for variants of them. One of the points that we welcome is the chance to talk about, this is not your grandfather's F-22. This is an airplane that, as we have looked at it, we have stressed certain parts of it much more than has been in the past so that each one of these is a tremendous ground attack airplane with a small diameter bomb, with the avionics that go into the fire control system for ground warfare being done effectively at no additional cost, or the other mods to the airplane that are very simple. This will be an extraordinarily good plane for air-to-ground purposes.

In fact, the work that Tech Sergeant Markham has been doing was a forerunner to what we would like to be able to do with the F-22. It is the only system we know of that has a really good chance against deep moving targets like transporter-erector-launchers for Scud's or mobile air defense systems. Because of its stealth, because of its super cruise, its capabilities make it a very natural system to be able to attack those kinds of targets, which are becoming increasingly important.

Senator INOUE. As you presently assess the future intelligent-wise and technology-wise, what do you consider to be the appropriate numbers we should consider for F-22's?

Secretary ROCHE. Well, one of the things we are doing at this time, sir, is going back to basics, back to a clean sheet of paper, and starting over for this era, not for the prior era. This plane originally was thought to be ordered on the numbers of around 750. We have about 700 F-15C's and F-15E's. So, that was a placement number. With the advances in weaponry, et cetera, maybe the number would be smaller. Maybe it will be less than 339. We have thought 339 was a good place to start. But the variants. It may be that we would be better off to take beyond 339 and have some that are much more oriented to air-to-ground and a variant of the F-22. Or given its capabilities, we are looking now to see if maybe a few less would do. But we are starting with a clean sheet of paper so that we can make the best case to the Secretary, not just take out the old case and give it to him again.

UNMANNED AERIAL VEHICLE

Senator INOUE. About 10 years ago, it was almost taboo to talk about unmanned aircraft. General, I noticed in your testimony there is much about that.

General JUMPER. Yes, sir.

Senator INOUE. Are we going to be spending more on unmanned aircraft?

General JUMPER. Sir, I think that the role of unmanned aircraft is going to increase. I think that we have seen the worth of the unmanned intelligence, surveillance, reconnaissance aircraft, both in the form of Predator and Global Hawk in this war.

I am amused at the articles I read that say that somehow the white scarf fighter pilot crowd—I guess I am one of those—is somehow opposed to the emergence of unmanned aerial vehicles (UAV's). But, Mr. Chairman, I am the guy back in the Kosovo war who insisted that we put a laser ball on the Predator UAV so it could spot targets on the ground to guide the bombs from the fighters. And then later on, I am the guy that insisted we put a Hellfire missile on the Predator UAV. I will tell you in the pilot community out there, anything that will improve our ability to get to the targets is welcome.

We do have to proceed with some bit of caution in the UAV world as we get into the unmanned combat air vehicle (UCAV) business and we decide a concept of operations on how these are going to be employed. For example, if you take one of the current concepts, which is to put the conventional warfare UAV into a box of some type and then load them onto C-17's or C-5's and deploy them off to a theater, those are the same C-17's and C-5's that are needed to and are being counted on by other services and other pieces of the Air Force that need to get deployed into place. Once they get there, you still have to have people to take them out of the containers and to put them together and to test fly them and then to load them out and be ready to go. We want to make sure that, as we develop that concept of operations, it is not decreasing the rapidity of air power because one of our main features is that we get there quickly.

The alternative to that is to make a UAV that you can deploy nonstop, which means that you have to make it air refuelable. As a matter of fact, any of these UAV's that are going to be dealing with any distances of the type we deal with today would have to be air refuelable, and when you start putting air refueling technology, which is not unlike the technology they use to mate the satellites up in space, onto the UAV, now pretty soon it is not considered expendable anymore. Somebody is asking, well, it costs so much money, we better put a person on it to make sure it gets there and back safely.

GLOBAL HAWK

So, these are the things we are having to balance as we evolve the technology, but at the right place and the right time, Mr. Chairman, I can tell you that we will blend UAV's into the appropriate mission areas. The one that I see on the near horizon is the role of the Global Hawk will eventually replace the U-2. That makes sense to me. Then I think in the long-range strike technology, a replacement bomber, whether that be a suborbital, an orbital, or an airborne machine, I think we need to look very closely at UAV's. And the replacement gun ship I think would be an excellent candidate for UAV's.

These things are all being looked at, Mr. Chairman, by fighter pilots like me.

Secretary ROCHE. Mr. Chairman, we have benefitted from General Franks allowing John and me to ask to put things into the theater that were really not ready for prime time. And we have learned a tremendous amount, both the advantages of these systems and also some of the difficulties. We have learned, for instance, the fact that when you think about an F-16 will have one pilot, a UAV has a pilot and a systems operator.

PILOTS FOR UNMANNED AERIAL VEHICLES

And to answer your question about training pilots for UAV's, we are doing that extensively. Right now we are using pilots who come from manned aircraft to have temporary duties with the UAV's and then go back to manned aircraft because the pilot instincts, we have recognized, have become very, very important since they are working in two-dimensional space when they normally would be working in three-dimensional space. We have a few navigators who have their own private pilot's license who are also flying these, and over time that specialty may evolve into something other than a B-1 pilot and an F-15 pilot. But as pioneers, we really need these folks flying them because they give us the kind of feedback that help us design the next generation.

So, we know they take some attention, more than other things. We recognize if you try and fly multiples of these at the same time, that you are talking about swarms of unattended vehicles. Swarms demand an enormous amount of bandwidth, a lot of technology, et cetera. So, looking to where they really pay off and where it may not be so wise to use them is something we have had a chance to do in this campaign that otherwise would have taken years to learn.

Senator INOUE. Before I call upon the co-chairman of this committee, I must say, Mr. Secretary, how stunned I was and yet I realize it is true that since 1953, no American in uniform has ever been killed by an enemy aircraft. I think that Americans should realize that. I think much of the credit can go to you and your predecessors.

Secretary ROCHE. Well, and to you and your predecessors, sir, and your colleagues.

Senator INOUE. Congratulations. We did not know our record was that good.

General JUMPER. It is pretty good, sir. You do not want to take it for granted, Mr. Chairman.

Senator INOUE. Senator Stevens.

SPACE-BASED INFRARED SYSTEM

Senator STEVENS. Mr. Secretary, I understand that we have had a recertification of the space-based infrared system (SBIRS) High program. Could you tell us what is the status of that program now?

Secretary ROCHE. Senator Stevens, this is a program of which I do not take great pleasure in talking about. It is a problem program that has come into a cost growth that I find to be quite shocking. We have gone back to square one. We have asked all the appropriate people if all the requirements were still necessary. We were told they were. John Jumper and I have tried to tell everybody do not add any more requirements to this, for heaven's sakes. Let us get this thing back in shape.

We have stretched the program out. We have gone through it with Mr. Aldridge to try and get there. We have ended the total systems performance responsibility authority to the contractor that gave the contractor total control. We have introduced much more management attention from the part of the Government. All of the management of the program itself has been turned over.

It is a program that is still in difficulty and I would not want to lead you to think that we have got a fix, but we are paying an enormous amount of attention to it. And we are told that it is still as necessary as ever, and we are on the path of trying to execute the new restructured program. But it is going to cost us money out of the Air Force budget.

Senator STEVENS. What were the basic causes for the increase in cost? And does it have a time line now?

Secretary ROCHE. Oh, sir, it does have a time line. I am sorry. The launch date is not on the top of my head. I can get that for you.

[The information follows:]

SPACE-BASED INFRARED SYSTEM

The launch of the first GEO satellite is planned for October 2006.

Secretary ROCHE. But I can tell you in detail when we took a good, hard look as to why did this happen, why was it 1 year ago we had an indication of a small problem prior to my confirmation, and then within 3 or 4 months, it turned into a multi-billion dollar problem?

When we brought outsiders into the program to take a look, I regret to tell you it was the basics, Senator. It was the program real-

ly was not ready to move as fast as it had. People thought software could be reused that simply could not be reused. The program management, by having the Government stand back and devolve all the authority to the companies, the companies kept trying their best, but not really having the Government aware of how deeply in trouble the program was. And then finally, it also appears that basic systems engineering was not done.

NATIONAL SYSTEM ENGINEERING INSTITUTE

We are seeing this problem of basic systems engineering as a problem appearing in a number of programs to the point where we are very concerned about the capabilities of the United States and the industrial base in the systems engineering field. Secretary Aldridge and I are talking about the possibility of, at some point, coming back to you and asking authority to create a national systems engineering institute where we can start to train engineers how to do something. That was a magnificent competitive advantage of the United States but appears to not be as present as it used to be. We know it is not in the civilians in Air Force because most of them are retired. And in total systems performance responsibility, our officers and civilians were not asked to get deeply into the program. That has ended now.

Senator STEVENS. I worry sometimes we are losing some of these systems abilities to our friends overseas in terms of our increased procurement from overseas. I would like to have you follow up on that institute concept, and we should discuss that I think.

[The information follows:]

NATIONAL SYSTEMS ENGINEERING INSTITUTE

The Air Force is planning to establish an Institute of Systems Engineering to address problems with the systems engineering approach used by Air Force/contractor integrated teams identified during the acquisition and sustainment of some large complex systems. These problems include: Inconsistent systems engineering application across the Air Force; loss of technical discipline (e.g., configuration management, integrated risk management, modeling and simulation, etc.); Loss of expertise, aging workforce (over 50 percent eligible to retire over next five years); Recruiting and retention issues ("new employees" not expected to be "lifers")

A major premise for the Institute is that systems engineering is not something one can learn entirely in the classroom, but must also learn through hands-on experience working on real systems. The concept is to bring together government, industry, and academic stakeholders to eventually form a nationwide Institute of Systems Engineering. Implementation will be in phases using a spiral approach. First phase will focus on coordinating Air Force and other Services' capabilities, followed closely with the development of alliances with appropriate universities, professional societies, and industry. Plans are to have some early Institute capability/presence in place later this year. This coalition would be able to leverage each other's physical, financial, and intellectual resources to minimize additional investments and accelerate the stand-up of the Institute to provide services where needed nationwide.

The objective of the Institute is to: (1) educate and train engineers and managers in the best practices, tools, industry standards, lessons learned, and the right questions to ask, as well as educate and train engineers in the basic systems engineering process and principles; (2) provide consultative services, through the establishment of a senior level consultation group comprised of industry, government, and academia experts to programs with systems engineering issues; and (3) advocate and maintain the systems engineering process and tools in order to sustain a robust disciplined process into the future.

The Institute should provide: A spectrum of services and capabilities from just-in-time workshops and conferences led by government and industry practitioners using real-world cases, to Air Force Institute of Technology (AFIT) and university-led training, certification, and degree programs, which continuously incorporate best

practices from government and industry into their education and training curricula. The capability to identify best practices, lessons learned, and deficiencies in the application of systems engineering principles; shape strategies and implement changes to address deficiencies; and set industry standards to promote the best practices for systems engineering throughout the government, industry, and academia.

Air Force actions to establish the Institute of Systems Engineering include: The Air Force Materiel Command (AFMC) Commander has a team in place, which includes active participation by the Space and Missile Center (SMC), to identify and coordinate the activities needed to stand-up the Institute.

The AFIT School of Engineering will be the Air Force academic anchor.

AFIT and AFMC will work in collaboration and partnership with the other Services to establish a coalition of educators, trainers, and practitioners of systems engineering (e.g., Naval Postgraduate School, academic centers of excellence, professional societies, and leading aerospace companies).

The Air Force is briefing industry partners as quickly as they can be scheduled. Working meetings have already been held with Lockheed Martin and Boeing personnel. As a complement to the Institute, the Assistant Secretary of the Air Force for Acquisition (SAF/AQ) will investigate ways to incentivize contractors to employ sound systems engineering practices.

A Draft Institute of Systems Engineering Charter is in coordination.

A Draft Integrated Management Plan and Schedule will be released for coordination on May 31.

In summary, the Air Force is assiduously pursuing "spiral development" of the Institute of Systems Engineering to include initiation of an early capability by the end of calendar year 2002. In addition, revitalization of the systems engineering process is proceeding in parallel.

F-22

Senator STEVENS. General Jumper, you mentioned in your statement about the tail buffet factor on the F-22. It is my understanding that has occurred on almost every twin-tailed airplane in the past. Is that right?

General JUMPER. That is correct, sir, in one form or another.

Senator STEVENS. So, this is not an unexpected phenomenon but one that has come out through basic testing of the aircraft.

General JUMPER. Exactly true. And it is important to point out, Senator Stevens, that there have not actually been any cracks that have been experienced in the test program. These are mathematical projections of what might happen. So, we have actually not experienced one. We are just projecting that this is going to be a problem.

Secretary ROCHE. No manifestations at all, sir.

Senator STEVENS. It seems there have been a hyper-awareness of the problem on this aircraft, but there have not been that many of them delivered yet, have there?

General JUMPER. We have had eight of them delivered now, sir, that are the test airplanes. We have asked for some more testing to be done to make sure that we understand and we characterize this problem properly. But as of right now, we have got eight out there, sir.

C-17

Senator STEVENS. The chairman and I are quite interested in the force of C-17's that are going to be deployed soon, particularly those going to the Pacific. Have you got a time line yet for that?

Secretary ROCHE. We do, sir. We can get that to you. It is part of this new multiyear buy, and I believe it is eight planes going to one part of the Pacific and eight planes to another part, sir.

[The information follows:]

We announced Monday, 15 April 2002, that Hickam AFB and Elmendorf AFB have been identified to beddown an eight Primary Aircraft Authorized (PAA) fleet at each location. These aircraft are tentatively scheduled to be in place at Hickam AFB in fiscal year 2006. Elmendorf is tentatively scheduled for fiscal year 2007 pending completion of their military construction requirements.

General JUMPER. Exactly.

Secretary ROCHE. By the way, we should tell you the plane has just behaved unbelievably well in this conflict. For an aircraft that, like other aircraft, had very difficult birthing problems that you know better than I, Senator—both of you. You lived through them from the start in 1977 through the final planes. It has done both the retail long haul job and the short haul job beautifully. We have never had an aircraft that could do that before.

Senator STEVENS. Mr. Secretary, we know the history of that. Twice three committees in the Congress killed that airplane, and we kept it alive. And thank God we did.

HIGH DEMAND PERSONNEL

General Jumper, I am told by the staff that there is a shortage now of some of the high demand personnel for the Air Force, security police, intelligence. What is causing that?

General JUMPER. Well, sir, the phenomenon of the 11th of September was that not only did we have to go to higher threat conditions overseas, which is the way we have been doing business during the decade of the 1990's, but we had to go to a higher threat condition both at home and overseas at the same time. Previously when you had an increased threat condition overseas, you would empty out your bases in the United States to go deal with that. In this case we had to do it both at home and overseas. It has put great demand on our security forces, and they are spread very, very thinly around the world right now trying to protect the Nation's assets around the world.

It is not only security police, but it is other specialties that are in high demand out there in the commercial market: aircraft mechanics, communication specialists, computer experts, et cetera. Especially the kind that I described to you in my opening statement that are committed, loyal, and dedicated are the very ones that companies out there want to hire away from us.

So, the qualification of our people and the different nature of this war on terrorism that we are engaged in have created this demand inside a healthy economy that has put us at a deficit.

RECRUITING GOALS

Now, having said that, we have, as of this month, achieved our recruiting goals for this year well ahead of time. Our retention rates are continuing to improve in almost all categories so that some of this problem will be exacerbated.

We have been asked by the Secretary of Defense that before we go ask for more manpower, that we find ways to explore things that people do in uniform and see if they can be done another way and sort of reengineer our manpower in the Air Force, and we are doing that. But we are stretched very thin, Senator Stevens.

Mr. Secretary, you may want to—

Secretary ROCHE. I had the pleasure yesterday, Senator, of swearing in the 37,283d recruit who was the recruit who put us over our goal for the year up in New York.

PILOT SHORTFALL

We are still having trouble getting pilots. We are still short on pilots. Our officer accessions are not all that we would like them to be, and we are working very hard to look at the various programs. We are increasing Reserve Officer Training Corps (ROTC) programs. We are reaching deeper into the high schools to get young people to be more interested in the Air Force. We have about 600 junior Air Force ROTC programs now, and we want to move that up to 900. We need to get to these young people and tell them they can be pilots. They can be battle managers or they can be officers involved in the space world or noncommissioned officers (NCO's) involved in the space world.

UNMANNED AERIAL VEHICLE PILOT TRAINING

Senator STEVENS. I think I have taken more than my time already, but let me ask you, General, should we ask the academy to change its curriculum so we get people started on UAV training while they are still in the academy? It seems to me there are a lot of people—my brother, for instance, never liked to fly, but he liked to fly those model airplanes and put engines in them back in those days. I know you have got some different types of training out there such as gliders, but I do not think you have any training per se in UAV's. Do you?

General JUMPER. No, sir. We are actually training them in the units themselves. The consideration I would offer, Senator Stevens, is that these people we are having pilot these Predator UAV's we are also asking essentially to do close air support. In some cases, they are putting laser spots on the ground and having to control airplanes in the air much like Sergeant Markham did from the ground, and they are also having to take the responsibility in some cases for shooting missiles off of these airplanes. So, the skill set that we require is a skill set that is very closely associated with close air support, and the education that goes along with a close air support specialist that is trained usually at the lieutenant or captain level.

AIR FORCE ACADEMY

But the technical part of your question, Senator, if you do not mind me adding, is exactly right. What we need out of the Air Force Academy are the people who are technically smart about the integration of systems, and the Secretary has visited the Air Force Academy. They were about to cut down the engineering and sciences curricula in the Air Force Academy in the basic core curriculum. The Secretary went out there and reversed that decision. As a matter of fact, we are going to increase the technical specialty. But we need the people who understand the principles of unmanned flight, the principles of orbital and suborbital flight, the integration of manned/unmanned in space platforms at the technical

level. And what we really need to work on are these systems engineers that the Secretary talked about before at the academy level.

Senator STEVENS. Thank you very much, Mr. Chairman. Thank you, gentlemen.

Senator INOUE. Thank you very much.

Senator Shelby.

Senator SHELBY. Thank you, Mr. Chairman.

MAXWELL AIR FORCE BASE

Mr. Secretary, I understand that you and the General have been down to Maxwell Air Force Base to the Air University. We talked about that earlier. One of my concerns that they tell me about at Maxwell is the ROTC training requirements facing the schoolhouse down there. It is my understanding requirements have increased 26 percent, and they need some money there. I do not know if you have looked at that, but a 26 percent increase puts more demand on them. Do you want to comment on it?

Secretary ROCHE. Yes, sir. I think the modern Air Force is being surprised at the degree to which General Jumper and I will get into curriculum and to make sure the curriculum is right. We have a joke with each other. I do the Air Force Academy because I am the more academic. He does Maxwell's advanced schools because he knows the professional military education (PME) better than I do.

We both were a little surprised to find that ROTC cadets drop out a lot between their first and second year, especially the 4-year scholarship students. My experience as a naval ROTC midshipman was I could not have dropped out because I was at sea. So, I asked, well, how can they drop out? Well, we do not put them anywhere between their first and second years. And we both went, gosh, here is a chance for them to work with our first sergeants, to get to know the Air Force at its most meaningful level. And so, we are going to make a change. We are going to have those cadets go out and work in the units. That is putting a greater burden on the ROTC management.

Senator SHELBY. But it is for a real reason, though, is it not?

Secretary ROCHE. It is a wonderful reason.

Secondly, precisely because of the point that Senator Stevens raised, we have gone back to see where do we get our technical Air Force officers from. The academy is fixed in numbers in total. The ROTC program is our best chance to get technically educated officers. We do better there than we do in the officer training school (OTS) program. Therefore, we are shifting. We have agreed to shift a number of the billets from OTS to ROTC, which will put a burden. With that shift, we have committed to making sure we fund the direction we have given, sir.

Senator SHELBY. Thank you.

KC-135

I have several questions here dealing with the aging fleet and primary depot maintenance. You are very familiar with it. What impact have the rigors of Operation Enduring Freedom and Operation Noble Eagle had on your periodic depot maintenance (PDM) schedules and your near-term operational capabilities of the KC-135 fleet? General?

General JUMPER. Well, sir, as you know, we have about 120 KC-135's in the PDM line at Tinker Air Force Base today. In the last several years, we have doubled the amount of time from about 180 days to more than 300 days it takes to take one of these airplanes apart, fix all the corrosion and things that are wrong with them—

Senator SHELBY. That is too long.

General JUMPER [continuing]. And put them back together again. It is too long.

MISSION CAPABLE RATES

Once they go through the process, we are getting good mission capable rates out of the tankers and we are getting good mission capable rates out of our airlift fleet. These are recovering now from a long time of decline. As you would expect, when we go into combat, we see an increase in the mission capable rates, because people are working very hard using cannibalization and other techniques to keep them in the air. As you would expect, our older bombers show the effects more than the newer airplanes, but increased operation puts a greater demand on spare parts and a greater demand on our maintenance people.

While we see, in the overall fleet, the results of our investment, with the help of this committee of more than \$1.5 billion over the last 4 years to fully fund our spares accounts, we have seen that level off and start back up again. When you start and do an operation like Afghanistan, the charts start going all over the place, as you increase your tempo of operation.

Senator SHELBY. Sir, will your fiscal year 2003 PDM request meet your requirements?

Secretary ROCHE. To the best of my knowledge, yes, sir. We face an issue that something is wrong if one-fifth of our 135 fleet has to be in major depot at any one time. That is losing 20 percent of your capability. While the planes work when they get out, they have to get back for corrosion control and other repairs very, very quickly.

The money we have there now continues to work these and with the basis of replacing them sometime later in this decade or early next decade. But it is one of the reasons why we were trying to jump start and move more quickly so that we could retire some of the oldest ones, the E models which are facing about \$3 billion worth of work in the next several years.

Senator SHELBY. Mr. Secretary, the specific goals of your plan would be to move forward, get the oldest out, and get the ones you can rehabilitate back to their units quickly. What about the specific goals?

TANKERS

Secretary ROCHE. The specific goals, Senator, are right now we have roughly 600 tankers, 59 KC-10's and 545 KC-135's. Thank God this committee and others helped the Air Force get the KC-10's in the mid-1980's, taking some new DC-10's and converting them into tankers, because they have been the principal plane that has served the Navy and Marine Corps aircraft.

What we would like to do is to take a look at the fact that our newer aircraft, if we have the F-22's and Joint Strike Fighters, because of internal carriage, will not have to refuel as often. Therefore, we probably, when we are finished, will have a need for something less than 600 tankers, but it is certainly going to be in the 400 or 500 range, somewhere in there we think.

LEASING TANKER AIRCRAFT

We would like to try to get a replacement for the oldest. We will retire approximately 130 if we can get 100 to replace them and then study what we need and what pace to go on. But the issue is can we do this lease so that it is a business case that you and all your colleagues could say, yes, that makes great sense. That is good for the taxpayer, good for the Air Force, good all the way around. If we can do that, then we have a model to say this takes care of the worst. Now, exactly when do we have to do the next ones? And we can shift to a buy.

Senator SHELBY. How long is that going to take, Mr. Secretary, to put this together?

Secretary ROCHE. By the time you finish the whole fleet, sir, it will be 2020, 2025.

Senator SHELBY. A long time, is it not?

Secretary ROCHE. But some of those planes are going to be awfully old. That is why we have this desire to get going with this.

Senator SHELBY. But you are going to fully fund this this year.

Secretary ROCHE. Yes, sir. We have no choice.

Senator SHELBY. You have got the request and you have got the help.

Secretary ROCHE. Yes, sir.

C-5

General JUMPER. If I could just add, Senator. It is the unexpected that always causes the hiccups. I was recently down in Georgia looking at the C-5 PDM line, and there was a C-5 there where they had found a 17-inch crack in the spar. It is when that happens is when you go into these delays that take you from 180 days to more than 300 days of repair time. It is the unexpected.

KC-135 FLEET

In the KC-135 fleet, we have had flaking on the fuel tanks. We have spent almost 40,000 man-hours dealing with this flaking problem. Again, these are the unexpected things that pop up that require us to come back to you and ask for help.

Secretary ROCHE. The flaking is because we fixed leaks by coating the tanks and the coating is flaking. This is, as Secretary Rumsfeld says, keeping a 1934 Oldsmobile going. You can do it. It just costs so much money. At some point it is not wise to continue trying to keep these things going.

The 707's have catalytic corrosion problems where dissimilar metals are no longer separated as they were originally. You get a little water, you get a battery. Some of the aluminum is delaminating. These are things that take a lot of time, and when you have one-fifth of your force in major maintenance, plus the rou-

tine maintenance—and as any of the 135 people will tell you, when they fly, they take a lot of spare parts with them.

Senator SHELBY. Mr. Secretary, lastly after you go through a major maintenance plan on the KC-135, in other words, really do it right, what is the life of it then?

Secretary ROCHE. We think these planes could make it. Certain of these planes. The ones that are very good are the ones that were reserved for the Strategic Air Command for years. They had very low hours on them, and they were taken very, very good care of. They should be able to be the last ones in the KC-135 fleet and they should last us until 2025 or 2030, as long as we do this. It is the ones that have been used in TACAIR, have been used more often, that are just showing the wear and tear and the oldest ones.

But by 2020, Senator, these are all going to be real old planes. They average 41 years of age now. The E models average 43 years. Add 15 years, you are talking about 60-year-old planes. We have never flown 60-year-old planes.

Senator SHELBY. They are going to live longer than we are, are they not?

Secretary ROCHE. Longer than I will.

Senator SHELBY. Thank you. Thank you, Mr. Chairman.

Senator INOUE. Thank you.

Senator Cochran.

SPACE-BASED INFRARED SYSTEM HIGH ORBIT

Senator COCHRAN. Mr. Chairman, thank you very much.

Senator Stevens brought up the issue of the space assets in the missile defense area, SBIRS High. You mentioned some of the problems and the challenges that are faced in that area.

Under Secretary Aldridge recently certified, though, that the program is essential to national security and its cost can be controlled, so it is continuing. But my question is last week the Senate Armed Services Committee cut the funding request by \$100 million. What I am curious to know from you, Secretary Roche, is what the impact of that \$100 million cut would be on the program?

Secretary ROCHE. It is a program that does not need that kind of a problem now, sir. Anything that disrupts its schedule or causes us to have to restructure to account for that will only engender more cost increase and more schedule delay. We are hoping that we can have that not happen so that we can take the restructured program and try to provide some stability to the program as we go forward. Any disruption in any of these programs really causes havoc, and this is enough that it may cause havoc.

AIRBORNE LASER PROGRAM

Senator COCHRAN. One other program that you mentioned in your testimony was the airborne laser (ABL) program. Another example of cuts in the President's budget request are illustrated in that program. Last week the Senate Armed Services Committee cut \$135 million from the President's \$598 million request for the airborne laser. That will eliminate the design work I am told and the procurement of the second ABL aircraft. Although the Missile Defense Agency is responsible for developing this program, the Air

Force is executing it for the Missile Defense Agency and will operate it, as I understand it, after it is deployed.

So, I guess, General Jumper, I will ask you. What would be the impact of the cut that has been recommended by the Armed Services Committee if we do not do something about that?

General JUMPER. Senator, we think the airborne laser is going to be a very significant part of the theater ballistic missile defense. It has shown success in each phase of its development and testing. Of course, a cut does nothing more than stretch it out and, in the end, increase the cost. So, we are very much in support of the airborne laser and we want to see it built to its completion.

Now, within the missile defense arena, the program responsibility, they have certain prerogatives to trade off these resources, and I must admit that I do not know the reason why, the justification for this cut. But we very much support the airborne laser and its role in theater missile defense.

Secretary ROCHE. And to the best of our knowledge, this is a program that is doing well. The ground tests held earlier in the year performed well. General Kadish has told me that everything he knows about it looks good, and we think it is one of those programs that is working and should not be cut.

GLOBAL HAWK PROGRAM

Senator COCHRAN. You have already mentioned some of the unmanned vehicle programs. One that I think, General Jumper, you predicted was going to be a very important and successful program was the Global Hawk program. The pre-production aircraft have been deployed to Afghanistan. You were talking about that. I would be interested in your assessment of the Global Hawk's performance and how it has fit in with the assets that have been deployed to Afghanistan.

General JUMPER. Senator, the Global Hawk is doing very well. As you know, it is really still in developmental testing and we deployed it over there in its test phase. As you know, one of them crashed over there as a result of simply a malfunction that is part of the testing process. Having said that, though, the airplane is performing magnificently.

The Secretary and I have been alarmed at the price increases in the Global Hawk, and the costs have gone up. We have taken steps to make sure that we separate the Global Hawk air vehicle from the sensors that are in the Global Hawk and we make sure that those sensors in the Global Hawk are the subject of a proper competition to incentivize the people who do that very important sensor work to keep their costs intact.

I would say that the system is performing magnificently. I think the Global Hawk is going to serve this Nation not only as a surveillance asset, but in the future as a communications relay asset and other roles as well. I think in many ways it can substitute for a constellation of low orbiting satellites in a localized confrontation. So, I think the future of the Global Hawk is bright if we can control the costs, and that is the Secretary's challenge to the company.

Secretary ROCHE. Senator, one of the things that John and I are doing, in the unmanned vehicles, we are not treating them as just airplanes that do not have pilots riding in them. We are saying

that these are new forms of air-breathing vehicles and we ought to think about them more broadly and not just say, well, this is what we do with an airplane.

So, among other things, we have issued a challenge to the contractor and have set a budget and a time limit and said we would like to give you freedom to think of how best to employ these to do the effects we want have done. So, for instance, it may be because they have such endurance without a pilot wearing out, that if you put two of them in an air space at the same time, you can do much more than just one plus one. We are trying to make people realize that we are asking for innovative ideas, asking for innovative combinations of sensors, and not trying to treat them like a classic airplane that as it goes through its development, where from day one you seem to know everything you need to know about everything you want.

In this case, it is quite clear, by putting in programs that were not ready for prime time, we have learned. We have also learned things that we want.

PREDATOR

So, for instance, in Predator, sir, it is quite clear there is no reason to have two types of wings, one that can carry Hellfire and one that cannot. So, now all Predators built will be Predators that will have the ability to carry Hellfire should we choose to do so. We have learned about how to make use of these, and we are experimenting with various sensors on Predator.

In the case of the middle ground, there is Predator A, which is in our words a razor blade. We want to keep it very cheap and we are willing to have a computer chip die for our country.

GLOBAL HAWK

Global Hawk. The sensors were getting so expensive that the benchmark was we could reopen the U-2 line, and that does not make sense. So, the sensor costs have to come down.

In between, we have developed a concept of operations for hunter-killer, an unattended vehicle that can be programmed to hunt for specific types of targets, to alert people when it is there, go through a decision, and if the decision is to shoot, to shoot, trying to develop new concepts that exploit the technology as compared to just using the technology in the ways we used manned aircraft.

SPACE-BASED RADAR

Senator COCHRAN. One of the other new developments I was reading about in your statements is the space-based radar, which is another development program. I wonder if you could acquaint us with that. When I first came across it, I thought maybe it was a version of the SBIRS High/Low or had some relationship to those programs, but it is separate and different. Could you explain that to the committee?

Secretary ROCHE. It is and we are hoping to do this one right. The configuration and control board of the space-based radar is Pete Teets, John Jumper, and Jim Roche. We are the three and we

are holding this thing amongst us very tight so as to not allow requirements to go crazy. To try and do something like put joint surveillance and target attack radar system (Joint STARS) in space, to have the ground moving target indicator so precise that you could target would be so expensive that we think that that is foolish.

Secondly, we have oft times approached these systems, Senator, as if each system stood in the world by itself as compared to their being part of a portfolio and providing a mosaic-like picture. One of the things that we really have learned in this conflict is how to fuse intelligence, how to fuse data, and the value of having all of these devices sampling.

So, for instance, in one case there was a target that was seen by special systems, seen by Global Hawk, Predator, et cetera, but only one mode of the Global Hawk caught it. And then when we recued the others, we found a very lucrative target. The fact that it was a mosaic was important.

So, we are trying to approach space-based radar not to cure world hunger, but to be a proper member of a portfolio of systems and therefore keep its costs down, keep the requirements down, and to start it with its sensors before we turn it over to the big primes who may want to add lots of things to it.

Senator COCHRAN. Interesting. Well, I think our committee ought to be cooperative in the effort to provide the funding that we need to keep this on track and let you carry forward with your ideas on this subject.

C-17'S IN JACKSON, MISSISSIPPI

One parochial issue has come up and been brought to my attention. You know, the C-17's are being deployed around the country. We were happy that the Air National Guard in Jackson, Mississippi will be host to some of those planes.

What we are concerned about now is whether or not there will be full utilization of the aircraft in terms of flying hours and operational tempo. They do not want to be treated like second class citizens because they are not active duty Air Force, but they have been very competent with C-141's and before that with other airlift planes and have provided important supplementary services in time of need and in time of war. So, they are very proud of their accomplishments and would like to continue to be thought of as fully capable to operate those.

What I would like for you to do is let us know how you are going to transition into the new planes to be sure that we meet crew proficiency standards, that they are second to none, and that the flying hours are what are needed in order to take full advantage of those assets. Can you give us a reaction to that now?

General JUMPER. We are still working on the crew ratios and how we are going to do exactly what you say with the proper manning of the unit. The C-17 is so important we cannot have it not being fully utilized. So, we are going to have to take steps to make sure that that happens. But the crew ratios and the details are still being worked as far as I know, Senator, but we will keep you up to speed on where we are on that.

Secretary ROCHE. We thought it was unprecedented to give you, as part of our program to be as transparent as possible, all of our thinking based on 180 C-17's and the number of C-130's we see, to give all of the members a map of where everything would go so that you understood where our thinking was.

One of the things we are observing in these newer aircraft is they are far more reliable. If they are far more reliable, then the limiting factor is people, not the airplane. So, therefore, having multiple crews allows us to use the same plane more often.

OPERATION NOBLE EAGLE

And the Guard has done a magnificent job in the current conflict. After all, 80 percent of what was done in Operation Noble Eagle was done by our Air National Guard and Reservists, about 20 percent by active duty folks. And an awful lot of the mobility and an awful lot of the tanking that has occurred, bridging across the world has been done by the Guard. They have performed magnificently.

Senator COCHRAN. Thank you very much.

Senator INOUE. Thank you very much.

B-2

Mr. Secretary, about 30 years ago, we began to very seriously discuss stealth bombers, and research programs began. About 5 years after that, we came up with the B-2. When the B-2 was initially conceived, some were talking about 270 copies, and we finally settled on about 132. At that time, it was determined that the unit costs would be approximately \$200 million because we could spread the research and development (R&D) throughout all those aircraft. But with the passage of time, it came down to 70, to 40, and to 21. And a plane that was scheduled to cost \$200 million a copy now became \$2 billion a copy.

JOINT STRIKE FIGHTER

A few years ago, we decided that the Joint Strike Fighter was important to replace your F-16's. If we maintain the numbers, we can get it for a reasonable price, but now I hear rumbles that we are cutting down the numbers. The Navy may have second thoughts about the numbers they will procure. Can you tell us what the situation is? Because I do not want you to get into this B-2 syndrome because that would be terrible.

Secretary ROCHE. Yes, sir, and this committee, because of what you did in the C-17, is fully aware that that was originally 210 planes, 120 planes, 40 planes, 80 planes, 120 planes, now 180 planes. That does not do scheduling or cost any good as things bounce around like that, and we worry about this in the case of the F-22 as well.

In the case of the Joint Strike Fighter, we all went through the analysis last fall and decided that this was the right thing to do and these were the right numbers. In the case of the Air Force, we had less of an immediate demand for the Joint Strike Fighter than our sister service. Our sister service needed it more quickly. It was

clear that as part of being part of a larger Department of Defense, that we should come on board early, and we did so.

As we look at the total number of planes, the issue is not so much how many are bought 15 years from now, but how they are purchased in the short term because if the rate increase is done poorly, it throws costs off very, very quickly, say, onto us, if the Navy were to drop out. We are working closely with the Navy to try to avoid that. If we can get to rate at the right levels, then worrying about how many are sold in 2017 and 2015, we have time to worry about that because by then one would expect international purchasers, et cetera. It is how you start the program that is most critically important when you have one that is large where you are talking maybe 2,500 planes that might come down to 2,000 planes.

We worry about others, for instance, the F-15E where an insufficient number were built and they were very expensive and they were expensive to maintain because you have to have separate logistics lines for a small number of aircraft. It is one of the problems of maintaining the B-2 today because there are only 21 of them, but its uniqueness permits us to say it is a good thing to do.

So, we are very worried about the rate of production, getting up to the right rate. That includes the F-22 and we will be just as adamant when we talk about the Joint Strike Fighter and not worry about what happens out at 2015 or 2017.

Senator INOUE. Where are we now?

Secretary ROCHE. In the case of the Joint Strike Fighter, there are, as you know, discussions within the Navy to make some adjustments. In the case of the Air Force, we are still looking at the total number. It seems right but it could be smaller. But what we are certainly interested in is hundreds of them which would be to get the program started correctly, and that is where the real costs come in.

As you point out, Mr. Chairman, we buy the most expensive airplanes and we do not buy the cheap ones. The most expensive ones are the ones that have to carry the load of all of the fixed costs that go with it. In the case of the Joint Strike Fighter, if this stays on track—but it is only entering its system development and demonstration (SDD) phase now. For instance, in the engine, it will take until about 2007 for all the software associated with the engine to be incorporated in the plane. It is going through its really tough phases next, and we are hoping costs can be contained on the flyaway costs, let alone the average unit cost which is when you have to incorporate all the overhead. The average unit cost you do at the end of a program looking backwards. The flyaway costs you look at each time.

Senator INOUE. Well, I wish you the very best, sir, because we are supporting you.

Secretary ROCHE. Thank you, sir.

Senator INOUE. Senator Stevens.

Senator STEVENS. I have no further questions.

ADDITIONAL COMMITTEE QUESTIONS

Senator INOUE. Mr. Secretary, General Jumper, we thank you very much for your appearance today. But we would like to submit, if we may, prepared questions for your response.

[The following questions were not asked at the hearing, but were submitted to the Department for response subsequent to the hearing:]

QUESTIONS SUBMITTED TO HON. JAMES G. ROCHE

QUESTION SUBMITTED BY SENATOR THAD COCHRAN

SPACE-BASED RADAR

Question. Secretary Roche, in your statement, you called Space Based Radar the “ultimate high ground.” I would be interested in your view of a satellite architecture called MIRIAH-ROSAE discovered by a firm in Jackson, MS. Several professors at the University of Mississippi and University of Kansas have evaluated the technology mathematically and found it worthy of further development.

I am told that radar is highly sensitive to errors in time division, and it also depends on Doppler History, however, MIRIAH uses Very Large Arrays comprised of triads of Very Large Baseline Interferometers whose dependencies are far less sensitive. Apparently, MIRIAH has an ideal raw data format that leads to faster, cheaper, and more accurate processing, and is coherent in three dimensions.

Could you provide for the record a review of this technology for research and development potential for application to Space-Base Radar as well as Future Imagery Architecture, SBIRS-High, GPS Navigation Satellite Services, and Global Communications Satellite Services?

Answer. The Air Force has not had the opportunity to evaluate the MIRIAH-ROSAE concept. While I cannot offer an opinion on the suitability of MIRIAH-ROSAE for the programs mentioned at this time, we have contacted the company and advised them of how they may submit their proprietary information through our unsolicited proposal process. We will review the concept when the materials are received.

QUESTIONS SUBMITTED BY SENATOR KAY BAILEY HUTCHISON

F-22 RAPTOR

Question. I am aware the Department of Defense is concerned about the cost of procuring three fighter aircraft nearly simultaneously. I am also aware it has been recently reported that the Department of Defense directed you to reevaluate how many F-22's it really needs. With the newly discovered cracks in the tail sections of some F-22's, is this directive to reduce the number of planes a response to concerns about the performance of the F-22 or merely a budgetary concern? What savings will this reduction of procured F-22's actually produce? Will it create significant savings or will it merely increase the per-unit cost of each airplane?

Answer. First, there have been no cracks on the F-22. Second, let me assure you that the overall performance of the F-22 remains outstanding. And third, the Air Force welcomes the opportunity to review requirements and force structure options. Structurally, our flight tests revealed some issues we didn't wholly expect, such as vertical fin buffet. This aerodynamic phenomenon results in vibration on the vertical tail, similar to the problem experienced in both F/A-18 and F-15 development. However, it differs in that those programs could be solved without concern for preserving a stealth profile. Although this is not a safety of flight issue, we must address a solution. This is a good example of why we have a development flight test program—fin buffet is an extremely difficult phenomenon to model. I'm confident we have the fixes scoped, and we have already incorporated some structural changes to the production aircraft. This is certainly not a showstopper, but we are keeping an eye on it.

With regard to overall testing results, the F-22 is meeting or exceeding all of its key performance parameters. At its inception, the F-22 design was primarily an effort to maximize the characteristics necessary for air superiority in the 21st century threat environment. Yet we continued to explore the possibilities of the F-22's design and overwhelming capabilities. That has led to a truly different F-22 than the platform of several years ago. Now, we are developing an F-22 that is a multi-role, air dominance aircraft, capable of defeating both advanced air and ground threats. The unprecedented combination of supercruise, generationally-advanced stealth, integrated avionics, and revolutionary maneuverability defines transformational capability—and the F-22 is successfully demonstrating them all.

In terms of the up-coming program review, I welcome the opportunity that this study presents us. I wholeheartedly agree with the Secretary of Defense that it makes sense to occasionally go back to a clean sheet of paper and review our procurement plans to make sure we are still pursuing the right kinds of things in the right kinds of numbers. So we will evaluate a number of options, including F-22 variants that might play in the mix. I'm not sure what the final answer is, but that's what we are going to find out.

Finally, we won't know the full costs until we've completed the review. Moreover there are critical "costs" to capabilities inherent to any force structure decision that we must also explore. However, as a minimum, previous F-22 quantity reductions have shown that if planned total procurement falls, unit costs increase, not only for the F-22, but also for the F-35.

JOINT STRIKE FIGHTER

Question. Because of the Joint Strike Fighter relies on much of the technology and production capabilities employed on the F-22, what effect will slashing the production of F-22s have on the cost of the Joint Strike Fighter?

Answer. The Joint Strike Fighter (JSF) program has already benefited significantly from technology transfer and lessons learned during the development and flight-testing of the F-22. For example, Pratt & Whitney is using information obtained during the development and testing of the F-22 F119 engine to develop the F135 engine for JSF. At his point, we do not know how a reduction in the number of F-22s produced would impact the JSF schedule. However, any reduction is surely to have an impact on JSF costs. Overhead rates would undoubtedly rise, in turn driving development and production cost increases. In addition, there would certainly be additional costs resulting from lessons or techniques lost in the elimination of large-scale F-22 production.

It is important to note, however, that reductions to either program have serious negative impacts on military capabilities, and little or no positive relief for defense budgets. The Air Force's capabilities requirements for the 21st Century, indeed our entire, balanced force modernization plan is based on a force structure composed of both F-22s and JSF (as well as many other systems). A reduction in any one program alters overall capability of the entire joint force and would require comprehensive restructuring of our modernization plan in order to try and effectively compensate for otherwisely diminished capabilities.

DEPOT PROVISIONS

Question. As I am sure you are aware, both the House and Senate versions of the fiscal year 2003 Defense Authorization Bills contain language that would dramatically expand the statutory definition of what is considered "core" workload.

What is the Air Force's position on these provisions?

Answer. Both of these provisions will severely limit the Air Force's ability to manage logistics and acquisition capabilities and provide logistics support to the warfighter at "best value." The provisions will eliminate many current public-private partnerships, and restrict the Air Force's ability to partner with industry in the future. Restricting partnerships will significantly increase costs to the government. Partnering with industry provides for sharing of facilities, equipment and workforce skills. These provisions would require the many of the logistical support function currently provided in the private sector to be duplicated or transferred to government activities. The transition costs to bring in those logistics functions already on contract will be significant in terms of both investment dollars and readiness support to the warfighter. The provisions will also drive additional hiring in areas like system engineering, which is predominately done on contract today. Hiring additional government engineers with the right skills just adds to the current problems that the Service has hiring and retaining existing scientists and engineers.

Additionally, the Senate language will shorten the transition period to establish core logistics capabilities from four to two years. This will result in unstable logistics support due to immature technologies inherent in every program early in the process. The compressed timeframe will drive inappropriate decisions made too quickly which can prevent best value and can result in increase total life cycle costs to the warfighter. The short decision timeframe will result in the exact opposite of the stated intention to improve "planning for future workloads in the public and private logistics sectors and allow for better workload and workforce planning within the public depots." Neither the House nor the Senate version of these provisions should be adopted without DOD first conducting a thorough study.

B-1 BOMBER

Question. Last year, when you unexpectedly announced the retirement of one-third of our nation's B-1 bombers, you committed to reinvesting the savings directly into the modernization of the remaining airframes.

What is the status of the B-1 modernization program?

Answer. The B-1 modernization program is on track to improve B-1 lethality, survivability, and supportability. Specifically, Block E is currently in flight test and scheduled to start dedicated operational testing this Fall. Block E replaces the current avionics computers, upgrades the data transfer units, and converts the operational flight software from Jovial to Ada. In addition, the ability to employ the Wind Corrected Munitions Dispenser (WCMD) will be delivered concurrently with the new avionics computers in fiscal year 2003. Finally, the B-1 Joint Stand Off Weapon (JSOW) and Joint Air to Surface Standoff Missile (JASSM) capability will be delivered in fiscal year 2004. These three new capabilities significantly increase B-1 lethality.

The Defensive System Upgrade Program (DSUP) is designed to improve B-1 survivability. The program began flight test in August 2001, but testing has been slowed by ALE-55 Fiber Optic Towed Decoy (FOTD) maturity issues. The B-1 DSUP test program has conducted ten ALE-55 decoy deployments with very limited success. Recognizing the ALE-55 decoy is a program risk, the Air Force is pursuing a concurrent DSUP risk reduction effort with a Fiber Optic ALE-50 (FO-50). Because of these issues, the Air Force is currently evaluating the way ahead.

Other modernization efforts focused on improving B-1 lethality, survivability, and supportability include modernization of the B-1 automatic test equipment, procurement of additional interim data link capability, situational awareness improvements, and procurement of depot tooling. Future efforts planned for the B-1 include a fully integrated datalink capability and upgrades to the inertial, radar, and on-board diagnostics systems.

NANOTECHNOLOGY RESEARCH

Question. Is the AF considering expanding investments in nanotechnology, which has recently been described by DOD as having the greatest potential for revolutionary changes in military warfare since the invention of gunpowder? The AFRL, which is pioneering collaborative efforts with world leaders in nanoscience such as those in my own home state of Texas, is acquiring a reputation for technical leadership in this field. How is the Air Force planning to leverage this capability?

Answer. The Air Force Science and Technology (S&T) Planning Review, conducted in response to the Fiscal Year 2001 National Defense Authorization Act, identified nanotechnology as one of the most important future technologies for the Air Force. With an investment of approximately \$18 million in fiscal year 2002, the Air Force has in place a robust nanotechnology research program. As this technology matures and proves successful, we anticipate it will provide an array of new warfighting capabilities with many different applications. The current Air Force investment in nanotechnology research represents a broad scope of scientific disciplines leveraging strong collaborations between world-class leaders in diverse technical areas.

Current research focused on nanomaterials provides the enabling foundation for developing new capabilities that until now have not been achievable because of technology deficiencies. The physical properties of materials (i.e., corrosion, reactivity, fracture, adaptivity, radiation reflection/emission, etc.) stem from their molecular composition. While definitive applications have yet to be identified, it is anticipated that this technology will lead to revolutionary warfighting capabilities as the emerging technology provides the ability to design tailored material properties. Tailored structural materials could provide resistance to corrosion and thermal degradation, which would make a significant contribution towards aerospace sustainment. In addition, nanomaterials technology could be the key technology resulting in high-power devices that are compact enough to enable high-power directed energy weapons to be used on fighter aircraft. This would provide a revolutionary capability of instantaneous target defeat.

In the area of nanoenergetics, research is focused on capabilities to tailor the composition of explosives and propellants. As the delivery platforms and weapons are miniaturized, so is the available volume of energetic materials. As a result, if the desired target effects are to be achieved, the energetic output of the munition must be increased to compensate for the reduced volume. By manipulating the chemical and physical structure of the individual molecules and/or small molecular clusters, the warfighter could be provided with the capability to deliver the desired explosive effect in a much smaller package. Other potential benefits may include the ability to control the rate of explosion and reduce collateral damage.

Another key area of nanotechnology research is focused on developing the basic technology building blocks that will enable new computational capabilities. Application of this technology to quantum computers and computation methodologies could provide orders of magnitude (up to 1,000 times) of increased computing power and capacity over current high-speed computers. This new class of computer hardware and computational software could enable the warfighter to process data in volumes that would overpower today's capabilities. Of particular importance is the capability to process and fuse massive amounts of intelligence and communications data, making important battlefield information available to the warfighter in near-real-time. This capability could also support in-flight retargeting of weapon systems, which would provide substantial flexibility in changing targets as new information becomes available.

In summary, nanotechnologies could result in lower cost, lighter weight, stronger, and faster products for air and space applications. Nanotechnology research has the potential to revolutionize the way the Air Force conducts warfighting operations. The Air Force plans to continue investing in this robust Science and Technology effort and will continue to leverage this investment into superior warfighting capabilities via strong collaborations with the world's technology leaders, including those in other Services and Defense Agencies, industry, and academia.

QUESTION SUBMITTED TO GENERAL JOHN P. JUMPER

QUESTION SUBMITTED BY SENATOR THAD COCHRAN

C-17

Question. General Jumper, I understand that there is a significant funding shortfall in Manpower, Flying Hours and Equipment for the Jackson C-17 conversion in fiscal year 2003 and in the ensuing Future Years Defense Plan. Could you provide us with a budget update, detailing how you plan to transition to this new airframe, meet crew proficiency standards, and optimize the flying hours per aircraft?

Answer. The original Air Mobility Command (AMC) beddown plan for Jackson was based on the United States Air Force buying 137 C-17s. As part of this plan, Jackson would have become an Air National Guard wing with an Active Duty Associate squadron manned at a 5.0 crew ratio (2.0 Air Guard Reservist, 1.0 Traditional Reservist, 2.0 Active Duty). The United States Air Force has since increased its C-17 buy request to 180 aircraft to meet Mobility Requirements Study 2005 validated airlift requirements. To provide the optimal crew force, AMC/CC redistributed the active duty crew force from Jackson to active duty units gaining C-17 aircraft under the 180 beddown plan. On 15 April 2002, the Air Force presented a comprehensive Mobility Force Structure Plan to Congress. As part of this plan Jackson will transition from an 8 Primary Aircraft Authorized (PAA) C-141 unit with a 2.0 crew ratio to an 8 PAA C-17 unit with a 3.0 crew ratio in the fiscal year 2004 time frame. This crew ratio along with their current manpower, flying hours, and funding allows Jackson to meet crew proficiency standards and optimize the flying hours per aircraft. Within the current fiscally constrained environment, an increase in manpower or flying hours is not feasible for either AMC or the Air National Guard. As lead command, AMC will continue to work with the Air National Guard to meet future airlift Total Force requirements.

SUBCOMMITTEE RECESS

Senator INOUE. The subcommittee will now stand in recess until Tuesday, May 21 at 10 a.m., at which time we will receive testimony from the Secretary of Defense, the Honorable Donald Rumsfeld.

General JUMPER. Thank you, Mr. Chairman.

Secretary ROCHE. Thank you very much, sir, Senator Stevens, Senator Cochran.

Senator INOUE. Thank you.

[Whereupon, at 11:40 a.m., Wednesday, May 15, the subcommittee was recessed, to reconvene at 10 a.m., Tuesday, May 21.]

**DEPARTMENT OF DEFENSE APPROPRIATIONS
FOR FISCAL YEAR 2003**

TUESDAY, MAY 21, 2002

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 10:04 a.m., in room SD-192, Dirksen Senate Office Building, Hon. Daniel K. Inouye (chairman) presiding.

Present: Senators Inouye, Hollings, Dorgan, Reid, Feinstein, Kohl, Stevens, Cochran, Specter, Domenici, Bond, and Shelby.

DEPARTMENT OF DEFENSE

OFFICE OF THE SECRETARY

STATEMENT OF HON. DONALD H. RUMSFELD, SECRETARY OF DEFENSE

ACCOMPANIED BY:

GENERAL RICHARD B. MYERS, U.S. AIR FORCE, CHAIRMAN, JOINT CHIEFS OF STAFF

LAWRENCE LANZILOTTA, PRINCIPAL DEPUTY COMPTROLLER, DEPARTMENT OF DEFENSE

OPENING STATEMENT OF SENATOR DANIEL K. INOUYE

Senator INOUYE. Good morning. Today will conclude our overview hearings on the fiscal year 2003 budget request of the Department of Defense (DOD) with Secretary of Defense Donald Rumsfeld and Chairman of the Joint Chiefs General Richard Myers.

We want to thank you for making time in your very busy schedule to join us this morning. We understand how challenging your positions are at this point in our Nation's history. A little over 8 months ago, our world was shattered by the surprise attack. On September 5th, just 6 days earlier, you testified before this committee, Mr. Secretary, and in your opening remarks you said: "We are entering a world where new threats can emerge suddenly. We need to have a military that is sized and structured to meet those challenges."

Mr. Secretary, reading those words today has a chilling effect on all of us. Little did we know when you spoke how close we were to learning about these emerging threats.

Today we are interested to hear how you are responding and restructuring the military and your Department to meet these new challenges. For fiscal year 2003 you are requesting \$370.8 billion in new budget authority for your Department, not counting funding

for military construction, which is not in the jurisdiction of this subcommittee. Your request is \$48 billion more than you received in fiscal year 2002.

During our hearings this year we have heard the testimony of all of the military departments, the Guard and Reserve, and the Surgeon Generals of your budget request. As we have examined the testimony of these officials, it is clear that they are basically pleased with your budget request. The Navy might not be buying enough ships, but that is mostly because ship programs are not ready to be accelerated.

We learned even more about the shortfall of Air Force tanker and transport aircraft. At the same time, we were told that the Air Force plans to invest \$4.6 billion this year on the F-22, even though there are concerns with software delays and a potential problem with the aircraft tail. General Jones gave us an optimistic assessment of the V-22 for the marines and the Army testified it desperately needed the Crusader program, but I gather you have now decided to recommend its termination.

Mr. Secretary, many of us had the opportunity to hear General Shinseki address the Crusader program last week before the Armed Services Committee. In his testimony, the General noted the importance of the Crusader and, as you recall, he pointed out that today our Army artillery is outgunned by many potential adversaries and he believes that the Crusader was the solution to that problem.

General Shinseki's best professional military judgment was that the Army needs this system. Today, Mr. Secretary, you have the opportunity to explain why you believe we should ignore the advice of our military professionals and cancel this program. Perhaps you can enlighten us on why you believe your members of your organization know a little better than those who have spent their career studying this art of warfare.

There is one other issue, Mr. Secretary, that we still do not have an answer to. What are you going to do with the \$10 billion contingency fund you have requested in this fiscal year? We would also like to hear about your plans for the Osprey, the Comanche, and the F-22. We would like to know if these programs are likely to suffer the same fate as the Crusader.

Mr. Secretary and General Myers, we welcome you here this morning to discuss these and other issues. We recognize yours is a very demanding and almost impossible job. But you should know that this committee stands ready to help you to meet these demands and we are ready to assist you, sir. So we look forward to hearing your testimony and the responses to our committee's questions.

But before proceeding, I would like to call upon the co-chairman of this committee, Senator Stevens. Senator Stevens.

STATEMENT OF SENATOR TED STEVENS

Senator STEVENS. Thank you, Mr. Chairman.

Mr. Secretary, General Myers, I join the chairman in welcoming you to come today and appearing before us again for the second time in 2 weeks. We have discussed the supplemental and the homeland security issues and your words were very important to

us. I am hopeful we will be able to get that supplemental out of our committee this week.

The fiscal year 2003 bill has a new direction and new details for and priorities for the administration. Your objectives, pay and quality of life for our military personnel, readiness for our forces, and recapitalization of the system, are reflected in your request. In the absence of a budget resolution, we are somewhat delayed. But I see no real threat or problem in securing satisfaction of the priorities that you have outlined, Mr. Secretary.

We welcome your comments on budget cuts and the language presented in the Senate version of the defense authorization bill. We are hopeful that we will be able to consider all of these matters after the Memorial Day recess, which starts at the end of this week. We had hoped that the bill would be out before the Memorial Day recess. The absence of a budget resolution has delayed our work of necessity. We are waiting to see what the House will do with regard to deeming that we have a budget level to proceed.

The chairman mentioned you did testify and we watched your appearance on the decision to terminate the research and development of the Crusader system. As I understand it, once the program is completely terminated we must have an authorization to proceed once again if we want to oppose your action, Mr. Secretary. I have said and told the chairman that I will not seek to replace that money for the Crusader unless there is an authorization bill that the President accepts that restores it. What will happen in that process we do not know.

But I have got to tell you that I am deeply troubled by the process that brought this to us, and I am sure you recognize this. We have had a series of opportunities for the Department to make the decision that terminated that program. It was included in the President's budget. It was included in the comments that you made before our committee in September. It was included really in every appearance before us from members, the uniformed members of the Department, until the day that the decision was made to terminate the program.

That happening at the time it did I think creates a situation where those of us who have been trying to support the Department and support the request are in the position where we are facing questions now from everyone else: Are there any other areas that we are going to face termination? How many are under review now by this group that is within the Secretary's office?

I do not think it is fair to the President, the Army, or the Congress to have such a decision happen after we have had the hearings. We have gone all the way through the hearings. This is the windup hearing now. To have that decision made so late is what is really the problem as far as I am concerned.

We have had other systems cancelled both by the Congress and by administrations before and I can understand why you would be brought to make the decision. But I too will await the comments you wish to make today, Mr. Secretary. Again, I just do not think it is fair to make those decisions so late in the process, after the authorization hearings have been held and after the appropriations hearings have been held, to have us face a cancellation of a significant new initiative.

I look forward to your testimony, Mr. Secretary, and thank you very much.

Senator INOUE. Thank you, sir.

May I recognize Senator Cochran.

STATEMENT OF SENATOR THAD COCHRAN

Senator COCHRAN. Mr. Chairman, thank you. I am pleased to join you and Senator Stevens in welcoming our witnesses for this hearing today. I do not know of any other part of the Government's responsibility that is more important than defense. Hearing the presentation of the budget request for the Department of Defense is something we should take very seriously and we do.

We are pleased with the performance that you have turned in in this time of stress and threat to our country. We appreciate the devotion to duty that has been reflected in your performance and I congratulate you for it and wish you all the best and pledge to you our effort to cooperate with you and to work with you and to support you.

Thank you.

Senator INOUE. Thank you very much.

Senator STEVENS. I failed to mention one thing. Mr. Secretary, I hope you will tell us what is going to happen to the Crusader money. Is it going to stay in the Army or is it going to be allocated throughout the Department?

Senator INOUE. Thank you. Now may I recognize the Secretary. Mr. Secretary, it is yours now.

INTRODUCTION

Secretary RUMSFELD. Thank you very much, Mr. Chairman, Senator Stevens, Senator Cochran. I thank you for this opportunity to meet on the President's budget request. In addition to General Myers, I have asked the Principal Deputy Comptroller, Mr. Lanzilotta, to join us. Unfortunately, Dr. Zackheim, the Comptroller, has had a death in the family and was not able to be here.

As you, I am deeply grateful to the outstanding service of the men and women in uniform. As you, I visit the troops around the world from time to time, most recently in Manas Air Base in Kyrgyzstan and in Afghanistan, and they are certainly doing an outstanding job as they put their lives at risk for all of us. It certainly makes all of us determined to make sure that they have everything they need to do their jobs. I look forward to working with you and the committee to ensure that they are in fact the best trained, the best equipped fighting force on the face of the Earth, ready not only for the challenges we face today, but also for the challenges we face in the future, indeed increasingly deadly challenges in the 21st century.

BUDGET TOPLINE AND WAR ON TERRORISM

To that end, President Bush has requested a \$14 billion supplemental for fiscal year 2002 and a \$379 billion budget for fiscal year 2003. The 2003 budget request is \$48 billion increase over 2002. It includes \$19.4 billion for the war on terrorism, \$9.4 billion for a variety of programs related to the war plus \$10 billion which is essen-

tial to conduct the war effort and provide the minimum necessary flexibility to respond quickly to the changes in operations as the war unfolds.

Our estimate—and in direct answer to Senator Stevens' question about the \$10 billion—our estimate is that the \$10 billion should cover the war on terrorism for about the first 5 or 6 months of fiscal year 2003, the normal things—force protection, combat air patrols, strip alerts, fuel, transportation, maintenance, support services, mobility, costs for the Guard and Reserve—the normal activities of the global war on terrorism.

We had a choice. We either put nothing in for the fiscal year 2003 war on terrorism, because you cannot know precisely what the amount will be, or you make a guess that it is going to increase or stay at the current level, or you just take a number like 10 that will bridge us between the end of this year when Congress goes out of session and into October, November, December, January, February, when Congress would have a chance to see what has in fact happened in fiscal year 2003 with respect to the war on terrorism and make an orderly judgment.

So there is no mystery. It is not complicated. That is in effect what the \$10 billion is for.

The \$379 billion is a significant investment of the taxpayers' hard-earned money, but certainly nothing is more important, as Senator Cochran said, than our Nation's security. I urge that we do take up the defense budget first, not last, and that we give our forces the tools they need to do the job.

I also am hopeful that the President's fiscal year 2002 supplemental request will pass, which is essential to preserving readiness for the rest of the fiscal year and to support for the defense emergency response fund which gives us the ability to prosecute the war.

CRITICAL MISSIONS

Our country is being called on to accomplish three difficult missions at once: first, to win the global war on terrorism; second, we have to prepare for the wars we may have to fight later in this decade by making sure that a number of long-delayed investments during the so-called procurement holiday of the last decade—and making a number of those investments in procurement, people, and modernization; third, we have to be prepared for the wars in the future between 2010 and beyond, and therefore we do have to transform the armed forces so that they can deter and defend against the emerging threats of the 21st century.

Each of these missions is critical. None can be put off. We cannot delay transformation while we fight the war on terrorism.

As we painfully learned on September 11th, our adversaries are transforming. They are watching us. They are studying how we were successfully attacked, how we responded, and they are looking for ways that we may be vulnerable in the future. We stand still at our peril.

Last year the Department's senior leadership, civilian and military, began intensive discussions about where Americans' military should go in the years ahead. In 1 year the Department of Defense developed and adopted a new capabilities-based defense strategy,

we replaced the decades-old two major theater war construct for sizing our forces with an approach that is more appropriate for the 21st century, we adopted a new approach for balancing risks, one that takes into account not only operational risks, but also the risks to people, to the failure to modernize and the failure to transform.

We have announced a new unified command structure with a new Northern Command to help in defending the American homeland. And we have developed new contingency planning guidance to assure that the United States has up to date contingency and operational plans that are appropriate to our new national security environment. We did this all while fighting a global war on terrorism.

TRANSFORMATION GOALS

In the course of last year's defense reviews, we identified six key transformational goals around which we are focusing our strategy: protecting the homeland and forces overseas; projecting and sustaining power in distant theaters; denying enemy sanctuary; protect U.S. information networks from attack; use information technology to link up U.S. forces so they can fight jointly; and last, to maintain unhindered access to space and protect U.S. space capabilities from enemy attack.

The President's 2003 budget request advances each of those transformational goals by accelerating transformation programs and funding the objectives that I have just outlined.

One of the programs the Department is pursuing is a revitalized effort to test and develop ballistic missile defenses capable of defending the United States, our friends and allies, and our forward-deployed forces from limited ballistic missile attack. On September 11th terrorists took commercial jetliners and turned them into missiles, killing thousands. Let there be no doubt, it is only a matter of time before terrorist states armed with weapons of mass destruction develop the capability to deliver those weapons to U.S. cities, giving them the ability to try to hold America hostage to nuclear blackmail.

With the power and reach of weapons today, we have little margin for error and we need defenses that can deter and defend against such attacks. That is why I am concerned about the Senate Armed Services Committee's decision to cut more than \$800 million from the President's request for missile defense.

PROGRAM TERMINATIONS AND TRANSFORMATION

Terminations. As we all know, resources are finite and even with the significant increase in the budget proposal, these transformational investments cannot be made without terminating some programs and finding other savings. Although this year's requested budget increase is large, virtually all of it is spoken for by a number of must-pay bills covering the cost of inflation, \$6.7 billion; health care, retirement, and accruals, pay raises, \$14 billion; realistic costing for readiness and procurement is another \$7.4 billion; and funding for the global war on terrorism at about \$19.4 billion.

After counting the costs of keeping the Department moving on a straight line, the costs of the war, there is really not a great deal

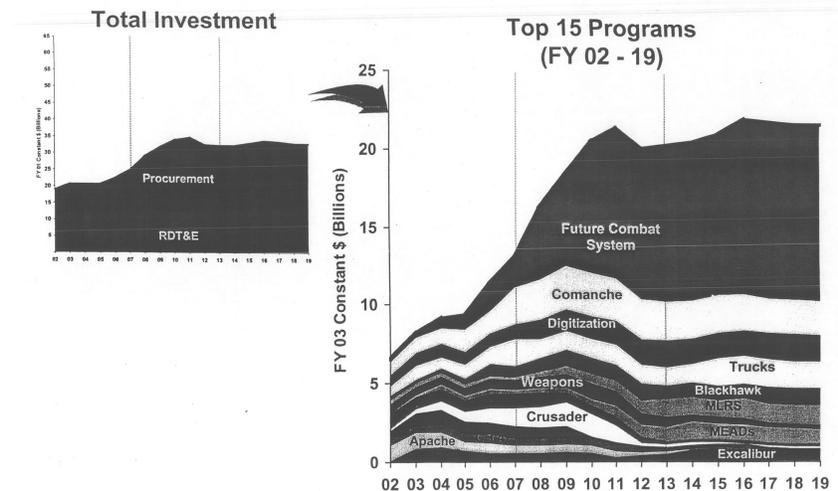
that is left. In the 2003 budget request, we have made \$9.3 billion available, in part by terminating a number of programs, such as the DD-21, the Navy Area Missile Defense, and 18 Army legacy programs. Let us face it. It would be nice to have retained them all, but choices have to be made. There is just no question about it.

As we put together the 2003 budget, a number of programs, including Crusader, required further review. After several months of examination, we decided to recommend termination of the Crusader program. The decision to recommend termination is not about killing a bad program. It is potentially a good system. It is not about a system that could not be used. It is a system that is wanted by a number of people, including the Army. But that is not the issue.

The issue is how do we balance the risks. In short, it is about forgoing a system that was originally designed in an earlier period to make room for more promising technologies that can accelerate transformation.

In February of this year, we began developing the defense planning guidance for fiscal year 2004 and the fiscal years 2004 to 2009 program. The senior civilian and military leadership had to focus on the looming problem of a sizable procurement bow wave beyond fiscal year 2007. This is shorthand for describing the cost of the procurement of systems that would be ready for fielding later in this decade. If all were funded they would crowd out all other areas of investment and thereby cause a repetition of the same heartaches and headaches that we still suffer from today as the result of the procurement holiday in the 1990's. The time to address that bow wave is now, not earlier—not later, excuse me.

Top Army Investment Programs



ARMY TRANSFORMATION AND CRUSADER

If you look at this chart, you will see what the Army looks like for 2003 to 2007. If you add 2 years at the end for 2008 and 2009, if every program we have today in the budget were funded the way it is currently programmed—Larry, why do you not give him a hand and let us get it up there. If every program that is in the budget were funded the way it is currently programmed, including Crusader, the bow wave soars.

If you look at—Larry, please point to where the line is for 2007. This year we are working now on the 2004 to 2009 budget. Show where 2009 is up at the top. That is what we are facing.

Mr. Chairman, you said that—you suggested that we were ignoring the advice of the military and the Chief of Staff of the Army. We are not ignoring his advice at all. It is understandable that he would like all of those. So would the Navy, and the Navy's looks roughly the same. So would the Marines and so would the Air Force.

There is no way that is going to happen. We all know that. That means that at some point, if you wait until 2009 to address it, it is too late. If you start earlier and address it, you can in fact have an impact on what happens to this so-called bow wave that exists out there.

We have great respect for General Shinseki and for his views and for the other service chiefs. They are doing a wonderful job. But it is their job to make proposals for systems that fall within their service and then it is somebody else's job to take all of those proposals—and they all look like this—and bring them together and rationalize them and make them more coherent.

Second, let it be said that combatant commanders—General Franks out in Central Command—they do not fight with Army systems or Navy systems or Air Force systems. What they want to do is fight with joint systems. They have to take all of the capabilities, not the ones that one service recommends but all of them, and make them rational and coherent and then be capable of putting power on a specific target in a specific way.

So the task we are faced with in the Department is, it would be wonderful if we could just simply say yes to all the services, make any recommendations you want, and resources are infinite, we do not have to worry about that, and then we can go about our business. But somebody has to make tough decisions and in my view you have to make them earlier rather than later.

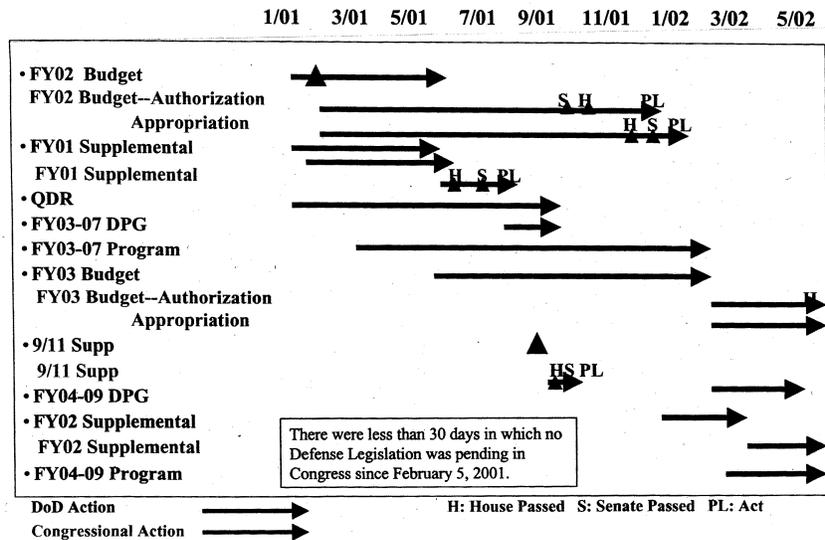
The Crusader, if fielded in the next decade, would have represented an improvement over the existing Paladin howitzer in rate of fire and in mobility. The issue is whether the United States would be better off upgrading Paladin and eliminating Crusader and accelerating the Future Combat System, which you can see is shortly behind the Crusader, not very far, and it has an artillery piece as well, and improving the munitions of all of those capabilities simultaneously, including the rocket systems. The answer we believe is yes, we are better taking the Crusader out, bringing the Future Combat System forward, upgrading the precision of the munitions.

We are convinced that that is a better way to invest the money and that was why the decision was made.

WHY TERMINATE CRUSADER NOW

Senator Stevens raised the question, why now? How could we do it right in the middle of a markup? Would you put the time line up. This is an important question because we do not—first of all, we would like never to have to make these decisions. It would be much more pleasant to be able to come down here and say everything that every Senator wants is going to happen.

DoD/CONGRESS PROCESS TIMELINES



The problem is, if you look at the black lines, those are DOD actions, and what we do is we start in the early part of the year with the defense planning guidance. We started in February. We start developing that so that we can begin building the budget starting in May and June for 2004 to 2009. We are doing that right now. The defense planning guidance has as its function making decisions.

Now, the complication is that the Congress is the red line, and we are still talking about a 2002 budget authorization and 2002 budget appropriation there. We are talking about the fiscal year 2001 supplemental in July 2001 there. Then the red to the right is the 2003 budget authorization and the 2003 budget appropriation. The reality is there is only about 3 or 4 weeks when we could make any decision that would not conflict in some way with some portion of the congressional authorization or appropriation process.

I wish it were otherwise. But our task now is to be building the 2004 to 2009 budget, and that is what we are doing downtown. We then fashion the final portion of it and send it to the Office of Management and Budget (OMB) in November. The President makes his

decisions and he sends it up to the Congress in February, and you will be working on the 2004 to 2009 budget while we are building the 2005 to 2010. We are always out of sync.

There just is no way I know of that we could make a decision and have it not land up here at an awkward moment when you are either working the appropriation or the authorization. I would dearly love to know some way, other way to do it, but I do not know.

The hardest choices really are those about balancing risks between the challenges we face in the near-term and the mid-term and those less certain, but possibly more formidable, challenges that we face in the longer term. That was certainly the choice we had to make in terminating the Crusader and recommending that to the Congress.

ALTERNATIVES TO CRUSADER

It is not, of course, an indication, in answer to your question, that the United States can do without ground forces. To the contrary, it is a decision that reflects confidence in the Army that they have set a course over the longer term that is sound and indeed needs to be accelerated.

Nor is it a decision that the future Army can manage without direct fire and rely solely on air support. Rather, it is a decision that precision in artillery and rocket fires can be as revolutionary as it has already proven in air-delivered weapons and that mobility and rapid deployability will be crucial in the future, not only in getting to the battlefield but in maneuvering over potentially vast areas.

In direct answer to your question, Senator Stevens, it is the Army's plan and the Office of the Secretary of Defense's (OSD) plan that those dollars would stay in the Army, they would effect direct fire in terms of rockets, precision guided munitions, and acceleration of the Future Combat System, which as I say has an artillery piece, as well as some upgrades to the Paladin. There are a number of the technologies attached to Crusader which clearly can be migrated both back to Paladin and forward into the Future Combat System.

In short, it was a decision about balancing risks, a decision that was made after a great deal of consideration.

As to what our needs in the coming period will be, in light of the new defense strategy and the initial insights from the war, we weighed the relative merits of the Crusader against other alternatives to meet the Army's need for organic indirect fires, both cannon and rocket. Following a great deal of discussion and evaluation, it became apparent to me that on balance alternatives to Crusader would be more consistent with both the new defense strategy and, we believe, with the Army's overall transformation effort.

A couple of statements have been made about Crusader. Some have suggested it might be helpful, for example, in Afghanistan. The idea of trying to get the Crusader into Afghanistan, a landlocked country, is I think a reach. Had that been the case that indirect fire artillery would have been an advantage, certainly the combatant commander and his land component commanders would have brought artillery to the battle. They, the experts, made a deci-

sion not to. They were the ones who made that decision, let there be no doubt.

Another assertion which has been made is that Excalibur munitions will be exorbitantly expensive, as much as \$200,000 per round. In truth, the Excalibur Program Office currently estimates that average procurement unit costs will be about \$33,000 a round and believe that refinements to the production plans could yield costs of no more than \$10,000 per round. That is still expensive, but if you think about it, if a precision round can do what 10 or 20 dumb rounds can do that is not a bad tradeoff.

Second, you can use a precision round in much closer proximity to your troops. You can use a precision round in much closer proximity to civilians, where you are worried about collateral damage, and it seems to me that if one adds in the logistics costs of moving dumb bombs, which have a much poorer rate of hit, much less lethality, the logistics costs alone I think shift the equation.

Another assertion is that the Crusader cancelling would lead to midterm operational risk because Paladin is outranged by enemy systems. U.S. forces clearly will retain an unparalleled capability to deliver fire support at long range in the mid-term. The Army's field artillery capability is provided by Paladin and MLRS, the Multiple-Launch Rocket System. Extended Range MLRS with a reach of 45 kilometers can outrange virtually all howitzers in the hands of potential enemies. Guided MLRS and Army tactical missile system (ATACMS) provide even greater range at 60 to 300 kilometers.

When post-gulf war improvements to the Army's fire support capability are considered, such as Apache Longbow, the MLRS upgrades, Paladin improved ammunition, the firepower of its divisions is overwhelming. The test I think would be to ask any of those countries that supposedly have better artillery whether they would trade the United States for our capability to put power on a target, and the short answer is there is not a country on the face of the Earth that would even think about it.

Mr. Chairman, there are always reasons to not do something. But if we do not make tough choices now, then in the long run we are not serving the interests of the Army, the armed forces, or the security of the country.

FISCAL YEAR 2003 BUDGET PRIORITIES

As we transform for the threats we face, we have to prepare the force for conflicts they may have to fight later in the decade. To deal with the backlog that resulted from the procurement holiday of the last decade, we have requested \$71.9 billion for procurement, \$68.7 billion in the procurement title, an increase of 10.6 percent over 2002, and \$3.2 billion in the defense emergency response fund.

We have requested \$150 billion for operation and maintenance accounts for 2003, including a substantial funding for the so-called readiness accounts of tank miles, steaming days, flying hours.

If we are to win the war on terror and prepare for the threats of tomorrow, we have to take proper care of the Department's greatest asset, which are the men and women in uniform. They join because they love their country and they believe that freedom is worth defending. But at the same time, we have to recognize that

they have families to support and children to educate. We already ask them to voluntarily risk their lives. They should not be asked to live in substandard housing while they do so.

That is why the President's 2003 budget requests \$94 billion for military pay and allowances, including a \$1.9 billion across the board 4.1 percent pay raise, plus \$300 million for targeted pay in the mid-non commission officer (NCO) grades and mid-officer grades; \$4.2 billion to improve military housing, putting the Department on track to eliminate most substandard housing by 2007; funds to lower out of pocket housing costs for those living off base from 11.3 percent to 7.5 percent, putting us on track to eliminate the out of pocket housing cost for men and women in uniform by 2005; \$10 billion for education, training, and recruiting; and a breathtaking \$22.8 billion to cover realistic estimates of the cost of military health care.

The hard truth is that that line item promises to grow and put pressure on all other categories of the budget, research and development (R&D), modernization, transformation, pay, and the like, and we need to face up to that.

Some have argued that the military departments need relief from end strength caps because of the many demands that have been placed on our forces. There is no question but a lot of demands are being made, but before entertaining such relaxation I have asked the services to scrutinize the missions and assignments from which we can extract our uniformed forces to relieve some of the pressures. While the numbers are not always large, one area that we must look to immediately are those missions to which our forces are assigned, but in which there may be some exposure, for example, to prosecution to the International Criminal Court. As you know, we are working closely with the Department of State to ensure that our forces would be protected from prosecution before committing U.S. forces overseas.

BUDGET TRADEOFFS

After the cost of keeping the Department moving on a straight line, the cost of the war, and the savings generated, we are left with about \$9.8 billion. That requires some tradeoffs. We are not able to meet our objective of lowering the average age of the tactical aircraft. However, we do invest in unmanned aircraft and in the F-22 and Joint Strike Fighter, which require significant upfront investments now, but will be coming on line in the years immediately ahead.

While the budget funds faster growth in science and technology (S&T), we were not able to meet our goals of 3 percent for the overall budget, though we are slightly higher than the 2002 President's request.

Clearly, we were not able to fund the shipbuilding in fiscal year 2003 at a rate that we clearly will need in the future. As with every department, the Navy had to make some tough choices and they did. The 2003 shipbuilding budget is \$8.6 billion. It procures a low of five ships for several reasons.

First, there are a number of problems, including contractor problems and also past shipbuilding cost estimates that were way too

low and they were not in the forward year budget and we needed to fully fund them.

Second, the Navy made a calculation that in the short term it can maintain the desired force level at the proposed procurement rate because of the relatively young average age of the fleet. The Navy's forward year defense plan does budget for 7 ships in 2005, 7 in 2006, and 10 in 2007.

Mr. Chairman, \$379 billion is a great deal of money, but if we consider the estimated cost of September 11th attacks to the national economy, they range from about \$170 billion to almost \$250 billion in lost productivity, sales, jobs, revenues, not to mention the terrible cost in human lives and human suffering. We, as you know well, cannot put a price on defending our country. We have to deter and defend from those who may wish to attack and kill our people.

The President's budget amounts to about 3.3 percent of our gross national product. Compared to the cost in lives and treasure if we underinvest, it is a needed and proper investment in our national security.

PREPARED STATEMENT

I believe I have touched on most of the questions that you asked, Mr. Chairman, and that were asked by Senator Stevens. If not, I would be happy to touch on them in response to other questions. Thank you.

[The statement follows:]

PREPARED STATEMENT OF DONALD H. RUMSFELD

INTRODUCTION

Mr. Chairman, Members of the Committee. Thank you for the opportunity to meet with you on the President's Budget request. As each of you, I am gratified by the outstanding service of the men and women in uniform. Recently I visited with United States and coalition forces stationed in Afghanistan and at Manas Airbase in Kyrgyzstan. They are heroes, each and every one.

Many are active duty, others are guard or reserves—dedicated men and women who have put their regular lives on hold to answer their country's call.

And visiting with them—as I know many of you have in recent months—makes us all resolve to make sure they have everything they need to defend freedom. I look forward to working with you to ensure that they are the best trained, best equipped fighting force on the face of the earth—ready not only for the challenges we face today in the war on terror, but for the different, and equally deadly challenges we will face as the 21st century unfolds.

To that end, President Bush has requested a \$14 billion supplemental for DOD in fiscal year 2002, and \$379 billion for fiscal year 2003. The fiscal year 2003 request is a \$48 billion increase from the 2002 budget. It includes \$19.4 billion for the war on terrorism—\$9.4 billion for a variety of programs related to the war, plus a \$10 billion fund, which is essential to conducting the war effort and provides the minimum necessary flexibility to respond quickly to changes in operations as the war unfolds.

The 2003 request is a large increase. But in constant 2002 dollars, the proposed 2003 defense budget is lower than the defense budgets during the Korean War, the Vietnam War and the Reagan Administration's Cold War defense build up.

Nonetheless, \$379 billion is a significant investment of the taxpayer's hard earned money. And, Mr. Chairman, we need every nickel—and we need it as soon as possible. Nothing is more important than our nation's security—on that, we all agree. I urge that Congress take up the defense budget first, not last—to give our forces the tools they need to do the job.

I also urge you to pass the President's fiscal year 2002 supplemental appropriations request, which is essential to preserving readiness for the rest of this fiscal year—and to support the Defense Emergency Response Fund, which give the Department the flexibility we need to prosecute to this war.

I realize that some of your colleagues have questions about the \$10 billion war reserve the President requested. Examples of where the money would likely be needed include:

- Incremental costs for continued operations in Operation Enduring Freedom—fuel, transportation, supplies, maintenance, repair parts, communications, temporary duty travel, support services, and more;
- Mobilization costs—pay of the National Guard and Reserve members who have been mobilized and are providing major essential support to the war on terrorism, or are backfilling active personnel deployed in support of the war. Areas of likely support include security and force protection, infantry, special operations, transportation, chemical and biological, intelligence, civil affairs, communications, strategic and tactical airlift, air refueling operations, and aero-medical staging capabilities.

These two funding categories would consume most of the \$10 billion, but we cannot yet project our exact requirements. We intend to come back to Congress when we have finalized our requirements for this \$10 billion reserve.

The men and women of this Department are today being called on to accomplish three difficult missions at once:

- First, we must win today's global war on terrorism;
- Second, we must prepare for the wars we may have to fight later in this decade—by making a number of long-delayed investments in procurement, people and modernization;
- And third, we must prepare for the wars we may have to fight in 2010 and beyond—by transforming the Armed Forces so that they can deter and defend against the emerging threats of the 21st Century.

Each of these missions is critical. None can be put off. We cannot delay transformation while we fight the war on terrorism. As we painfully learned on September 11th, our adversaries are transforming. They are watching us, studying how we were successfully attacked, how we are responding, looking for ways we may be vulnerable in the future. We stand still at our peril.

NEW DEFENSE STRATEGY

Last year, the Department's senior leaders—civilian and military—began intensive discussions about where America's military should go in the years ahead. And in just one year—2001—the Department of Defense:

- Developed and adopted a new capabilities based defense strategy;
- Replaced the decade-old two Major Theater War construct for sizing our forces, with a new approach more appropriate for the 21st Century;
- Adopted a new approach for balancing risks—one that takes into account not only operational risks, but also the risks to people, modernization and transformation;
- Reorganized and revitalized the missile defense research and testing program, free of the constraints of the ABM Treaty;
- Reorganized the Department to better focus on space capabilities;
- Through the Nuclear Posture Review, adopted a new approach to strategic deterrence that increases our security while reducing our strategic nuclear weapons;
- Announced a new Unified Command Structure, with a new Northern Command to help in defending the American homeland; and
- Developed new contingency planning guidance to assure that the United States has up to date contingency and operational plans that are appropriate to our new national security environment.

And we did all this while fighting a worldwide war on terrorism—not bad for a Defense establishment that is supposedly so resistant to change.

In the course of last year's defense reviews, we identified six key transformational goals around which we are focusing our new defense strategy: to protect the U.S. homeland and forces overseas; to project and sustain power in distant theaters; to deny enemies sanctuary—so they know no corner of the world is remote enough to protect them from our reach; to protect U.S. information networks from attack; to use information technology to link up U.S. forces so they can fight jointly; and last, to maintain unhindered access to space—and protect U.S. space capabilities from enemy attack.

The President's 2003 budget request advances each of these transformational goals—accelerating transformational programs and funding the objectives outlined in our new defense strategy.

Specifically, the President's fiscal year 2003 budget provides for:

Protecting Bases of Operation / Homeland Defense.—\$8 billion for programs to support defense of the U.S. homeland—\$45.8 billion over the five year Future Years Defense Program (2003–07)—an increase of 47 percent.

Denying Enemies Sanctuary.—\$3.2 billion for programs for this purpose—\$16.9 billion over the next five years—an increase of 157 percent.

Projecting Power in Denied Areas.—\$7.4 billion for programs to help ensure the ability to project power across long distances—\$53 billion over the next five years—an increase of 21 percent.

Leveraging Information Technology.—\$2.5 billion for programs to help leverage advances in information technology to connect U.S. forces in the air, at sea and on the ground—\$18.6 billion over the five year FYDP (2003–07)—an increase of 125 percent.

Conducting Effective Information Operations.—\$174 million for programs to help us protect our information networks and to attack those of adversaries—\$773 million over the five year FYDP (2003–07)—an increase of 28 percent.

Strengthening Space Operations.—\$200 million to strengthen space capabilities—\$1.5 billion over the five year FYDP (2003–07)—an increase of 145 percent.

While new technologies represent only a portion of the Department's overall transformation program, transformational investments account for 17 percent, about \$21 billion, of all procurement and RDT&E in 2003, rising to 22 percent by 2007. Over the next five years, we propose to invest more than \$136 billion in transformational technologies and systems. Of this, \$76 billion represents new investments to accelerate or start new transformation programs.

We have applied a strict definition to programs included in these totals as transformational, counting only systems that offer the warfighter a distinctly new kind of capability. Many activities that enable transformation, or extend current capabilities, are not included in these figures. For example, the \$1.7 billion in this budget for funding for the Joint Direct Attack Munitions (JDAMs) and other precision-guided munitions is not counted as transformational. The total investment in additional systems that support transformation approaches \$25 billion in the fiscal year 2003 budget and \$144 billion over the five year FYDP.

MISSILE DEFENSE

One of the programs the department is pursuing a revitalized effort to test and develop ballistic missile defenses capable of defending the United States, friends and allies, and our forward deployed forces from limited ballistic missile attack. Mr. Chairman, on September 11th, terrorists took commercial jetliners, and turned them into missiles, killing thousands. It is only a matter of time before terrorist states armed with weapons of mass destruction develop the capability to deliver those weapons to U.S. cities—giving them the ability to try to hold America hostage to nuclear blackmail. With the power and reach of weapons today, we have no margin of error—we need defenses that can deter and defend against such attacks.

Missile defense is part of our new defense strategy, and a key element of the New Triad of capabilities we intend to pursue—an approach that combines reduced offensive nuclear forces, advanced conventional offensive capabilities, and a range of new defensive capabilities. Missile defense is critical to our strategy of reducing America's reliance on strategic nuclear weapons—and one of the reasons why President Bush was able to make the decision to make historic reductions in U.S. operationally deployed nuclear warheads.

Mr. Chairman, that is why I am concerned about the step by the Senate Armed Services Committee to cut more than \$800 million from the President's request for missile defense. These cuts put at risk our ability to develop and deploy effective missile defenses. Missile defense funding represents only 2.1 percent of the overall defense budget. We need all of the President's request. I urge you to restore these cuts and fully fund the President's missile defense budget request.

TERMINATIONS

As we all know, resources are finite—and even with this significant increase, these transformational investments cannot be made without terminating some programs and finding other savings.

Although this year's requested budget increase is the largest in a generation, virtually all of it is spoken for by a number of "must pay" bills—covering the cost of inflation (\$6.7 billion), healthcare/retirement accruals and pay raises (\$14.1 billion), realistic costing for readiness and procurement (\$7.4 billion) and funding for the global war on terrorism (\$19.4 billion). After counting the costs of keeping the Department moving on a straight-line, the costs of the war, there is not much left.

In the 2003 budget request, we have made \$9.3 billion available, in part by terminating a number of programs, such as the DD-21, Navy Area Missile Defense, 18 Army Legacy programs, and the Peacekeeper Missile. We also accelerated retirement of a number of aging, and expensive to maintain capabilities, such as the F-14 and 1,000 Vietnam-era helicopters. It would have been nice to keep them all. But choices have to be made.

As we put together the 2003 budget before you, a number of programs—including Crusader—required further review. After several months of careful examination, we decided to recommend termination of the Crusader program. Last Thursday, I testified before the Senate Armed Services Committee on the Crusader decision. I ask that portions of my testimony from that hearing be made a part of the Record today, but allow me to briefly summarize a few key points.

The decision to recommend termination of the Crusader program is not about killing a bad system. It is potentially a good system. It is not about a system that could not be used. It could. And it is a system that is wanted by many. But that is not the issue. The issue is how do we balance the risks. In short, it is about foregoing a system originally designed in an earlier period, to make room for more promising technologies that can accelerate transformation.

In February of this year, we began developing the Defense Planning Guidance for the fiscal year 2004 budget and the fiscal years 2004–2009 program. The senior civilian and military leadership team had to focus on the looming problem of a sizable procurement “bow wave” beyond fiscal year 2007—shorthand for describing the cost of the procurement of systems that would be ready for fielding late in this decade. If all were funded, they would crowd out other areas of investment and thereby cause a repetition of the same headaches we still suffer from today as a result of the procurement holiday in the 1990s. The time to address that “bow wave” is now—earlier, not later.

If you’ll look at the chart of the Army fiscal year 2003–07 budget, and then add two years at the end. If every program we have today continues to be funded the way it’s currently programmed, including the Crusader, the bow wave soars. The time to deal with that bow wave is not in two, three or four years, because by then the investments will have been made and lost. The only way to deal with it is to make tough choices now on major defense acquisition programs, like Crusader.

The issue is not, in my view, whether Crusader is a fine artillery piece. It is. If fielded early in the next decade, Crusader would have represented an improvement over the existing Paladin howitzer in rate of fire and speed of maneuver. The issue is whether the United States, during the period we see up on the chart, is better off upgrading the Paladin, eliminating Crusader, accelerating the future combat system and improving the munitions of all of those capabilities, including the rocket systems? And the answer is, I think we would be better off.

We are convinced it is better to invest that money in capabilities such as increased accuracy, more-rapid deployability, and the ability to network fires—that will make Army indirect fire systems effective and relevant on the battlefields of the 21st century.

The debate over Crusader is about whether to spend roughly \$9 billion more to procure some 480 Crusader howitzers or, instead, to use those funds to accelerate a variety of precision munitions—including GPS-guided rounds for all U.S. 155 mm cannons, as well as adding GPS guidance and accuracy to upgraded Multiple Launch Rocket System vehicles and the more mobile, wheeled versions of this system, the High Mobility Artillery Rocket System (HIMARS).

Transforming to give our country the capabilities that revolutionary changes in technology offer and to enable us to fight and win the nation’s wars in the 21st century as effectively as we did in the last century, requires hard choices and tough decisions. The hardest choices are those about balancing risks between the challenges we face in the near and mid-term and those less certain, but possibly more formidable, challenges that we will face in the longer term. That was the choice we have made in recommending terminating Crusader and shifting the funding into programs that are more appropriate to the future.

It is not, of course, an indication that the United States can do without ground forces. That is nonsense. To the contrary, it is a decision that reflects confidence that the Army has set a course over the longer term that is sound and, indeed, needs to be accelerated. Nor is it a decision that the future Army can manage without indirect fires and rely solely on air support. Rather, it is a decision that precision in artillery and rocket fires can be as revolutionary as it has already proven in air-delivered weapons, and that mobility and rapid deployability will be crucial in the future, not only in getting to the battlefield, but in maneuvering over potentially vast battle areas.

In short, it was a decision about balancing risks, a decision that was made after consideration of those risks and the capabilities this nation will require in the coming decades.

The Quadrennial Defense Review emphasized the need for U.S. forces to demonstrate an ability to swiftly and surely defeat adversaries in distant theaters, and by doing so, deter them. In particular, the strategy confirmed the need for ground forces that are lighter, more lethal, and more readily deployable than today's force. Throughout the conflict in Afghanistan, we have seen the remarkable synergy between ground, air and naval forces. If nothing else, Operation Enduring Freedom has demonstrated some of the advantages that can be achieved with joint, integrated approaches to warfare. Not only is the safety and effectiveness of our troops improved, the result is the rapid and precise destruction of enemy forces. We know that ground operations will continue to be a critical dimension of warfare, and that accurate indirect fires will continue to play an important role in deterring and defeating a range of potential adversaries.

In light of the new defense strategy and initial insights from the war, DOD senior leadership weighed the relative merits of Crusader against other alternatives to meet the Army's need for organic indirect fires—both cannon and rocket. Following extensive discussion and evaluation, it became apparent that, on balance, alternatives to Crusader would be more consistent with both the new defense strategy and, we believe, with the Army's overall transformation effort.

Mr. Chairman, I would like to address many of the assertions that have been made in the Crusader debate.

For example, the assertion has been made that Paladin had trouble keeping up with Abrams tanks during Desert Storm. During Desert Storm, the Army followed well-rehearsed tactics to ensure that heavy divisions operated as a team. Those tactics are what accounted for the fact that many of the divisions' key vehicles—including Paladin howitzers—did not have top speeds to match those of tanks or infantry fighting vehicles. While tanks are designed with fast top-speeds, they are not employed at those speeds over long periods. For example, the VII Corps moved about 400 miles in 96 hours, or about 4 miles per hour on average.

Others have suggested that Crusader would have been of help to us in Afghanistan. The idea of trying to get a bunch of Crusaders in place to participate in the Anaconda battle, quite frankly, boggles the mind.

Another assertion which has been made is that Excalibur will be exorbitantly expensive—as much as \$200,000 per round. In truth, the Army's Excalibur program office currently estimates the average procurement unit cost will be \$33,000. OSD (AT&L) believes that refinements to the Army's production plans could yield unit costs of no more than \$10,000 per round.

Another assertion is that precision rounds are not useful in the absence of precise target locations. In fact, precision munitions will provide the capability to direct suppressive fire much closer to friendly troops than is now possible with unguided rounds. Accelerating precision rounds does not preclude artillery units from using a mix of guided and unguided munitions.

Another assertion is that canceling Crusader creates too much midterm operational risk because Paladin is outranged by many enemy systems. U.S. forces will retain an unparalleled capability to deliver fire support at long range in the midterm. The Army's field artillery capability is provided by Paladin and MLRS. Extended-Range MLRS—with a reach of 45 km—can outrange virtually all howitzers in the hands of potential enemies. Guided MLRS and ATACMS provide even greater range—60 km and 300 km, respectively. When post-Gulf War improvements to the Army's fire support capability are considered (Apache Longbow, MLRS upgrades, Paladin, improved ammunition), the firepower of its divisions has doubled.

Mr. Chairman, the point is this: If we can't cancel this system, and we can't do it now, what systems can we cancel and when can we cancel them? There is always a reason not to do something. But if we do not make tough choices now, then in the long run we are not serving the interests of the Army, the U.S. armed forces, and the security interests of the country.

MODERNIZATION, PROCUREMENT AND READINESS

As we transform for the threats we face, we must also prepare the force for conflicts they may have to fight later in this decade, by improving readiness, increasing procurement and selective modernization.

To deal with the backlog that resulted from the "procurement holiday" of the last decade, we have requested \$71.9 billion for procurement—\$68.7 billion in the Procurement title (an increase of 10.6 percent over fiscal year 2002) and \$3.2 billion in the Defense Emergency Response Fund. Procurement is projected to grow stead-

ily over the five year FYDP to more than \$98 billion in fiscal year 2007, and will increasingly fund transformation programs over time.

We have requested \$150 billion for operation and maintenance (O&M) accounts in 2003, including substantial funding for the so-called “readiness accounts”—tank miles, steaming days and flying hours for the Army, Navy, Air Force and Marines.

PEOPLE

If we are to win today’s war on terror, and prepare for the threats of tomorrow, we must take proper care of the Department’s greatest asset: the men and women in uniform. They joined because they love their country—and believe that freedom is worth defending. But at the same time, we must recognize that, like all of us, they have families to support and children to educate.

We already ask them to voluntarily risk their lives for us—they should not be asked to live in substandard housing while they do so.

That is why the President’s 2003 proposed budget requests:

- \$94.3 billion for military pay and allowances, including \$1.9 billion for an across-the-board 4.1 percent pay raise and \$300 million for targeted pay raises for mid-grade NCOs and officers;
- \$4.2 billion to improve military housing, putting the Department on track to eliminate most substandard housing by 2007;
- Funds to lower out-of-pocket housing costs for those living off-base from 11.3 percent today to 7.5 percent in 2003—putting us on track to eliminate out of pocket housing costs for the men and women in uniform by 2005;
- \$10 billion for education, training, and recruiting; and
- A breathtaking \$22.8 billion to cover realistic estimates of the cost of military healthcare. The hard truth is that this line item promises to grow and put pressure on all other categories of the budget—R&D, modernization, transformation, pay and the like. We need to face up to it.

INTERNATIONAL CRIMINAL COURT

We must also protect our men and women in uniform from the jurisdiction of the new International Criminal Court, which is expected to come into being this July 1st.

The ICC’s entry into force this summer means that Americans may soon be exposed to the risk of prosecution by a court that is unaccountable to the American people, and that has no obligation to respect the Constitutional rights of our citizens.

The United States has a number of serious objections to the ICC—among them, the lack of adequate checks and balances on powers of the ICC prosecutor and judges; the dilution of the U.N. Security Council’s authority over international criminal prosecutions; and the lack of any effective mechanism to prevent politicized prosecutions of American service members and officials.

These flaws would be of concern at any time, but they are particularly troubling in the midst of a difficult, dangerous war on terrorism. There is the risk that the ICC could attempt to assert jurisdiction over U.S. service personnel, as well as civilians, involved in counter-terrorist and other military operations—something we cannot allow.

Unfortunately, the ICC will not respect the U.S. decision to stay out of the treaty. To the contrary, the ICC will claim the authority to detain and try American citizens—U.S. soldiers, sailors, airmen and marines, as well as current and future officials—even though the United States has not given its consent to be bound by the treaty. The United States understandably finds that troubling and unacceptable.

In fact, some have argued that the military departments need relief from end-strength caps because of the many demands we have placed on our forces. Before entertaining such a relaxation, I have asked the services to scrutinize those missions and assignments from which we can extract our forces and relieve some of the pressure. While the numbers are not large, one area that we must look to immediately are those missions for which our forces are assigned but in which there may be some exposure to prosecution by the International Criminal Court. As we consider U.N. peacekeeping mandates—for example, the mission in East Timor—I intend to work closely with the Secretary of State to ensure that our forces would be indemnified from prosecution before committing them.

To deal with the threat posed by the ICC, some have proposed legislation, including the American Servicemembers Protection Act, as passed by the House of Representatives. Such legislation will provide needed protections for our men and women in uniform, as they conduct the global war on terrorism and voluntarily risk their lives to defend our freedom and way of life.

TRADEOFFS

After the costs of keeping the Department moving on a straight-line, the costs of the war, and the savings generated, we are left with about \$9.8 billion. That's a lot of money. But it required us to make a number of difficult tradeoffs.

—We were not able to meet our objective of lowering the average age of tactical aircraft. However, we are investing in unmanned aircraft, and in the F-22 and JSF, which require significant upfront investments, and should be coming on line in the years ahead.

—While the budget funds faster growth in Science and Technology (S&T), we were not able to meet our goal of 3 percent of the overall budget, though we are slightly higher than the President's 2002 request.

—And clearly we were not able to fund shipbuilding in fiscal year 2003, at a rate we need to in the future. As with every department, the Navy had to make tough choices.

The fiscal year 2003 shipbuilding budget is \$8.6 billion, and procures a low 5 ships, for several reasons. First, there are a number of problems, including contractor problems and also past shipbuilding cost estimates that were off and not in the forward year budget and which we need to fully fund.

Second, the Navy made a calculation that, in the short term, it can maintain the desired force level at the proposed procurement rate because of the relatively young average age of the fleet—and that it is more important now to deal with significant needs that had been under-funded in recent years, such as shortfalls in munitions, spare parts, and steaming hours for the men and women at sea, which are fully funded in this budget. Further, we are investing in SSGN conversion, which does not count in ship numbers because, while they give us new capabilities, they do not technically buy new ships.

The Navy's Future Years Defense Program budgets for 7 ships in 2005, 7 ships in 2006 and 10 ships in 2007.

CONCLUSION

\$379 billion is a lot of money. But consider: the estimated cost of the September 11th attacks to the national economy ranges from about \$170 billion to almost \$250 billion in lost productivity, sales, jobs, and airline revenue, media and advertising, and costlier insurance for homes and businesses, not to mention the terrible cost in human lives and human suffering.

The point is this: we cannot put a price on our ability defend this country, and deter those who might wish to attack and kill our people. The President's proposed defense budget amounts to a modest 3.3 percent of our country's Gross Domestic Product. Compared to the cost in lives and treasure if we under invest, it is a needed and proper investment in our national security.

Thank you.

Senator INOUE. Thank you very much, Mr. Secretary.

Now may I recognize General Myers.

General MYERS. Chairman Inouye and Senator Stevens and distinguished members of the committee: It is indeed an honor to report on the state of our Nation's armed forces. While the open wounds created by the events of September 11th have begun to heal, nothing will erase the horror of that day from our memories. We remain a Nation at war and our troops are still faced with grave danger.

The al Qaeda network has been severely damaged and they know they are going to pay a price if they directly challenge our forces. But just as a wounded animal is the most dangerous of all, al Qaeda remains a real threat. Without a doubt, they still seek to harm our men and women in uniform, our citizens, and our way of live.

FUTURE OF OUR ARMED FORCES

Around the world we face other dangers, challenges, and obligations. This demanding world forms the strategic context for the future of our armed forces. To serve our Nation effectively, we must

win the war on terrorism, continue to improve our joint warfighting skills, and transform our forces. We are making steady progress in all three areas, but there is still much to do.

As we all know, the war on terrorism is being conducted using many different means, from military operations to diplomacy to law enforcement. On the military front, our operations are intended to achieve three objectives: first, to disrupt and destroy global terrorist organizations; second, to eliminate safe havens for terrorists; and third, to ensure that weapons of mass destruction do not fall into the hands of terrorist groups.

The successes we have achieved so far are founded on three factors. The first is the superb training of our armed forces. Our troops were ready from day one and they performed magnificently, whether flying the longest duration combat missions on record, or fighting from cave to cave in the bitter cold and high altitude of the Afghan mountains, or creating logistics bases from scratch, or launching strike missions from the pitching deck of an aircraft carrier in the black of night.

The second has been the invaluable contributions of our coalition partners, including the anti-Taliban Afghan forces. At last count there were over 80 countries working together and that number alone should send a clear message to terrorist organizations that they can run, but they cannot hide forever.

The third is the unprecedented coordination of effort by U.S. governmental agencies. We have individuals from several agencies deployed with our troops on the front lines. We have inter-agency coordination groups assigned at various military headquarters and we have military liaison officers attached to civilian organizations. Most importantly, we all understand the critical need to share intelligence information and integrate our planning processes so that our collective efforts form a whole far greater than the sum of its parts.

I know you are aware that we have extended our operations beyond Afghanistan. Most notably, we have begun to train and assist the military forces in the Philippines, in Yemen, and in the Republic of Georgia in their counterterrorism efforts. I recently returned from a trip to the Pacific, where I visited our troops on Baselon Island. In addition to the training and assistance the Special Forces are providing, the Seabees and Marine engineers are building the first road on that island.

Now, this is really tough work. It is every stereotype you have ever seen about the tropics. It is hot, it is humid, dense jungle, dust, mud, bugs, you name it. But we have got tough people there. The construction troops and Special Forces trainers are not only doing tough work, they are doing vitally important work.

In the Philippines, the Abu Sayyaf group is ruthless. With ties to al Qaeda, they are a threat that extends beyond the Philippines. We will continue to work closely with the Philippine Government to help eradicate this particular threat.

The cooperative effort in the Pacific goes beyond the Philippines. On the same trip, I also met officials from Japan and South Korea. It was gratifying to hear first-hand the steadfast commitment of our allies to achieving victory in this war on terrorism.

As the months have progressed since September 11th, we have started to transition from interim actions to more permanent arrangements. For example, to ensure we have the best capabilities available for the homeland defense mission, the President recently signed a revised unified command plan to establish a U.S. Northern Command. This revision provides several improvements. First, it helps eliminate the gaps and seams among the different military organizations that have homeland defense responsibilities; and it allows for better military support of civilian agencies. It also improves our ability to anticipate and to plan, rather than to merely react to events.

Second, I think it helps advance our transformation efforts by allowing the commander of the Joint Forces Command to concentrate on joint exercises and experimentation.

But we cannot focus solely on today's counterterrorism operations. We must also support other worldwide commitments, such as Operations Northern and Southern Watch, the Balkans peace-keeping mission, and the defense of the Korean Peninsula. We must face other challenges of the 21st century. With the help of Congress, we have come a long way in recent years toward improving our joint warfighting capabilities. We are working hard to get even better and certainly the operations in Afghanistan are proof of our progress. But much more work needs to be done.

C⁴ISR

In my view, the area with the greatest potential payoff is command, control, communications, computers, intelligence, surveillance, and reconnaissance, or C⁴ISR for short. Currently our commanders have vastly different C⁴ISR suites. For example, the Combined Air Operations Center at Prince Sultan Air Base in Saudi Arabia is essentially state of the art. But if you had visited the commander for the Operation Anaconda in Afghanistan just before the operation, General Hagenbeck, you would see a different variety of equipment, from paper maps and grease pencils to a few laptop computers. If you go aboard a Navy warship, you would see another command and control suite that is very different from the previous two.

What we need is a common suite that links everything together and allows commanders to pick and choose what elements they need to prosecute their mission, not only among U.S. forces but with our coalition partners as well. To that end, we are developing a standardized command and control architecture called a Standing Joint Force Headquarters that will lead to an improved ability to receive and deploy forces, what I call "plug and play."

This summer Joint Forces Command will test this concept in the Millennium Challenge joint exercise, an experiment. These types of improvements will also help us continue to transform our armed forces. Transformation is not defined by a policy or choice. It is an inexorable process of change. To me, it is simply fostering changes that result in a dramatic improvement in the way a combatant commander wages war, and such dramatic improvement requires not only technological change, but also and perhaps most importantly changes in how we think.

True transformation must include training and education, doctrine and organizations. As we transform our forces, we need to build capabilities that allow us to defend our interests in a wide array of situations. The key to that in my view are flexibility and adaptability. Our people must be expert at many tasks and our equipment must be applicable to many missions.

Another key to transformation is recognizing that sudden technological breakthroughs are few and far between. More often than not, transformation results from an accumulation of incremental improvements and arises from the course of service modernization efforts. Let me give you an example.

When I was flying in Vietnam we often targeted bridges and anti-aircraft sites and we had to wait for the right weather and fly a lot of sorties to destroy each single target. In the course of that we lost a lot of crews and a lot of planes, all because our weapons were not very accurate. Think about where we are today. We have got weapons relatively impervious to weather conditions, that steer themselves using the global positioning system satellite signals, and now we can use one sortie to destroy several targets.

How did we get to today's capabilities from Vietnam? Incremental improvements along multiple paths. We improved the targeting and guidance capabilities of our bombs, even figuring out how to use a global positioning system which we originally thought was going to be just an aid to navigation to guide them. On another path, we developed unarmed aerial vehicles that could loiter for hours over the battlefield, improving our ability to identify and locate potential targets. On still another path, we worked on data transformation and computer processors so we could see the reconnaissance pictures in real time.

All these separate improvements added up to the transformation of capabilities that we are seeing in the battlefield in Afghanistan. This transformation has been built on successive improvements over a period of 30 years, not necessarily on any single breakthrough. That is why service modernization programs are so important to the process of transformation.

Members of the committee, I am pleased to say that the U.S. military remains the preeminent military force in the world. This excellence is due in no small part to your unwavering support for our troops. We have made tremendous strides in recent years in providing our people a comprehensive set of quality of life improvements, especially in the areas of pay, housing, and health care. Sustaining the quality of life of our people is crucial to recruiting, to retention, and to our readiness to fight. But more importantly, it is the right thing to do for the men and women who this very minute are fighting to defend our freedom.

Your support of these initiatives and the global war on terrorism is greatly appreciated. But there are a couple of issues I would like to bring to your attention. First, some of our capabilities are being stretched. The war has increased the operations tempo for segments of the force, including Active, Reserve, and Guard units. Tempo is especially stressed for those specialized assets and capabilities commonly referred to as "low density, high demand." Of course, we are managing this essentially every day, trying to reduce that stress.

I am also concerned about the diminishing availability of training ranges and military operating areas. Environmental concerns are very, very important and we take those very seriously, but we must be able to strike a balance with readiness requirements. In mid-April the Secretary of Defense, Secretary Rumsfeld, forwarded to Congress the Readiness and Range Preservation Initiative. The service chiefs and I fully support this proposed legislation and I would ask for your support as well.

PREPARED STATEMENT

Mr. Chairman, I welcome the opportunity to work with you and the committee on these issues and others that impact our Nation's security and our defense. I thank you again for your support in the war against terrorism and for the opportunity to be here today, and we look forward to your questions.

[The statement follows:]

PREPARED STATEMENT OF GENERAL RICHARD B. MYERS

It is an honor to report to Congress on the state of the U.S. Armed Forces. The United States is engaged in a multi-front war that includes operations in direct defense of our homeland and a sustained military campaign overseas. All elements of our force—Active, Reserve, and National Guard—are taking part in this struggle to maintain the safety and security of our Nation, and the results of the initial campaign have been promising. While there are relatively few American troops deployed “on the ground” in Afghanistan, it is important to note that a significant percentage of the force is directly engaged in some aspect of the global war on terrorism. At the same time, other threats to U.S. interests remain a part of our strategic calculus. Thus, we have forces committed to other missions, such as defense of the Korean peninsula, protection of U.S. interests in Southwest Asia, and peacekeeping operations in the Balkans.

With our friends and allies, we continue to gather intelligence and take action against the Al Qaeda network and other terrorist organizations that threaten nations around the world. As President Bush has reminded us on several occasions, the global war on terrorism will require great effort over an extended period of time—and it will require all elements of our national power. The U.S. Armed Forces are ready to engage the enemy for as long as it takes to complete the mission.

We face a difficult task—to defeat multiple enemies who are capable of striking asymmetrically from hundreds of locations around the world. Winning this new global war will require flexibility in adapting to changing operational conditions and new technologies and procedures to enhance our combat capabilities. An equally important imperative in the midst of this war is to continue to modernize and transform our forces to meet future challenges in this rapidly changing 21st century.

These imperatives dictate my priorities as Chairman—to win the global war on terrorism, to improve the joint warfighting capabilities of the U.S. Armed Forces, and to transform those forces so they are ready to face future challenges. I look forward to working with President Bush, Secretary Rumsfeld, and Congress in the months ahead to achieve these goals and to address other critical issues facing the U.S. military. To keep our forces superior to those of any other nation, we must invest in our quality force today and create the capabilities needed to meet the challenges of tomorrow. The brave soldiers, sailors, airmen, marines, and coastguardsmen who are defending our way of life are counting on us to make the right decisions.

GLOBAL WAR ON TERRORISM

As you well know, we are engaged in only the first phase of the global war on terrorism. In this new kind of war, we face adversaries who refuse to adhere to the norms of international behavior, who possess or have sought access to weapons of mass destruction (WMD), and who have demonstrated both the capacity and the will to use those weapons. Our objectives in this war are clear: to disrupt and destroy global terrorist organizations, to eliminate safe havens for terrorists, and to prevent access to WMD by terrorist groups.

In response to the terrorist attacks of September 11, 2001, we have conducted both offensive and defensive operations. The Reserve Components have been essential to these actions. As of late April 2002, we had alerted over 107,000 individuals for activation and completed the call-up of more than 74,000 people. Additionally, since September 11, the number of personnel, both active and reserve, deployed to the U.S. Central Command area of responsibility increased from approximately 22,000 to a high of about 60,000, with about 55,000 in theater as of the end of April 2002.

The direct defense of the American homeland is called Operation NOBLE EAGLE. This operation comprises combat air patrols and alert aircraft to enhance the security of U.S. airspace as well as actions to protect civil population centers, critical infrastructure, and special events. NOBLE EAGLE also includes Coast Guard inspections of cargo vessels and patrols in defense of major sea ports. Additionally, there is widespread augmentation of civil site security with both active duty and reserve component military personnel. Familiar examples of these actions are the 6,100 National Guard troops augmenting security at 421 airports, a program that is scheduled to continue through May of this year. We have also enhanced security at military and other government installations and for space launch operations at Cape Canaveral. And for seven months, the North Atlantic Treaty Organization (NATO) provided airborne early warning aircraft and aircrews to augment our air-space protection operations under Article 5 of the NATO treaty. This action freed U.S. E-3 Airborne Warning and Control System aircraft for the war effort in forward areas.

Our offensive operations are labeled Operation ENDURING FREEDOM. These actions include, but are not limited to, ground, air, and naval operations in the Afghan theater and North Arabian Sea; planning and training for follow-on operations; and a host of support activities. The combat operations are notable for their distance from the United States, the deployment most of the ground forces solely by air, and the integration achieved between the technologically unsophisticated Afghan opposition forces and U.S. forces. Also of note, air operations included not only reconnaissance, air refueling, and strike missions, but also simultaneous humanitarian airdrop missions by C-17s flying from Germany.

Operations NOBLE EAGLE and ENDURING FREEDOM have both highlighted many lessons that will be of great use in the subsequent campaigns of this war, as well as in our planning, programming, and transformation efforts. Foremost among them is the importance of versatility and flexibility to achieving operational success. Forward air controllers on horseback and special operations troops transporting their high-tech gear on donkeys to isolated mountain tops from which they directed strikes of precision guided munitions are illustrations of the kind of versatility and flexible thinking we need to foster.

A second lesson is the ever-increasing importance of operations in the information domain—the most significant aspect of which is a “networked” operations capability. We have continued the process of connecting sensors, shooters, and command and control elements with a single network of voice and data links, without regard to platforms or individual Services. We do not yet have this capability complete, but we are making steady progress. For example, in Afghanistan special operations forces (SOF) on the ground guided strikes from both U.S. Navy and Air Force aircraft. Additionally, Navy and Air Force intelligence, surveillance, and reconnaissance (ISR) platforms were able to feed sensor outputs to Marine and SOF ground units, as well as other airborne platforms. We were also able to link real-time inputs from unmanned aerial vehicles to orbiting AC-130 gunships, which then provided responsive and pinpoint fire support to ground operations. These Afghan operations provide a hint of the operational advantages we will gain when this element of the transformation process is more mature.

The more we rely on information resources and systems, the greater must be our efforts to protect them. An important step will be the development of military doctrine for Information Assurance/Computer Network Defense. This doctrine will guide our actions in employing safeguards against attacks upon our critical information networks and in detecting, combating, and recovering from cyber attacks as soon as they are attempted.

Finally, another lesson learned with every operation, but one that bears repeating, is that the friction and fog of war remain difficult to overcome. Our goal is to ensure our enemies face greater difficulties than we do. But our adversaries are always thinking and reacting in an attempt to defeat our forces. And although we do our best to prevent errors, human beings make mistakes and mechanical systems sometimes fail. We will never have perfect success—and sometimes will suffer tragic accidents. History tells us these difficulties will never be completely eliminated, but we continue to work hard to reduce their occurrence as much as possible.

In addition to providing lessons learned, the campaign has reinforced some existing concerns and validated concepts that we have been working on for quite some time. It has had a significant impact on and exacerbated shortfalls in specialized assets and capabilities. It has also added emphasis to the requirement of maintaining an adequate inventory of precision guided munitions (PGM). These weapons are an increasingly important tool for operational commanders across the entire spectrum of conflict. We need to maintain sufficient capacity in the industrial base to manufacture adequate quantities of PGMs. We also need to protect our ability for production surges to meet increased demands associated with sustained high-tempo operations. We ask for your continued help in building PGM inventories so we may retain the full capability to deliver this lethal combat power in the future.

Other weapon systems that have further validated their potential in Afghanistan are unmanned aerial vehicles (UAV). These systems are increasingly important in reconnaissance and surveillance and have recently demonstrated unmistakable potential for strike missions. We will continue to experiment with additional roles and missions for these vehicles, improve their communications, and develop and acquire them faster.

The war has also validated our emphasis on the importance of interagency coordination and cooperation, especially the need for close partnerships with both domestic and international law enforcement agencies. On the domestic front, the military will usually act in support of civilian law enforcement and first responders, as has been the case in Operation NOBLE EAGLE. We are working to build strong ties with other government agencies in the areas of training, planning, and operations—and especially in intelligence sharing.

As the war continues, the Armed Forces will remain focused on the fundamental mission of homeland defense. To better organize our forces at home and provide support to civil authorities, we have modified the Unified Command Plan to establish a combatant command responsible for homeland security. We are also analyzing the potential advantages to be gained by combining U.S. Space Command and U.S. Strategic Command into a single organization. We anticipate being able to make a recommendation to the President on this initiative within the next several months.

The new Northern Command (NORTHCOM) will help eliminate the seams between the multiple military organizations that currently share responsibility for homeland defense. It will encompass the continental United States, Alaska, Canada, Mexico, and adjoining waters to approximately 500 nautical miles. The command will serve as a single point of contact for support to civil authorities and cooperation with our North American friends and allies. NORTHCOM will improve the effectiveness of our homeland defenses; however, our first line of defense will remain our overseas forces.

On the overseas front, our main effort is the destruction of the Al Qaeda network. Continued success toward that goal will require sustained effort as we work with our friends and allies around the world to disrupt, preempt, and prevent terrorist attacks at their source. We have troops in the Philippines, Yemen, and the Republic of Georgia training and assisting their forces in antiterrorism efforts—another illustration of the global nature of this war. At the same time we stand ready to plan for and take action against other international terrorist organizations and the nations that harbor them when ordered to do so. And we are working diligently with our friends and allies to prevent the proliferation of WMD and their acquisition by terrorist organizations.

Our challenge will be to prioritize resources and coordinate operations in support of that mission with our other security responsibilities. We must remain trained and ready to execute the full range of military operations to protect simultaneously the homeland as well as other U.S. interests in the near term, even as we transform our forces to meet future challenges.

IMPROVING JOINT WARFIGHTING CAPABILITIES

The superb warfighting capabilities of the Services have given us the winning edge in Operation ENDURING FREEDOM and provide the foundation for success against future adversaries. While our forces operating in and near Afghanistan have achieved enormous success on the battlefield, the same operations have revealed that much more can be accomplished.

Joint warfighting brings the combat capabilities of the Services together with a focus on desired effects, resulting in a whole that is greater than the sum of the parts. It is, therefore, imperative that we continue to improve joint warfighting capabilities. We have made great progress in improving those capabilities, especially since the landmark Goldwater-Nichols legislation of 1986, but there is much still to be accomplished. In pursuing further improvements, there are four areas of par-

ticular importance to me: joint command, control, communications, computers, intelligence, surveillance, and reconnaissance (C⁴ISR); interoperability; joint officer management; and joint experimentation.

Joint C⁴ISR

A cornerstone of joint warfighting is C⁴ISR. Although we have made significant recent improvements, current deficiencies in joint C⁴ISR result in gaps and seams between the combatant commands and between the forces the Services provide. These gaps and seams must be eliminated. An adequate joint C⁴ISR capability will provide the necessary flexibility to better integrate diverse capabilities and achieve desired effects.

In terms of command and control, development of a standardized joint force headquarters is essential to improving our ability to rapidly deploy and employ joint forces. The 2001 Quadrennial Defense Review Report discussed the implementation of a standing joint force headquarters within each regional combatant command. The regional combatant commanders and U.S. Joint Forces Command are developing proposals that they will test in a series of exercises. Among the options we will examine are deployable joint task force headquarters and the deployable joint command and control systems required to support them. Building on these efforts, we will be able to recommend a standardized model. I ask for your support of this critical joint warfighting initiative.

Interoperability

The second key to improvements in joint warfighting is interoperability. The ability to fight jointly requires command and control and weapon systems that are interoperable with each other and with those of our coalition partners. The force must have systems conceived, designed, and produced with joint warfighting in mind. We must think in terms of interchangeable modules we can “plug and play” in any situation and command. These modules can be as simple as individual components. They may be complex like a multi-Service ISR network providing data to multiple layers of command at multiple locations. Or they may be planning tools, staff processes, and organizations that are standardized across combatant commands.

Here, too, joint C⁴ISR is a focus for our efforts. We have made important strides, but are acutely aware of the need to solve interoperability shortfalls in our legacy C⁴ systems. And it is critically important that future C⁴ISR systems have interoperable technologies, processes, and products. In terms of C⁴ISR, the necessary “plug and play” capabilities will be designed to facilitate immediate employment and readiness to accept additional forces, execute missions, and integrate multinational and interagency support.

Joint Officer Management

In the long term, a third key to improving joint warfighting capabilities is continued improvements in the management of our joint officers. The quota-based system mandated by the Goldwater-Nichols legislation has served us well; however, joint officer management must evolve to reflect the way we operate in today’s environment. To meet future requirements, we need more flexibility than currently exists. I applaud the independent study on joint officer management and professional military education directed by Congress. We are in the process of obtaining funding and selecting an organization to conduct the study, and we are prepared to work closely with you to facilitate continued improvements.

Joint Experimentation

Meaningful improvements in all areas of joint warfighting will require a willingness to question current practices, organizational patterns, and command processes—in essence, continued progress toward significant cultural change. One of the most important means of engendering this change is the joint experimentation process. This process is designed to evaluate new missions, devise new force structure, and test new operational concepts. For example, this summer the Millennium Challenge 2002 joint experiment will test the U.S. Joint Forces Command (JFCOM) model of the standing joint force headquarters. Joint experimentation also allows us to integrate the experimental concepts and new weapon systems being developed by the Services into a joint framework early in the development process. Finally, joint experimentation is a key element of the transformation process, and the revised Unified Command Plan will enable JFCOM to focus more time and effort on experimentation and transformation efforts. Naturally, we need to use the lessons from Operation ENDURING FREEDOM in the joint experimentation process to ensure we are prepared for subsequent battles in the war against terrorism.

The willingness to examine and change, if necessary, all aspects of joint capabilities is imperative if we are to win the global war on terrorism and surmount other national security challenges of the 21st century. The process of improving joint warfighting is a key component of and is closely intertwined with our transformation efforts. Just as it is necessary to improve our joint warfighting capabilities to succeed against future enemies, it is also necessary to transform the force.

TRANSFORMATION OF THE U.S. ARMED FORCES

Transformation is a process of change devoted to maintaining U.S. military superiority in all areas of joint warfighting. It is on-going and must be continuous since our enemies will persist in attempts to neutralize or erode our superiority and exploit perceived weaknesses. As history has repeatedly shown, Service modernization efforts have often proven to be the key to transformational change. For example, in World War II an accumulation of incremental technical advances and tactical lessons, combined with a willingness to experiment, led to significant improvements in combat capabilities. And while sudden technological, organizational, or doctrinal breakthroughs are possible and should be pursued vigorously, I believe current modernization programs will provide an important impetus for transformation in the 21st century as well.

Technological change alone does not lead to transformation—intellectual change is also necessary. Transformation, therefore, must extend beyond weapon systems and materiel to doctrine, organization, training and education, leadership, personnel, and facilities. We need to foster a mind set that allows us to take advantage of both new ideas and new technologies.

Capabilities-Based Approach

Part of the required cultural change entails a transition to a capabilities-based model as the foundation of our transformation efforts. Such an approach does not preclude consideration of specific threats. Indeed, it would be unwise to ignore those nations and organizations that pose a clear danger to U.S. interests. It is, however, appropriate, given the rapidly changing international security environment and the diffused nature of the threats we face, to shift the weight of our considerations away from our historical emphasis on specific threats. The United States cannot know with confidence which nations, combinations of nations, or non-state actors will pose threats to our interests, or those of our allies and friends. It is possible to anticipate with greater accuracy the capabilities that an adversary might employ. Such a capabilities-based model focuses more on how an adversary might fight than on who the adversary might be. It broadens our strategic perspective and requires us to identify the capabilities U.S. military forces will need to deter and defeat a wide variety of adversaries.

Accordingly, an appropriate blueprint for change will include the following important considerations. First, we must base the process of change on an overarching set of strategic capabilities we believe our forces must possess to support the National Security Strategy now and in the future. Second, we need to use those capabilities to guide the development of joint operational concepts and architectures that drive decisions concerning materiel and non-materiel improvements and to establish standards for interoperability. Third, because transformation involves more than fielding new systems, we must integrate requirements for new doctrine, organizations, training and education, leadership, personnel, and facilities into the process. Fourth, we need to find ways to modernize and integrate legacy systems when it makes sense, while developing technological bridges with interagency and international partners. Finally, we must ensure that the transformation process is characterized by unity of effort based on clearly defined roles and responsibilities throughout DOD.

Joint Vision 2020 contains the conceptual outline we will use to help guide these transformation efforts. To ensure the validity of those concepts, we have completed a detailed evaluation of the document and will update it based on the results of the 2001 Quadrennial Defense Review, changes to our defense strategy, the global war on terrorism, and strategic guidance from the administration.

Information Capabilities

The area offering the greatest promise for the most significant transformation in the near term is information sharing. The U.S. military is an “information intensive” force. Much of the military superiority we currently enjoy rests on our ability to achieve and maintain a decisive advantage in accessing, gathering, exploiting, and acting on information. The ability to arrive at and implement better decisions, faster than an opponent can react, rests on the accumulation, processing, and understanding of vast quantities of operational and tactical information.

We have taken the first steps toward fully integrating our capabilities to find and strike targets of all types, using networks of sensors and shooters to achieve an effects-based targeting capability. Our goal is to allow dispersed forces to collaborate on operations and give our warfighters the ability to achieve desired effects rapidly and decisively—with a speed and accuracy that will overwhelm an adversary's ability to respond. This goal is attainable if we creatively use existing and planned technologies.

Success will depend on several factors. First, we must take advantage of U.S. leadership in information technologies to create networks that allow a coordinated exchange of information among different levels of command and a wide variety of units at ever-increasing rates. Second, we must shift from a reconnaissance to a surveillance approach in gathering information on adversary operations, emphasizing the ability to “watch” or “stare” at targets. Third, we must continue to place an appropriate emphasis on vital information transfers such as voice, video, and data exchanges, and on the ability to operate effectively in areas with primitive or non-existent communications infrastructure. These requirements drive a growing need for more transmission capability or bandwidth. In Afghanistan we used the maximum available bandwidth, and as we continue the interlinking of networks, our bandwidth requirements will only increase. It is also imperative that we continue to hold the line on military radio frequency spectrum allocations. Finally, adequate investment in communications infrastructure is an absolute necessity. In particular, our reliance on satellite communications capabilities is expanding exponentially, and we need your support in ensuring the Military Satellite Communications program continues to enjoy full funding.

We will also use improved networks of information systems to transform logistics capabilities. By taking advantage of new technologies, improving logistics processes, and fusing information from many different sources, decision support tools will integrate data to make logistics information available to the appropriate commander anywhere in the world. We have already fielded an initial joint decision support capability and have successfully experimented with a shared data environment that provides integrated information from various Service legacy systems. This type of logistics capability will provide the joint warfighter with real-time situational awareness and allow us to control and use our logistics assets with greater effectiveness and efficiency.

Continued improvements in all facets of information capabilities are dependent on acquiring, operating, and protecting computer networks. U.S. Space Command has the responsibility for Computer Network Operations. The command's main areas of effort include reassessing the command and control relationships among Computer Network Attack (CNA) forces, re-evaluating CNA request and approval procedures, developing a Computer Network Defense mission needs statement, acquiring improved indications and warning capabilities for impending information attacks, and focusing all actions toward an effects-based capability.

Force Requirements

Developing better ways to identify, validate, and acquire new systems is essential to effective transformation. To improve the generation of joint warfighting requirements, we initiated actions two years ago to improve the Joint Requirements Oversight Council process. Since then, we have established processes to develop, test, and approve joint operational concepts and architectures that will be used to establish and enforce standards for system interoperability. Additionally, we now have a process to implement joint experimentation recommendations and have greatly improved our ability to assess and implement transformation beyond weapon systems and materiel.

As discussed previously, among the most important non-materiel initiatives is the development of a standardized Standing Joint Force Headquarters model. This headquarters will serve as a tool for combatant commanders to improve joint warfighting and better integrate Service-provided forces. The development of this model will require us to identify baseline command and control systems and standardized organizations, tactics, techniques, and procedures.

Another important initiative is focused on interagency cooperation. Threats to U.S. national security in the 21st century will, more often than not, require an interagency response, especially when they involve homeland defense. As a result, missions and responsibilities will transcend agency boundaries, making a decisive and timely interagency response to crises increasingly important. We recognize the need, therefore, to work closely with non-DOD agencies of the U.S. government on training, crisis planning, and coalition building.

In terms of materiel changes, the improved accuracy and effectiveness of precision-guided munitions and our ability to match them to a variety of delivery systems

have significantly reduced collateral damage and non-combatant casualties while greatly increasing the combat effectiveness and versatility of our forces. They have become integral to the plans prepared by the combatant commanders; therefore, we must ensure our requirements determination and acquisition processes meet this warfighter need. As we continue experiments to evaluate transformational technologies, we will look for weapon systems with similar high-payoff potential.

One area with such a high-payoff potential is theater missile defense. Analysis over the last decade has consistently validated the combatant commanders' requirements for a family of missile defense systems. There is a specific requirement for land- and sea-based, lower tier, terminal phase missile defense systems because of their capability against the predominant and growing short-range ballistic missile threat. The fielding of the Patriot PAC-3 is an important first step, but it only partially covers potential threats. We are, therefore, in the process of assessing a wide range of options for protection of sea- and airports of entry. Additionally, we will continue to evaluate methods of broadening terminal-phase defense beyond a single tier to improve operational flexibility and the ability to achieve a sufficient probability of shutdown against the entire range of missile threats.

CRITICAL ISSUES FOR THE U.S. MILITARY

As you consider the specifics of the fiscal year 2003 Defense Budget, I would like to bring to your attention a number of issues that are critical to maintaining today's quality force and meeting tomorrow's challenges. The most important of these is supporting our troops.

People

Success in all missions depends on our number one asset—our people. We must continue to keep faith with both our active and reserve component members, as well as our retirees. We must keep their trust and confidence by ensuring they are compensated commensurately with the responsibilities they shoulder, the risks they face, and the hardships they bear. We also need to ensure they have the tools and facilities they need to accomplish their missions. Collectively, the Joint Chiefs are committed to five quality of life initiatives: pay and compensation, health care, unaccompanied and family housing, infrastructure and workplace improvements, and those base support programs that comprise our community services. This past year's legislation was a large step in the right direction. We are grateful for the hard work of the Administration, Congress, and Department of Defense in raising the standard of living and improving the quality of life of our Service members and their families, including the continued Congressional support of the Secretary of Defense's initiative to reduce out-of-pocket housing expenses to zero by fiscal year 2005.

I am also grateful for the strong support of Congress in providing a comprehensive, world-class health care program for our active duty and retired service members, and their families. We must now ensure the military health care system is fully funded. In view of today's security environment, we also must develop and fund adequate vaccine production capability and immunization programs, as well as medical surveillance systems that provide early warning of potential threats, enhanced medical data collection, and tracking processes to support the medical aspects of consequence management.

Congressional support of our program to eliminate substandard family and unaccompanied housing has been outstanding. The Services have made great strides and, for the most part, remain on track with their plans to achieve this goal by 2007.

We must also commit to reversing the decay of infrastructure and workplaces. Within civilian industry, the replacement, restoration, or modernization of buildings is accomplished in roughly a 50-year cycle. By comparison, the rate of investment in DOD infrastructure has fallen to a level that requires over 100 years for recapitalization. The fiscal year 2003 President's Budget significantly increases our out-year infrastructure investment and puts DOD on a path to approach a recapitalization rate of 67 years by 2007. We need to ensure resources are available in the future to adequately sustain, restore, and modernize our facilities.

Finally, community services is a critical quality of life area that is, perhaps, the easiest to overlook, but dollar for dollar, is one of the most effective programs the Services provide. Based on the 2001 Quadrennial Defense Review, we are reviewing existing community services programs and policies to ensure we meet the needs of the changing demographics of military families and keep pace with modern requirements.

Providing better quality of life for our service members and their families directly affects recruitment, retention, and family welfare. Personnel and family readiness are inseparable from operational readiness. We have made significant investments

over the past several years in the quality of life of our soldiers, sailors, airmen, and marines and their families; we must maintain the positive trends we have worked so hard to establish.

Readiness, Modernization, and Recapitalization

The war on terrorism has provided fresh validation of previous readiness assessments. Our forward deployed and first-to-fight forces remain capable of achieving the objectives of our defense strategy. However, we remain concerned about the effects of a sustained high operations tempo on the force, strategic lift and sustainment shortfalls, and shortages of ISR assets, as well as the challenges associated with the WMD threat, antiterrorism, and force protection. Additionally, in some locations, we face operational limitations that may affect mission success. Usage restrictions and a shortage of training ranges and operating areas contribute to lost or degraded training opportunities, resulting in reduced operational readiness. I am especially concerned about maintaining an appropriate balance between environmental and readiness concerns. To that end, the Service Chiefs and I join the Secretary of Defense in requesting your support for the Readiness and Range Preservation Initiative. Overall, recent funding increases have helped address critical readiness concerns, but we must maintain a proper regard for both near- and long-term readiness initiatives.

One avenue for maintaining that balance is through modernization of our existing forces. The development and procurement of new weapon systems with improved warfighting capabilities leads to incremental improvements that cumulatively may result in transformative changes. Through a sustained and carefully managed process, we can reap the benefits of such an incremental approach while also pursuing more radical technological changes. Modernization thus serves as a hedge against both near-term readiness shortfalls and failures of unproven technologies.

I also remain concerned about the recapitalization of older assets. Our older fleet is taking its toll in increased operational costs and reduced equipment availability rates. For example, between fiscal year 1995 and fiscal year 2001, the Air Force's F-15C/D aircraft, at an average age of 17½ years, have experienced a 28 percent increase in cost per flying hour (constant fiscal year 2000 dollars) and a decrease from 81 percent to 77 percent in mission capable rate. Similarly, the Navy's EA-6B aircraft, at an average age of 20 years, have experienced an 80 percent increase in cost per flying hour (constant fiscal year 2000 dollars) and a decrease from 67 percent to 60 percent mission capable rate. For the Army, the M2A2 Bradley Infantry Fighting Vehicle, at an average age of 10½ years, has experienced a 61 percent increase in cost per operating mile (constant fiscal year 2000 dollars) and a decrease from 95 percent to 93 percent in mission capable rate.

We cannot continue to defer procurement as we did over the last decade. Rather, we must accelerate the replacement of aging systems if we are to sustain our ability to meet near-term challenges and all of our 21st century commitments. In conjunction with the Service staffs, we have conducted a steady-state procurement estimate that concluded the DOD should spend \$100-\$110 billion (fiscal year 2001 constant dollars) per year to recapitalize today's force structure. The fiscal year 2003 President's Budget significantly increases current and out-year procurement investment and puts DOD on a path to approach steady-state procurement. We need your support to continue this real growth in procurement accounts.

Strategic Mobility

Over the past several years, DOD has worked diligently to overcome the shortfalls in strategic lift capability identified in the Mobility Requirements Study-2005. The events of September 11 and the subsequent U.S. military response once again highlighted a requirement to deliver combat forces and their support elements quickly anywhere in the world.

Our strategic lift forces proved themselves capable of supporting a fight in a landlocked country with limited infrastructure, 8,000 miles from the United States; however, we also identified deficiencies that call for resolution. For example, we do not have a sufficient number of C-17s to meet our strategic lift requirements, so procurement of additional aircraft remains our top strategic mobility priority. Our tanker force has significant shortfalls in numbers of available tankers, air crews, and maintenance personnel. Additionally, improvements in speed and capacity for inter-theater sealift are not expected to develop in the commercial marketplace so the government will be required to make research and development investments if we are going to derive benefit from emerging technologies in this area.

Personnel Strength

The domestic and overseas commitments of the war on terrorism, when coupled with other ongoing commitments, have stretched our active forces. These commit-

ments also have the potential to stress our Reserve Component forces and their civilian employers who are sharing precious people resources who are vital to continued economic recovery. As we move forward in the war on terrorism, the Services will continue to review their end-strength requirements. At the same time, we must examine our tasked missions to ensure we are using our uniformed personnel only where military personnel are needed to do the job. We will assess missions, technology, and force structure as part of our transformation efforts, to determine the optimal size of the force required to meet all challenges, now and in the future.

CONCLUSION

I look forward to working closely with Congress as we progress toward these goals. We face adversaries who seek to destroy our way of life. In response, your Armed Forces will not rest until we have achieved our part of the victory in the global war on terrorism. At the same time, improving the joint warfighting capabilities of our Armed Forces and transforming those forces are essential if we are to prevail over the ever-changing threats and challenges of the future.

In pursuing these goals, we face tough, complex issues—with no easy answers. It is understandable that reasonable people can disagree on both the substance of and the solutions to those issues. The great strength of our form of government is the open dialogue engendered by such disagreements, and one of the privileges of my position is the responsibility of providing military advice to aid that dialogue. The men and women of our Armed Forces, at great personal risk, are doing a superb job. We owe them our best as we face these challenges. Thank you for the opportunity to present my views and your continued outstanding support of our soldiers, sailors, airmen, marines, and coastguardsmen.

Senator INOUE. I thank you very much, General Myers.

I am certain all of us are aware that members of this subcommittee are concerned about the status of systems such as Commanche, the Crusader, the Osprey, the F-22. But on the front pages of every morning paper and very likely in the headlines speak of this new massive threat, terrorist threat against America. From the information you have received, Mr. Secretary, is there anything you can tell us as to the nature or the magnitude of this threat?

TERRORIST THREATS

Secretary RUMSFELD. Mr. Chairman, I can. First as to the nature. Last year when we were revising our strategy we moved from a threat-based strategy to a capabilities-based strategy because it was clear that threats are going to come at us in ways that go for vulnerabilities. That is to say, we are less likely to be attacked against our Army or our Navy or our Air Force directly because it would be expensive for people to try to develop those capabilities and they serve a great deterrent effect. We are more likely to be attacked through asymmetrical vulnerabilities—our space assets, cyber attacks, our dependency on electronics as an advanced, technologically advanced country, terrorist attacks, ballistic missiles, cruise missiles, things that go for seams in our circumstance as a free people, the very fact that we are a free people and we do not care to live in a repressive society where people are not allowed to get up in the morning and go where they want and say what they want and children go off to school and we can expect them to come home safely.

So we have to expect that the asymmetrical advantage of a terrorist is that he can attack at any time, at any place, using any conceivable technique, and it is physically impossible to defend at every time, in every place, against every conceivable technique. There is no way to do it. The only way to deal with those threats

is to go after them where they are, and that is why the President's global war on terrorism is based on that principle that we have to find the global terrorist anywhere in the world and we have to stop nations from providing safe haven for them.

With respect to the nature of the weapons, there is no question but that we will continue to be surprised in the sense that who would have—if you think about taking one of our airliners filled with our people and using it as a missile, to fly it into the World Trade Center or the Pentagon, that is a new technique of terrorism. We can expect other new techniques of terrorism.

The problem I see, and it is a very serious one, is that there has been a proliferation of weapons of mass destruction and the terrorist networks have close linkages with terrorist states, the states that are on the worldwide known terrorist list—Iraq, Iran, Libya, Syria, North Korea, one or two others. Now, those countries have been developing weapons of mass destruction for some time. They are testing and weaponized chemical and biological weapons. They are aggressively trying to get nuclear weapons. We know that.

I guess the second part of the question you posed as to the magnitude is I think realistically we have to face up to the fact that we live in a world where our margin for error has become quite small. In just facing the facts, we have to recognize that terrorist networks have relationship with terrorist states that have weapons of mass destruction and that they inevitably are going to get their hands on them and they would not hesitate one minute in using them.

That is the world we live in. Can we do that? Yes, we can live in that world. We have to rearrange ourselves here at home. We have to rearrange ourselves worldwide. We have to recognize that our warning—we are going to be living in a period of limited or no warning because of the asymmetrical advantages of the attacker as opposed to the defender. We have to recognize that the word “surprise”—the only thing we ought to be surprised about is that we are surprised when we are surprised.

If a terrorist can attack any time, any place, using any technique, that advantage is there. The al Qaeda training camps in Afghanistan trained hundreds of these people. They are spread across the globe. They are in our country and they are very well trained. We have seen their training manuals. They are well financed. They are still getting money.

We are putting pressure on them all across the globe, trying to shut down their bank accounts, trying to make it more difficult to travel, more difficult to raise money, trying to make it more difficult for them to recruit and retain their people. But it is a difficult task. It is taking all elements of national power and it is the hand we have been dealt with and we are hard about it.

Senator INOUE. There is nothing specific as far as your information is concerned?

SPECIFIC TERRORIST THREATS

Secretary RUMSFELD. Mr. Chairman, I have got so many specifics in my head. I get a daily briefing every morning from the fused intelligence supposedly from our intelligence-gathering agencies. I read it. In every case there are a series of threats, specific in a few

cases, general in other cases, not specific as to time, not always specific as to location, rarely as to location, but more categories. If you add them all up, they end up in the hundreds.

What we have to do is see that they are distributed to the people who have responsibilities, and so they go out to our combatant commanders who have force protection responsibilities so that they can use their best judgment as to whether, for example, to take a ship and get it out of port if there is a risk to that ship. Department of State from time to time draws down their Embassy personnel.

But the odds are that on any given day nine-tenths will be walk-in traffic, some people trying to find out how we will respond. We know for a fact that from time to time we get a threat warning, not because there is a threat, but because the people issuing the threat warning want to see what we are going to do. They want to learn how we respond to that kind of a warning and they jerk us around, try to jerk us around, and test us, stress our force in a way.

I always have lots of specifics, but needless to say I cannot discuss specifics here in an open forum, and it is not really the nature of my business anyway. It is more the intelligence and the Federal Bureau of Investigation (FBI) side.

INVESTMENTS IN NEW WEAPONS

Senator INOUE. Before my time expires, I just wanted to make certain the record is clear that as far as investments in weapons systems and other procurement items I believe the Army's share in fiscal year 2003 is about \$19 billion, the Air Force is about \$38 billion, and the Navy is about \$38 billion. So that would make Army 5 percent and the Navy and Air Force 10 percent.

Looking at the chart there, one might get the impression that the bulk of the money went to the Army and I think I would just want to clarify that.

Secretary RUMSFELD. You say the bulk of the money went to the Army?

Senator INOUE. No, one might get the impression.

Secretary RUMSFELD. Well, if you could put up the other chart, please, Larry.

Senator INOUE. Am I wrong that the Army's investment is \$19 billion for fiscal year 2003 and the Air Force and Navy \$38 billion?

Secretary RUMSFELD. I think that that is not apples to apples, no, sir. I would have to check it.

Here is the indirect fires chart that shows the investment in artillery, the Paladin artillery piece, the Crusader, and then the Future Combat System coming in the outer year. The top of that chart are all rocket systems, but all of those are investments designed to enable the Army to provide indirect fires for combatant commanders.

Do you want to answer the question of the chairman?

General MYERS. Mr. Chairman, I do not have the procurement numbers for the Army, but the Army increase from 2002 to 2003 was \$10 billion, the Navy-Marine Corps overall increase was \$9.5 billion, and the Air Force increase was \$12.7 billion.

Senator INOUE. What is the total amount for this 2003 fiscal year.

General MYERS. For the Army, sir?

Senator INOUE. Yes.

General MYERS. \$90.9 billion.

Senator INOUE. What is the Air Force?

General MYERS. \$107 billion. That does not include any money that would come to them through the Defense Emergency Response Fund (DERF).

Senator INOUE. I am talking about the investments, not the total budget.

General MYERS. Sir, I am sorry, we do not have that number with us.

Senator INOUE. Senator Stevens.

Senator STEVENS. Thank you very much.

Mr. Chairman, I appreciate your answer to the questions I raised. I still have a problem about the timing of the decision and I think we ought to have some informal meetings. If we had been on time with our bills this year—and because of 9/11 we started off behind time, as we all know. But hopefully we can get on time next year. But if we were on time, your bill should be on the floor by at the end of April and passed some time by May.

I think we should not have decisions coming out of a planning group like you have that do not phase into the budget of the President. If there is going to be a cancellation, I think it should be discussed prior to the time when the President prepares and presents his budget in the spring. Otherwise we lose out.

I just make this statement to you that we lived through a period of time when there was a group of people in the Congress who did not like this generation request but they are all for the next generation request. We had to fight C-17 three times, we had to fight the V-22 three or four times. We have faced problems with every major system in its infancy, and to have one that was almost mature like Crusader cancelled I think is going to lead to a whole series of problems if we are not careful.

COUNTERTERRORISM FELLOWSHIP PROGRAM

Let me ask you this question, though, specifically. We provided \$17.9 million for a regional defense counterterrorism fellowship program in the 2002 budget. It is my understanding the Department has not implemented that program. Senator Inouye and I when we went to Indonesia recently spent a lot of time with their military and their government. It is very clear that the new dialogue between our military people and the military people in Indonesia is very productive. But we created that fund primarily with Indonesia in mind, but it has not been implemented. Can you tell me why it has not?

Secretary RUMSFELD. Senator, we very much favor that fund and, as you know, are anxious to be of help with the CT fellowship as one of the tools to help countries develop their indigenous capacity to deal with the threat of terrorist networks. It is in the process of being implemented, as I understand it, and we favor it, we are for it, and certainly the country you just visited is one of those countries that would be an appropriate beneficiary of that.

PERMANENT CHANGE OF STATION (PCS) MOVES

Senator STEVENS. Into a totally different area, over the years we have been concerned with the number of permanent change of station moves that military people are required to make. That causes service members and their families I think to decide to leave the military when they are moved too often. In last year's budget request the President requested a level of funding that would allow 52 percent of the force to move each year.

Have there been any changes in the whole concept of the number of permanent change of station moves within the Department?

Secretary RUMSFELD. Changes in the last 6 or 8 months, not to my knowledge, although I share your concern. I personally believe that it is unhelpful for a lot of reasons. It is hard on families, but it is also hard on a person's ability to learn their job if they are constantly being moved from one place to another. So I am hopeful that we will be able to lengthen tour lengths somewhat during this year and next year.

Dr. Chu, the Under Secretary for Personnel and Readiness, has in fact been performing a study, which has not yet been supplied to us. The other piece of that is my personal view is that it would be also desirable for people to have the opportunity to serve somewhat longer in a total career, given the fact that people are living longer and that a number of people would like to not have to be up and out. I keep finding people who are outstanding noncommissioned officers who are in their 40's who are kind of shoved out at the top, as well as in the officer ranks.

CRUSADER DEPLOYABILITY

If I could just go back quickly to Crusader, I believe you made the comment that Crusader was a mature system. The Crusader that is relatively mature, where there is a prototype, is 60 tons. The one that the Army is working on is a downsized one, down to 40 tons. They do not know if they can do that, but they believe they can get it down there. There is no prototype yet for that.

Even going from 60 to 40 tons, it is not really 40 tons. It is really 97 tons. If you want to take a single tube with the fuel and the people and the armor and the supply vehicle that has the ammunition in it, what you need to fight with a Crusader, it is not 60, it is not 40, it is actually 97 tons. To take a battalion of Crusaders, if it were ever to happen, 18 tubes, and put them into a battle in a landlocked country—you would have to fly it in, obviously—it would take something like 60 to 64 C-17's, according to TRANSCOM, Transportation Command. It is half of the entire C-17 fleet to get in one battalion of Crusaders, 18 tubes, into a battle.

That assumes you have got airports that are safe and you can unload. Then you have got bridges and roads that you can take that heavy equipment and take it from the safe airport into the battle. That is a tough task.

PCS FUNDING

Senator STEVENS. With regard to the change of station—thank you for that comment, Mr. Secretary—General Myers, we reduced the PCS funding for 2002 precisely because of the complaints we

were having, we were receiving, about the number of moves that personnel, military personnel, are having to make. How have you adjusted the military to meet that reduction?

General MYERS. Senator Stevens, as you know, I think the services are each taking actions to respond to that, that budget decrease. The joint staff is part of the group that is led by Dr. Chu that is reviewing this whole process to come back and talk about what the appropriate amount is and we will continue to stay engaged in that. I know the services are actively engaged and I agree with the comments that the Secretary made.

Senator STEVENS. I think my time is up, but I will just make this. We are approached mainly by married couples, both in the service, with children. They are established in one base and then all of a sudden everybody has to move, the children change schools in the middle of the school year. There just does not seem to be the focus on the individual families' problems when that happens. But we hear about it. I assure you we hear about it, particularly with the families that have multiple children, and some of them up our way have four and five kids in their family and that is a massive thing, to move a family and children in the middle of a school year and put them in another place, particularly if you do it every 2 years.

We just think that the policies have not changed as the military has changed, because we remember a fully single military. I remember going with Senator Hollings over in Germany when there was not one single enlisted person that had an accompanied tour authorized. Now they all have accompanied tours and to have that changed every 2 years is just, I think, is outmoded.

I would hope you would address that because I hear more about that at home from military people than I think any other thing, is the move in the middle of the school year. I urge you to review that and see if there is not some way to modify the policy as a whole throughout the Department.

Secretary RUMSFELD. Thank you very much.

Senator INOUE. Senator Cochran.

Senator COCHRAN. Mr. Chairman, thank you.

As you observed in your testimony, the Senate Armed Services Committee has recommended an \$800 million cut in the missile defense programs. Obviously this is going to slow down or in some areas maybe cancel programs that this administration has been supporting. Particularly I am concerned about theater programs that are now in the process of the last stages of development and in some cases being fielded to protect troops in the field and assets overseas that are located in areas where there is a very real threat of missile attack.

To what extent do you think we should seriously consider trying to restore these funds on the floor of the Senate or in conference with the House?

MISSILE DEFENSE FUNDING

Secretary RUMSFELD. Well, I am certainly hopeful that the funds will be restored. We now have the Anti-Ballistic Missile (ABM) Treaty will be behind us in June. We will for the first time be able to go out and test and experiment with a variety of things that had

been inhibited by the treaty in prior periods. We do not have a set of conclusions, but we clearly need to invest the money in theater.

Of course, "theater" depends on where you live. This is our theater and if our deployed troops are overseas that is a theater as well. We do need to be able to address all of that spectrum of issues with respect to ballistic missiles.

You know, these things can be launched from ships at relatively medium distances off our shores. It could be launched from various locations at our friends and allies and deployed forces. The missile technologies are being proliferated around the globe. North Korea has been active helping all the states, the terrorist states I mentioned earlier, develop their ballistic missile programs.

We also have to recognize the risk from cruise missiles. As I said earlier, we have to recognize that that is the kind of thing—terrorism, cyber attacks, the kinds of missiles with weapons of mass destruction we have talked about—that our country is at risk from.

SPENDING TO DIRECTLY DEFEND THE UNITED STATES

Senator COCHRAN. One of the statements that was made this week that is very alarming to me is the suggestion by the FBI Director that it is inevitable that we are going to have further terrorist strikes against the United States and maybe even some of the kind that have been seen in Israel. To what extent does this budget provide funding for the Department of Defense to be engaged and actively involved in defending against these kinds of attacks against the United States and our people?

Secretary RUMSFELD. It is very difficult to get an exact number, but the defense establishment of course is intimately working with the Coast Guard that deals with our coasts and our ports. We have been providing the combat air patrols over the United States. We have a great deal of funds in for force protection around the world. We have funds in the budget for intelligence-gathering, which contributes significantly to that. Across the Government it is a large number that is being spent.

Do you want to—well, I will take a look here. Yes, this does not have a specific number, but it is a very difficult thing to pull all those threads and characterize them as in that particular category, but it is a great deal.

SHIPBUILDING

Senator COCHRAN. It is my hope, too, that we will observe the importance of the amphibious forces and other naval assets that were involved, particularly in the very early stages of the war in Afghanistan, bringing planes and other assets to an area where we could actually get engaged in an effort to prevail in that theater. Obviously we do not have enough money in the budget to solve all of the needs of all the defense systems and programs in all the services, but I could not help the other day being impressed by the Chief of Naval Operations, the Secretary of the Navy, the Commandant of the Marine Corps, talking about how old a lot of our amphibious assets are.

The average life of four different classes of ships is 33 years. To accelerate the LPD-17 program, for example, seems to be a matter

of some urgency. Do you agree with that and would you support funding to try to address that problem?

Secretary RUMSFELD. Senator, we have completed a portion of a shipbuilding study and there is no question we are going to need more ships than we currently are on a trajectory to have. The actual mix of those ships is a complex one and it is not clear to me that I would want to answer that question without getting the Department of the Navy to sit down and go through with a good deal of granularity precisely what they think the proper mix of ships ought to be.

We know the total number has to go up and, while the average age of our Navy is not ancient, it is relatively young, which is the reason the Navy made the tradeoff decision it did for this year to have a lower shipbuilding budget than any of us would have wanted, they felt that there were more urgent needs they needed to address, but they then step it up in the period immediately following 2004—2003, I should say.

I do not doubt for a minute that, because of your correct point that the categories of amphibious ships are in fact older than the total Navy, that they ought to be looked at as possibilities for the numbers of ships to be built in the years immediately ahead.

Senator COCHRAN. Thank you, Mr. Chairman.

Senator INOUE. Thank you.

Senator FEINSTEIN.

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

Good morning, Mr. Rumsfeld.

Secretary RUMSFELD. Greetings.

STRATEGIC LIFT

Senator FEINSTEIN. Two questions for you, then one for the General. I want to continue the discussion of strategic lift. It seems to me that that is a real shortfall that we have. You spoke of it in your written—or wrote of it in your written testimony on page 24. General Franks has testified as to the shortage. Admiral Blair says that one of his great shortcomings was the absence of both air and sea lift.

In the budget are 12 C-17's for 2003 and 15 being built in 2002. I am prepared to support you on the Crusader, but it seems to me that more ought to go into the lift area. It takes us so long to get adequate forces into any theater that we really ought to beef this up more than we have.

Would you comment?

Secretary RUMSFELD. You are certainly correct, Senator Feinstein. Lift is a subject that comes up every year as we are working with the Air Force and the Navy and the Army. There is a competition for those assets. We are going to have to improve and strengthen our capability in that area. What you have to do is make tradeoffs and judgments. The budget we have before us for the C-17 is what we concluded was an appropriate balance, given the balancing of all those risks.

General Myers, do you want to comment on it?

Senator FEINSTEIN. Yes, it is a very small number of C-17's. I am looking at the Air Force aviation. Fifteen in 2002 and 12 in 2003.

General MYERS. Right, Senator Feinstein, that is correct. But we do have a multi-year procurement program here that buys 60 aircraft over the period, over the period that we are talking about. I think it takes our total of C-17's to 180.

Senator FEINSTEIN. Over what period, General?

General MYERS. I think that is through—it is for 6 years.

Senator FEINSTEIN. 180?

General MYERS. To 180 C-17's.

Senator FEINSTEIN. Total?

General MYERS. Total at that point. I think they are working on procurement increments beyond that as well. So when you combine what we are doing in the C-17, we are buying new, what we plan to do with the C-5 aircraft as well, what we have done with shipbuilding over time, where our strategic lift in sealift is more robust today than it was 10 years ago when we did Desert Storm, I would agree with the Secretary, I think we have struck the right balance here.

But this is something that the service chiefs, the combatant commanders, have all said, based on the last mobility study, that we need 54.5 million ton-miles per day out of our strategic lift, and that is the goal we are working towards.

Secretary RUMSFELD. I would add that our allies frequently are without lift as well. So when we try to work with coalitions we are continuously pinged for assistance with respect to airlift. They also need to address this issue.

Senator FEINSTEIN. Well, it is just as I look at this this is a very high priority item and I would rather see some funds transferred from other places into this, so at least when we move we could move in a much more timely way really than we seem to now.

NUCLEAR POSTURE REVIEW AND FIRST USE

Now, having said that, Mr. Secretary, I cannot resist the opportunity, because I have written you two letters on the subject and have not had a response, and that is on the nuclear posture review. I viewed with substantial consternation the leak that was carried in the Los Angeles Times, which pointed out that certain rogue states were targeted for a first use of a nuclear weapon if we did not like what they were doing.

Now, I can understand that with respect to biological and chemical weapons perhaps. But China was also added to that list with respect to any cross-straits military activity. I would view that as one of the worst things we can possibly ever do in terms of its repercussions across the world. I am not alone in this. Bruce Blair in his writings points out that here is America, the world's juggernaut in military, economic, and domestic terms, inducing the rest of the world to emulate U.S. policy and lift the 50-year-old taboo against the use of nuclear weapons.

I am very puzzled by it. I have asked you in two letters if I might have a more in-depth response to why this was done at this particular point in time, because I think it is just counterproductive. It says to everybody else: You better start building your supply of nuclear weapons. And if the United States is going to do this, why should we not countenance doing the same thing?

If you could respond, I would appreciate it.

Secretary RUMSFELD. You bet. If we have got two letters from you that have not been answered, I will get that fixed promptly. I apologize.

Senator FEINSTEIN. Thank you very much. I appreciate it.

Secretary RUMSFELD. With respect to this subject, the document you are talking about is highly classified. I do not tend to get into details with it. The way you have characterized it is not accurate. That is to say, the article that you were referencing your comment off, to the extent it is roughly what you have said, is not accurate.

The Nuclear Posture Review I think it is correct to say—and General Myers, I would be happy to have you chime in here—I think it would be accurate to say that the recently concluded Nuclear Posture Review does not change the threshold for the use of nuclear weapons one bit. Clearly, the thrust of the quotations you were using suggested to the contrary.

Senator FEINSTEIN. Correct. So you are saying that among the states that were mentioned—I think there were seven or so in the Times article that I read—and the addition of China and the specific reference to a cross-straits military action would not bring about a nuclear response from us, is that correct?

Secretary RUMSFELD. What I am saying is, number one, it is a highly classified document which I do not talk about in open hearings. Number two, it—nowhere in it does it make judgments about when nuclear weapons would be used. Those are decisions for the President. Third, the single most significant thing in the Nuclear Posture Review, Senator, was the fact that the President made a decision to reduce offensive strategic operationally deployed nuclear weapons from thousands down to the 1,700 to 2,200 level. That is not something that anyone could characterize who has an ounce of judgment as something that is, if the article suggested it, as something that is lowering the threshold for the use of nuclear weapons or sending a signal to other nations that we would not want emulated.

Senator FEINSTEIN. Do not mistake me. I did not say that it was. That is good.

Secretary RUMSFELD. I understand that, but I think the article you quoted had some of that in it. If I misunderstood you I apologize.

Senator FEINSTEIN. Well, I am not concerned about that part because I know the facts on that part. What I am concerned is this new little twist in there that I had never heard before. I really, respectfully, am not the only one. Many others have commented, including the Center for Defense Information.

Secretary RUMSFELD. Well, I think I have said about all I can on that classified subject. Thank you.

Senator FEINSTEIN. Well, I appreciate a response or a classified briefing then perhaps.

Secretary RUMSFELD. Sure. Let General Myers.

General MYERS. Senator Feinstein, let me just—and we have to be careful how far we go into this whole issue in this forum. But I might just say that the Nuclear Posture Review in terms of the threshold for use and that issue, the way we put together a so-called new triad actually would diminish the need to use nuclear

weapons. That is the part we need to go into, I think, in another session, or maybe the letter can handle that.

But I think the kind of work that was done in the Nuclear Posture Review actually makes it a lot less likely that we would ever have to resort to nuclear weapons to solve any—

Senator FEINSTEIN. Well, I appreciate that, and because this came out in California I have had a lot of people very deeply concerned about it. As a matter of fact, they know much more about this than they do about our approval of judges, which happens to be another resounding call. And there is really deep concern, and I think if it is wrong the record has to be corrected.

SITUATION IN AFGHANISTAN

But I would like to go on before my time expires to one other quick thing, General. I am very concerned about the deterioration in Afghanistan. I am concerned about the reports that there is deterioration in the stability of the establishment of a new government. I am concerned by the skirmishes that are now taking place, which indicate to me a resiliency on the part of the Taliban and al Qaeda and that they will in fact try to come back if in fact they can come back.

I am concerned that this budget may not reflect our best interests in terms of maintaining a long-term peaceful stability to enable a new government to develop, to enable a new military to develop, and to enable a country decimated to get back on its feet economically. This goes into something Senator Biden made comments about this, additional funds that he thought. I think there is a very strong feeling among many of us that it is to our interest to see that the country remains stable and that we have a peacekeeping force there to ensure it.

Secretary RUMSFELD. Senator, I find that we did apparently answer your letter, but very recently and it may not have gotten into your hands yet.

Senator FEINSTEIN. I have not received it.

Secretary RUMSFELD. Here is a copy of it.

Senator FEINSTEIN. Thank you.

Secretary RUMSFELD. The situation in Afghanistan is complex. It is a country that has been at war for many, many, many years. It is a country that throughout its history has had clan fighting, it has had enormous drug trafficking and crime. On the other hand, there is a persuasive indicator that things are more stable there than they were, because refugees are returning. It is becoming a problem how many refugees are coming in. They are coming in from neighboring countries. The internally displaced people are moving back to their homes and into the cities. People vote with their feet. They are obviously saying to themselves: It is better there than where I am.

So I think that as a key indicator the flow of refugees back into that country ought to tell us that it is certainly not stable like Washington, DC, or San Francisco or wherever, but for Afghanistan it is not bad.

The humanitarian workers are able to get around for the most part. Big areas are reasonably secure. People get killed every once in a while, just like they do in the United States and Europe. It

is nowhere near as stable as here, but it is a vastly better place than it was.

I do not know what the situation will be with the government except that the interim government is in place, the loya jirga process is underway. They are going to go from an interim government to a transitional government in the period ahead. The skirmishes you refer to are correct. There are periodically mild dustups between the so-called warlords or regional leaders, for a variety of reasons. Sometimes it is fights between people over personal grudges from before. Sometimes it is over turf. Sometimes it is over control of a border.

I do not know. I am told if you wanted to have as many peacekeepers in Afghanistan, given the size of the country, as we have per population or per square mile in Kosovo or Bosnia, it would be just over 100,000. The question is how do you do that proportionately. Even in those countries you still have some untidiness, Bosnia and Kosovo.

We are not against an international peacekeeping force expanding. If that is what people want to do, it might be a good thing. There is no one opposing it. The problem is there is no one stepping up and wanting to do it. Indeed, the United Kingdom that led the first ISAF asked to be relieved. The Turks have agreed to come in if we give them assistance, which we are doing, but they have asked not to be extended. Some other countries are in the process of moving out of the current ISAF. If there were countries that were eager to take over and eager to come in and put peacekeepers in there, I am sure the Karzai government would be happy to have them.

What we are doing is we are trying to find the terrorists around the world that are trained to kill innocent men, women, and children. That is a big task. It is an enormous task. We are going to have to keep on in Afghanistan until we keep finding more al Qaeda and Taliban and the ones that are in the neighboring countries.

But in addition we are helping to train the Afghan army. The Germans are helping to train the Afghan police force. I do not know, I do not know what else one can do. You cannot do everything. You have to make choices. And the government is anxious to have an Afghan army and so we are helping do that. If other countries want to step forward and do the international security assistance force, I think that is fine.

U.S. ROLE IN AFGHANISTAN

Senator FEINSTEIN. But we are not, is that correct?

Secretary RUMSFELD. What we are doing with respect to the ISAF is we have agreed to provide logistics, intelligence support, communications assistance, and last we have agreed to be a quick reaction force to assist the ISAF if they get in difficulty.

Second, with respect to the second phase of the ISAF, we are the ones out with the donors conference trying to help the Turks raise the money so that they can take over the leadership of ISAF. We have agreed to do all the things we did with the British leadership and in addition we are now negotiating a memorandum of understanding with the Turkish government which will undoubtedly

leave us in a position of providing even more assistance for the Turkish ISAF leadership than we did for the British. So we are doing quite a bit.

Senator FEINSTEIN. Thank you. My time is up. Thank you very much.

Secretary RUMSFELD. Thank you.

Senator INOUE. Thank you very much.

Senator BOND.

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

Mr. Secretary and Chairman Myers, welcome. As a former Governor and as co-chair of the National Guard, obviously I am very much interested in the high level of involvement of Guard and Reserve forces in homeland security and it concerns me very much that the establishment of the Northern Command does not appear to have involved sufficient input from senior National Guard leaders. The adjutants general, the Governors, have a role in this and I think they ought to be able to participate at the high level.

Do you envision incorporating the National Guard input from the States at the most senior level? To give you a hint of what I am thinking about, I have proposed legislation to make the deputy commander a representative of the National Guard. So I would appreciate it, General, if you want to respond to that.

General MYERS. You bet, Senator Bond. I think you raise a very important issue. As you know, this command does not stand up until October 1, so we are in the implementation planning phase, if you will, where issues like that are being discussed and trying to find the right way forward.

I think you are right in your assertion that any command such as this is going to have participation from National Guard units and Reserve component units as well as active duty units. In fact, there will probably be a fairly heavy reliance on some National Guard capabilities. I do not think there is a question.

The issue of whether or not you should have a senior Guard person in the hierarchy there I think is still being considered. My personal view is I think somewhere in that hierarchy that would be appropriate. I think we need to have that.

Senator BOND. I think you have a real problem and, based on past experience, it is a very difficult one to solve. So we will look forward to working with you. But I am afraid that, from what we have seen, that only giving the appropriate rank to a member, to a leader of the National Guard, will solve the problem. If he does not have enough stars, they are not going to be paying any attention to him or her.

General MYERS. We are going to work all that. I think those are valid concerns, but I think they are concerns that the Secretary and I and the folks that are working this implementation plan, which we are right in the middle of, are going to work.

Senator BOND. Thank you.

Let me move to another one, either Mr. Secretary or Mr. Chairman. Recently it was discovered that a tail stress problem exists in the F-22 Raptor. It is already the Nation's most expensive fighter and the testing will be delayed as changes to the airframe are considered. Air Force officials said last fall they found certain high force maneuvers put unacceptable stress on the tail of the F-22.

Given the fact the aircraft will cost over \$200 million when completed and the overall program cost is over \$60 billion and rising, as you are looking at the budget constraints is there consideration being given to adjusting the current planned buy of 339 aircraft?

General MYERS. I can talk a little bit about the fin buffet problem. I relied for a while on some articles in the press that turned out to be incorrect. I talked to General Jumpers, Chief of Staff of the Air Force, last week on this issue to find out what the issue was.

When you have twin tails we know we have a buffet problem. We have it in the F-15 and you have probably ridden in the F-15. You can look behind you at high speeds and you can see the tails back there move. It is one of the phenomena.

Senator BOND. I am scared to look back. I was worried enough just looking forward.

General MYERS. Me too, Senator. But even on the world-renowned and the great F-15 that is built in St. Louis there—

Senator BOND. Thank you.

General MYERS [continuing]. That I have several hundred hours in, even in that airplane we have this issue.

On the F-22, I understand it is not even an issue yet. It is one of those things that they predict that at the edge of its service life out at 8,000 hours they might have a problem that affects the rudder back there on the fins, and certainly they are taking steps in the test program to characterize this.

In terms of the numbers, I will let the Secretary handle that.

ADJUSTING F-22 PROCUREMENT QUANTITIES

Secretary RUMSFELD. Well, this goes back to the question that Senator Stevens raised early on about this time line. As we have indicated, the Department of Defense, while you are working on the 2002 supplemental and the 2003 budget, we are working on the 2004 to 2009 budgets. As we do that, the defense planning guidance gets completed, which it now is, and in that there are a series of studies that are called for.

If there seems to be no question about something, it goes in basket one and we may just say continue this or do this. If there is a question but we feel that the service or the joint staff or the OSD has not looked at some options, we take basket two and say come back with some options, but make sure this particular option is included. Then in basket three we say just come back with options; we don't have an option we want you to look at for sure. Last is a plan to deal with something.

Now, there are dozens of things that have been lumped in one of those four baskets in the defense planning guidance. What happens during this period that you are working on 2002 and 2003, we are working on 2005—correction, 2004 to 2009. All of those things are under review. As I said to Senator Stevens, I do not know that there is any way on Earth that this can—that we could do it any differently.

We simply need that time to build the budget. We are reviewing what ought to be in that budget for 2004 to 2009.

Senator BOND. Thank you, sir. The Navy has made readiness—

Secretary RUMSFELD. Could I? I am sorry to interrupt. I apologize. The question—the dilemma we face is let us say that in a month or two or three those studies come out and you are still working on our bill. Should we tell you then or should we wait until you have gone out of session in December and the new budget comes out? It is hard to know.

Senator BOND. Mr. Secretary, I apologize. We are working under time constraints—

Secretary RUMSFELD. Oh, I am sorry.

AVERAGE AGE OF AIRCRAFT AND SHIPS

Senator BOND [continuing]. And I had a couple of questions I wanted to add. The Navy's near-term readiness emphasis has benefited depot maintenance, spare parts and ammunitions, but shipbuilding and tac air have been negatively impacted. I was recently told for the first time in the history of the Navy the average age of naval aircraft is older than the average age of ships.

I am concerned that we are spending good money on aging platforms that have reached the end of their useful life, such as the F-14, which costs about twice as much to maintain as the F-18. The plan for retiring F-14's calls for replacing them with F-18's. Yet this year the DOD reduced the F-18 buy with no guarantee the shortfall would be made up in the coming years. I am very much concerned about it.

I am told the Navy has a plan for adjusting tac air, but the overall shortfall in the Navy's shipbuilding and tac air account may limit it. Do you have a plan for improving the procurement of shipbuilding and tac air?

Secretary RUMSFELD. Well, we do. In my opening statement I did not go through that portion, but in the written version we indicate what the plan is with shipbuilding. You are quite right, we do have to increase it in the forward year defense plan that we are currently working on and we intend to do that.

Second, with respect to the tactical aircraft, you are also correct. As the age of those aircraft goes up, the cost of maintaining them, the difficulty of spare parts, is a very serious problem. When you go on a procurement holiday during the 1990's and you arrive in the year 2001, 2002, you have to pay the piper. One of the reasons the shipbuilding budget is lower is because the Navy made some tradeoff decisions and therefore the budget is as proposed.

With respect to the F-18, I am told that we have a multi-year procurement contract and that the proposal we have in for 2003 for 44, the multi-year contract commits the Navy to purchasing 48 plus or minus 6 aircraft, so we are well within the contract.

Senator BOND. Thank you, Mr. Secretary.

Senator STEVENS [presiding]. Senator Domenici.

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

Senator STEVENS. Wait, wait, wait. My mistake. Senator Shelby.

MISSILE DEFENSE FUNDING CUTS

Senator SHELBY. Thank you, Mr. Chairman.

Secretary Rumsfeld, Senator Cochran brought up the cuts in the missile defense program that you are very aware of and we are all going to be working with you to restore. What my concerns were

in this area are the cuts, yes, but where were these cuts? Some of them were specific to the program. In other words, if you stop the critical development initiatives in the program, like systems engineering, system integration initiatives, and so forth, you are really going in the back door to kill missile defense as I see it. I think that is what some people would like to do.

I appreciate your comments on that. I know that you are going to fight to restore those cuts. We are going to fight with you and I believe we will prevail at the end of the day, at least I hope so.

Secretary RUMSFELD. Senator, thank you. You are exactly right, not only were the funds reduced, but the funds were reduced in a micro way—

Senator SHELBY. That is right.

Secretary RUMSFELD [continuing]. That go directly to our efforts to have a broad-based research and development program across a range of possibilities, and they are particularly harmful because not only of the total amount, which is significant in and of itself, but the way it has been done.

SCIENCE AND TECHNOLOGY FUNDING

Senator SHELBY. Targeted. Thank you. Well, I look forward to working with you and others on the committee for this.

Into another area, science and technology funding. DOD remains, Mr. Secretary, below the 3 percent funding target for science and technology research that you set. I believe—and we have talked about this before at these hearings—robust investment in fundamental science and technology is absolutely essential to transformation and future success.

You have demonstrated your interest in transformation and are looking to future weapons. Science and technology is where so much of this comes from. Mr. Secretary, with that in mind, when will the Department of Defense meet the 3 percent goal and show a stronger commitment to basic science and technology research? How do we do it? I know we are talking about money, but we are also talking about priorities, are we not?

Secretary RUMSFELD. Exactly right. It is a matter of priorities and it is in my view a reasonable goal to get up to the 3 percent level. Where we are this year is we are coming in with a proposal that is higher than last year's—

Senator SHELBY. It is.

Secretary RUMSFELD [continuing]. Presidential request proposal. Now, as you know, what happens when the budget gets up to the Congress, it gets changed around quite a bit and things get put into that number that we had not requested and that we do not believe are directly headed towards helping the problem you have posed as to how do we develop these capabilities out 5, 10, 15, 20 years.

Senator SHELBY. That is a priority for you, is it not?

Secretary RUMSFELD. Absolutely.

Senator SHELBY. The science and technology funding for the weapons of the future.

Secretary RUMSFELD. Absolutely.

I would have to go back and look, but my recollection is we are on a trajectory to get up to that 3 percent during this forward year defense plan.

Senator SHELBY. Could you furnish that for the record, if you would?

Secretary RUMSFELD. Yes, sir.
[The information follows:]

While the Department continues to embrace the goal of achieving a level of funding for science and technology (S&T) that represents 3 percent of total obligational authority (TOA), the events of September 11th and nearer term military requirements have slowed our programmed achievement of that goal. The fiscal year 2003 President's Budget Request reflects S&T funding at levels over 2 percent across the future years defense program. The following table reflects the S&T funding levels through fiscal year 2007:

Fiscal year	S&T	Percent of DOD TOA
2003	\$9,890.1	2.7
2004	10,228.8	2.7
2005	10,499.7	2.6
2006	10,312.4	2.4
2007	10,420.5	2.3

Senator SHELBY. I appreciate that.

Mr. Chairman, that is all I have.

Senator STEVENS. Senator Domenici.

COMPENSATING MILITARY PEOPLE

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

Mr. Secretary, just by way of an observation, I have on a number of occasions in the past couple of weeks run into Americans who have walked up and want to say something to me. In the four instances that I am going to refer to they have all been people that wanted to tell me that their spouse was in the military and just yesterday that spouse was a marine pilot and the spouse was telling me that they had been married for 2 years and how scared she was because for the first time he could not tell her where he would be, at least for a while.

But then she volunteered and said how grateful she and her husband were for the pay which had increased so dramatically for her husband, a very experienced marine pilot, and for their housing allowance, which is the first time I had heard somebody walk up and mention it, and indicated that she hopes everything will go well for her husband and he was ecstatic about going to war, going off to do what he signed up to do.

But more important, she said: I want to tell you that we think you care about us. I think that is happening to our military personnel across the world wherever they are. I think what they are doing and our concern through you and our President and the Congress is actually, it is hitting a real, real important kind of vein in these Americans who are serving us. I hope you know that already, but I think it is important that we share it with you because we get plenty of complaints and we share them with you.

Secretary RUMSFELD. Sure. Well, I am pleased to hear that. You are right, there is nothing more important than the human beings

who make up this great armed forces for us, and they do a wonderful job and they deserve to be appropriately compensated.

U.S. RELIANCE ON SPACE

Senator DOMENICI. I want to talk a little bit here now about a memo that was circulated to senior Pentagon officials suggesting that the United States may be too reliant on space systems. I understand, I know that you have been a strong proponent of leveraging our advantage in space for military purposes and I too have supported research being conducted at places like the Sandia Space Vehicle Directorate at Kirtland Air Force Base next to Sandia Laboratories in Albuquerque.

Could you elaborate as to why you have raised this concern about our overreliance on space and has that concern been prompted by operations in Afghanistan?

Secretary RUMSFELD. Well, I do not know what memo you are referring to. Is it a memo that has my name on it?

Senator DOMENICI. Yes.

Secretary RUMSFELD. The concern that has been discussed—and I would like to have General Myers comment as well; he used to head up the Space Command, as you know. The concern that exists is we have a wonderful advantage because of our space assets and they began back in the Eisenhower period and they have contributed a great deal to our ability to do what we do. A great many of those assets are not hardened and therefore one has to ask the question, if you have that potential vulnerability how do you manage that?

One of the things you can do is to harden them. The other thing you can do is to have certain types of redundancies and see that you are getting what you need from multiple sources, rather than single sources.

Senator DOMENICI. Well, let me shift over to you, General. First of all, I never get a chance to thank you for what you do. I see him a little more than I see you, but I want to extend my thanks to you for the way you have been conducting yourself—

General MYERS. Thank you, Senator.

Senator DOMENICI [continuing]. In behalf of our country.

I know that you and the Secretary have highlighted the importance of the war in Afghanistan and investment to further the objective force. In particular, we have seen the importance of the interoperability of our air and ground units in Afghanistan for coordinating close air support and support from heavy bomber strikes.

If I am not mistaken, General, the Theater Aerospace Command and Control Simulation Facility that is at Kirtland Air Force Base provides virtual simulation training for the Air Force crews and also joint exercise with the Navy and the Army as well. I raise this issue because I believe that NACCSF could rapidly enhance the kind of networked operation capabilities that you have mentioned in your testimony.

So first, if you are familiar with that facility would you care to offer your comments about how you see it accelerating the interoperability of forces?

General MYERS. Senator, I am familiar, but not familiar enough to answer that directly today. So I will furnish that for the record.

But on inter-operability—

Senator DOMENICI. Yes, sir.

[The information follows:]

THEATER AEROSPACE COMMAND AND CONTROL SIMULATION FACILITY (TACCSF)

ACCELERATING THE INTEROPERABILITY OF FORCES

The Theater Aerospace Command and Control Simulation Facility conducts exercises in a shared, virtual battlespace environment such as DESERT PIVOT. The recent DESERT PIVOT exercise (13–17 May) included participants from all four Services. This exercise included horizontal and vertical integration of command and control assets in a simulated air war. Participants were both local (operating in-house simulations) and distributed (operating simulators at other sites around the country). This exercise provides an opportunity for the Services to practice command and control of military operations in a virtual environment. In this way crews can learn the capabilities and limitations of other Service systems as they could otherwise do only in combat.

General MYERS. Clearly there is, as I said in my opening statement, too, there is clearly no more important requirement than to ensure that when our forces go on a mission that they be able to coordinate among each other in a seamless way. We do a pretty good job of that today, but we can do a much better job. So simulation facilities and other capabilities like that are essential to that capability and to that requirement. I will just say that and then I will furnish for the record on the facility specifically in Albuquerque.

Senator DOMENICI. I will submit two questions on that same issue to each of you.

General MYERS. Okay. Can I go back to the space piece for just a second?

Senator DOMENICI. Indeed.

General MYERS. Once I got to Space Command and had been there just a little bit of time, it really did become apparent that the wonderful advantage we acquire from having preeminent space systems can also be an Achilles' heel if we do not watch it. I think the Secretary is absolutely right, we often do not even know if our systems are under attack. If you go back to this commercial satellite 5 or 6 years ago that failed and people's pagers did not work, doctors could not get to work, bank transactions could not be made, you could not swipe your card in a service station and expect to pay for the gasoline because it would not transmit through this one satellite.

The frustrating thing to me was that until you investigate you do not know what the situation is. Are you under attack? Did you have a malfunction? What is it that is causing this problem?

I think the 2003 budget and previous budgets have dealt with this in a fairly responsible way. But it is one of the things we have got to keep our eye on. If you look at our communications satellites, without going into a lot of detail in open hearing, they are fairly vulnerable. Global positioning system satellites, that signal is a very, very weak signal and vulnerable as well. On and on you go on our space systems.

I do not think anybody is proposing that we do not need these space systems. We just need to take the step that makes sure that

we know what is happening to them when they are on orbit and that we know the difference between malfunctions and attacks, that we, if you will, the term "harden" as the Secretary uses, if we harden them, make sure they have the ability to tell us what is happening so we can analyze them properly and take corrective action.

Senator DOMENICI. There is a lot of research going on on hardening, is there not?

General MYERS. Absolutely, and that is all required. We have just got to pay particular attention because we get great leverage from these assets. We need to make sure that we protect them.

Senator DOMENICI. Thank you.

Thank you, Mr. Chairman.

Senator INOUE [presiding]. Thank you very much.

Senator Hollings.

GETTING MORE C-17'S AND PILOTS

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

Mr. Secretary, I am somewhat hesitant on the question, not important to a Defense Secretary, but very important to Charleston, where we have the C-17's based. In fact, we had all the 141's and around the clock in Desert Storm they did an outstanding job. Right to the point, they are doing an amazingly outstanding job right at this minute in Afghanistan. Eighty percent going in there, you do not take a boat; you fly in, and it is the C-17's that are bringing them in.

Now, we had 120 C-17's were planned and we were assigned in Charleston 54. General Myers or somebody can get these figures down. We had a beddown of the additional 60. In addition to the 120, we were going to get 60 more, which we all support. But instead of getting more, we are cutting Charleston back from 54 to 46 in order to look like assign where they have no C-17's whatever, but they do have some good political leaders in these areas, at Travis, Dover, March, Elmendorf, and Hickham.

I know better than any because I have been out there over a month or so ago and shook hands again with all the pilots to thank them for what they were doing. We have an outstanding Reserve unit. In addition to the 437th, we have the 315th Reserve. Actually, the Reserve are flying a little bit more than 50 percent of the flights.

Point: You do not have Reserve C-17 pilots at these other things, and it looks good on a sheet of paper, well, we just put a few around here to get the vote to get the extra 60. But you do not need that. Everybody is going to support you and the Defense and President in making sure we get the additional 60 C-17's and it is not necessary, whereas you are going to unfairly penalize those who have been doing the outstanding job and been gearing up to get the additional ones and everything else on the one hand, but on the other hand not have the Reserve units.

We do need more C-17 pilots at this minute. I have been trying to see if we can get more trained and into the regular Air Force. But look at those figures or have the staff look at those figures and say, heavens, just do not penalize the people who have been doing the good job. Just at least get us the original number of the 54,

rather than—we got a briefing just the other day they are going to cut me back to 46 to make these reassignments, which I do not think are in the interest of the Defense Department because you do not have the Reserve pilots and you do not have the Reserve units for C-17's at all of these various fields and everything otherwise.

So I would appreciate it if you could get someone on the staff to look at that.

Secretary RUMSFELD. We will certainly do it, Senator. There is no question but the C-17 fleet is important to us and we will get back to you with some answers.

Senator HOLLINGS. I appreciate it.

Thank you very much, Mr. Chairman.

[The information follows:]

C-17

We recognize the vital role C-17 Reserve crews are playing in our war on terrorism. Currently, these C-17 crews are Reserve Associate crews based at McChord Air Force Base, Washington, and Charleston Air Force Base, South Carolina, and help us fulfill our airlift role by flying a large portion of the C-17 missions in Afghanistan. In light of this fact, the Air Force plans to utilize other Reserve units at Travis Air Force Base, California, Dover Air Force Base, Delaware, March Air Reserve Base, California, Elmendorf Air Force Base, Alaska, and Hickam Air Force Base, Hawaii. As part of our Mobility Force Structure brief presented to Congress on April 15, 2002, the Air Force plans to redistribute assets from current beddown locations. In doing so we plan to convert one C-5 Reserve Associate unit at Travis Air Force Base, California, and one C-5 Reserve Associate unit at Dover Air Force Base, Delaware, to C-17 Reserve Associate units. We plan to create a C-17 Reserve Associate unit at Elmendorf Air Force Base, Alaska, and plan to convert the Reserve C-141 unit at March Air Reserve Base to a C-17 unit equipped unit. The C-17s at Hickam Air Force Base, Hawaii, are planned to have an Air National Guard Associate unit. Creating C-17 Air National Guard and Air Force Reserve Command active duty/associate units in Hawaii, and Alaska is consistent with the new military strategy emphasizing increased chances of future military action in Pacific.

General MYERS. Can I take this opportunity, Senator Hollings, just to tag onto what you said about those great air crews? I have traveled in the theater, in General Frank's theater, and I took the liberty on one occasion to fly up with the crew in the front end of the C-17 up on the flight deck with a fairly young crew. I think we had maybe a captain and a lieutenant in the seats and a captain backing up behind.

This was a flight from inside Uzbekistan down to a forward operating location and then into Afghanistan the next day, into Bagram, down to Kandahar, and then back to Uzbekistan. It required tactical approaches to some of the airfields because of the threat. It required the use of night vision goggles.

I will tell you—and they were out of Charleston, it just so happens, as you would probably expect—what a tremendous job those young men and women, because one of the crew members of course was a woman, what these young men and women do. I just could not pass up the opportunity to on the record say how impressed I was with their professionalism, their dedication, and the C-17 for that matter.

Senator HOLLINGS. I thank you very much, General. Their morale is high and I want to keep it high. It would somewhat be injured, I feel—I know I am injured if you are going to start cutting me back just after we have been doing an outstanding job.

Thank you.
Senator INOUE. Thank you.
Senator Kohl.
Senator KOHL. Thank you, Mr. Chairman.
Secretary Rumsfeld.
Secretary RUMSFELD. Sir.
Senator KOHL. Good morning.
Secretary RUMSFELD. Good morning.

AVIATION SECURITY

Senator KOHL. This weekend Vice President Cheney told the American people that another terrorist attack was in all likelihood imminent. However, at the same time these warnings are being sounded, combat air patrols around our cities have ended. In the case of commercial aircraft, those patrols were our second line of defense, the first line of course being the screening of passengers and baggage.

In the case of chartered aircraft, however, those fighter patrols were our only defense against another hijacking. No security whatsoever takes place on chartered aircraft, which would allow a terrorist to charter a large aircraft, board with his friends, carry on luggage with explosives, and use that aircraft as a weapon against innocent civilians exactly as what happened on 9/11.

In light of these recent warnings, I am more determined than ever to see this enormous gap in our aviation security system addressed. So I would like to ask you, Secretary Rumsfeld: Do you believe that currently unsecured chartered aircraft pose a security threat? How serious is that threat? How important is it that we address that threat as quickly as we can? Is the Department of Defense working with the Department of Transportation to deal with this threat?

Secretary RUMSFELD. Senator, let me take that in pieces. It is an important question. Vice President Cheney was exactly correct in his statement on Sunday. We do face additional terrorist threats and the issue is not if but when and where and how. We need to face that.

Certainly the issue of aircraft is an important one. I can say without question or debate or any concern at all that our security today is vastly greater than it was on September 11th, for some of the reasons you have mentioned, but for some other reasons as well. There is no question but that the commercial airliners are doing a much better job in terms of security. We have security in airports. There have been men and women in uniform up until this month and they are going to be transitioned out later this month.

In addition, the radars—our whole defense establishment was oriented out to look for foreign threats and that has now been changed. The radars that we are using in the United States do a vastly better job of managing and tracking air traffic in the continental limits of the United States and indeed in Hawaii and Alaska as well because of the changes in radars, and the linkages between the North American Aerospace Defense Command (NORAD) and the Federal Aviation Administration (FAA) is now excellent.

Now, the combat air patrols have not been eliminated. We still have random combat air patrols. We still have random Airborne

Warning and Control System (AWACS) flights. We believe we have a system which is uneven in how it is done for the very purpose of confusing people as to how it is done. It is not a regular pattern as to what we are doing, but we feel quite confident that it is doing a good job.

So I think that any aircraft has the ability to fly into any target, whether it is a nuclear powerplant or a school or a hospital or a building. That is a fact and it is not possible to ground all aircraft. There what we have to do is to balance out, as we have done, the whole host of things, but the principal place the work gets done is on the ground, as you suggested.

GENERAL AVIATION AIRPORTS

Senator KOHL. I am not sure if I made myself clear. General aviation, private airplanes, chartered aircraft, there is no security. Nothing prevents anybody from boarding those aircraft. When you go into any of those terminals, there is nothing that happens to take a look at who is boarding, with what they are boarding, and what their intentions might be, which sets up a situation potentially exactly, Secretary Rumsfeld, like 9/11.

Secretary RUMSFELD. Well, I would have to talk to the Department of Transportation. They are the ones, of course, who are managing the airports.

Senator KOHL. Well, I guess I would ask you this question. If I am citing the facts correctly that there is literally no security at our general aviation airports, that anybody can board an aircraft without being looked at in even the most cursory way, would that disturb you?

Secretary RUMSFELD. There is no question but that, given the warnings we have had and the use to which aircraft can be put, that that is a problem if it is true. I just am not knowledgeable about whether or not general aviation airports are as you characterized them. I am sure you are right, but it is really something that the Department of Defense is not involved in. It is a Department of Transportation responsibility and I would have to check with Secretary Mineta, which I will be happy to do.

Senator KOHL. I would like to suggest you might give him a call at your earliest convenience.

We are working with them and I wanted to raise that issue with you because I know it is something that would concern you also.

Secretary RUMSFELD. Yes, sir.

STRATEGIC NUCLEAR WEAPONS REDUCTIONS

Senator KOHL. Last question, sir. President Bush will sign an arms control agreement very soon with Russia that will reduce our deployed strategic nuclear arsenal from roughly 6,000 weapons to between 1,700 and 2,000. The agreement does not call for destruction of the 4,000 or so weapons. Instead, the President intends to keep these weapons in storage. Clearly, 1,700 to 2,000 strategic nuclear weapons are more than enough to deter any would-be adversary.

The question I am asking you is whether you envision any scenario that would require 6,000 strategic nuclear weapons? After

that the question is, so why do we not destroy those 4,000 or so instead of putting them in storage?

Secretary RUMSFELD. Yes, sir, Senator Kohl. Technically, the treaty that is going to be signed is 1,700 to 2,200, as opposed to 2,000.

Senator KOHL. Yes, I am sorry.

Secretary RUMSFELD. I think that the important thing that came out of the Nuclear Posture Review was the dramatic downsizing of our offensive operationally deployed strategic nuclear weapons that the President has proposed and that we are in the process of getting on that trajectory now with the decisions made with respect to Peacekeeper, for example, as well as some submarines.

What will actually happen to the warheads is an open question. Some will undoubtedly be destroyed. Some will replace warheads on other strategic nuclear weapons that we intend to maintain in the fleet. Still others will be stockpiled for safety and reliability problems.

One of the nightmares in this business is that the phone will ring and we will be told that a whole class of our weapons are no longer safe or reliable, for whatever reason. As you know, they are looked at and checked from time to time and the Department of Energy has that responsibility. To the extent that we get that call—and it happens from time to time—that some class of weapon is under question, then we would need to replace that class of weapon with some other weapons. So it is perfectly appropriate to have additional weapons.

If you think about it, time and money can change the number of weapons you have. Russia today has open production lines for nuclear weapons. We do not. It would take us years to start up our ability to make nuclear weapons, warheads. Therefore, having additional weapons to be able to use them in the event of a problem with safety and reliability, it would be mindless not to. It would be inexcusable for us to destroy all those weapons and not have them as a backup in the event they are needed.

The other issue that you did not mention, which is something that is important to me and I know to the President, is the theater nuclear weapon issue, which keeps getting set aside. The Russians have many thousands, multiples of the numbers we do. They also have a long queue of nuclear weapons that have not yet been destroyed and they also have a lot of piece parts that could be reassembled conceivably.

So the problem of what we do with those is an important one, as you have suggested. But I think what is even more important is the drawdown from five, six, whatever the numbers may be on their side or our side, down to 1,700 to 2,200.

SECURITY AND MANAGEMENT OF NUCLEAR WEAPONS

Senator KOHL. Are we not very concerned about the other side not destroying, even more so than ourselves?

Secretary RUMSFELD. I would not put it that way. I would put it that we are worried about their management of their nuclear weapons and the security of them and the risk that they could get loose and be available to people who we would prefer not to have them. Quite honestly, it does not make a lot of difference whether

they destroy them or not. If one is worried about what they might do with them, it is more an issue that, as you have suggested, of the security of them.

I would expect they would have the same interest in keeping some for safety and reliability as we would, for example.

Senator KOHL. Well, some minimum amount on both sides. But are we not and have we not been for some time concerned about the security?

Secretary RUMSFELD. You bet.

Senator KOHL. And to the extent that weapons, nuclear weapons, are stored and not destroyed, then that concern about security is there, is it not?

Secretary RUMSFELD. Absolutely. I am not worried about the security of our weapons, sir.

Senator KOHL. I agree with you. But in order for them to destroy their weapons, they would need that agreement on our side?

Secretary RUMSFELD. Oh, I do not think so. We did not need this treaty in a sense. The President announced he was going to go down to 1,700 to 2,200 regardless of what the Russians did. Then Mr. Putin announced that he was going to do that. The agreement is useful, I suppose, but we were going to do what we are going to do regardless.

The problem with the issue of destroying those weapons, one problem I have mentioned. A second problem is this: There is not any way on Earth to verify what people are doing with those weapons. To get that kind of transparency or predictability into what they are doing, you would have to know what their production rates are, how fast they could increase to production rates and make new weapons, if you are worried about how many weapons they have, the extent to which they could take tactical nuclear weapons, theater weapons, and reform them into strategic offensive nuclear weapons, the extent to which they could take piece parts and reassemble them into offensive nuclear weapons.

So there are so many things one would have to look at that the idea that you could verify it—we could not verify it. Now, in our country everyone knows what we do. Goodness gracious, there is not anything that the General or I even think that does not end up in the newspaper 5 minutes later. But everything we do is transparent and when we destroy weapons everyone in the world knows it. When we do not destroy weapons, everyone in the world knows it.

That is not true in Russia. It is not true even today. We do not have a good grip on how many theater nuclear weapons they have. We do not have a good grip on what their production rates are for nuclear weapons in a given year.

So I think this understanding, which has been turned into a treaty, is a good thing. I think that the country is doing the right thing in attempting to turn Russia toward the West and take steps which will reassure them that we in fact intend to do this, so that they can reassure those in their country who are doubting. There are some people in their military who doubt these things and wonder if this turning West by Russia is really going to be the right thing for Russia or the permanent thing for Russia. If a treaty helps in that regard, I am all for it.

Senator KOHL. I quite agree with you and I also believe that it is an excellent agreement. I would like to hope that as time moves on we can move from stored nuclear weapons on both sides to destroyed nuclear weapons on both sides. I think you might agree with that.

Secretary RUMSFELD. Thank you, sir.

Senator KOHL. Thank you, Mr. Chairman.

Senator INOUE. Thank you very much.

ADDITIONAL COMMITTEE QUESTIONS

Mr. Secretary, General Myers, on behalf of the committee I thank you very much for your appearance today and for your testimony. In the coming weeks we will review the testimony we have received to formulate our recommendations to the full committee. We will do our very best to expedite this process. Having said that, there are many questions that we would like to submit to you. Members have asked me to submit them in their behalf and we look forward to your responses to them.

[The following questions were not asked at the hearing, but were submitted to the Department for response subsequent to the hearing:]

QUESTIONS SUBMITTED TO HON. DONALD H. RUMSFELD

QUESTIONS SUBMITTED BY SENATOR DANIEL K. INOUE

LEGISLATIVE AFFAIRS STAFFING

Question. Secretary Rumsfeld, last year the Committee made a great effort to support you in some of your initiatives such as transformation of combat units, reducing outdated legislative reporting requirements, and in reducing the headquarters staff committed to legislative liaison. The fiscal year 2002 Defense Appropriations Act contained a provision which capped the number of personnel committed to legislative affairs positions. Unfortunately, the Department has reported to the Committee that rather than reducing these staff positions, 661 people are now committed to these jobs. Last year the Department reported that 464 people were committed to these staff assignments. How are you implementing the direction of Congress, and do you need further assistance?

Answer. Last year I testified the department required 464 legislative personnel to handle the requirements from the Congress. Based upon your legislation of last year we again determined the number of personnel in legislative functions and redefined what is actually legislative liaison versus legislative support. We have now determined that there are 218 personnel throughout the Department of Defense directly committed to full-time legislative affairs positions. A legislative liaison position is defined as, "Those individuals having responsibility for direct and personal contact and communications to provide advice, information, and assistance to the Congress on all Department of Defense issues." In addition, we have another 443 personnel in support of legislative requirements. Personnel filling those positions are defined as, "Individuals that have responsibility for assisting those who perform direct legislative liaison functions." These functions are normally administrative in nature. For example, the Army has 35 personnel responding to Congressional correspondence alone, which are normally responses to Congressional constituent letters.

At the same time, we determined the Department had a total of 31 personnel providing appropriations legislative liaison and an additional 11 personnel providing appropriations legislative support.

Question. Secretary Rumsfeld, do you intend to reduce legislative affairs staff during fiscal year 2003?

Answer. I have learned that because of the congressional requirements placed on the Department our legislative liaison staff is staffed properly to meet those requirements. It is my belief that we are under the cap of 250 personnel you directed in your bill last year so I do not intend to reduce the total number of legislative affairs personnel any further during fiscal year 2003.

NAVY SHIPBUILDING

Question. Secretary Rumsfeld, many of the reviews emerging the Department of Defense last year differed in the number of ships necessary to fulfill Navy requirements. Recommended numbers ranged from 310 to 360 vessels. Have you made any progress in determining the actual number of ships required? How has the emerging requirement for a fleet of Littoral Combat ships changed this requirement?

Answer. The Department's Quadrennial Defense Review dated September 30, 2001, identified the current fleet of approximately 310 ships as the baseline from which the Department will develop a transformed force for the future. The Department recognizes that the number of ships in the fleet, in and of itself, is not the best indicator of fleet capability. Ships of today are more capable and advanced. Therefore, when compared to fleets of the past, fewer ships may be adequate to meet current requirements. However, in light of our new defense strategy, requirements may change. The Department annually assesses the current fleet and its capability against the projected operational requirements for warfighting and peacetime missions of the Navy. The results of these assessments are reflected in the budget submittal each year. The number of ships required for the Navy will change over time as requirements, technology, and capabilities evolve.

The restructuring of the DD 21 program into the family of surface combatants will result in DD(X) destroyer, CG(X) cruiser, and littoral combatant ship (LCS) platforms. The quantities required for each class of ship has not been determined at this time.

Question. Secretary Rumsfeld, I remain extremely concerned about the prior year shipbuilding bill. The fiscal year 2003 budget requests \$645 million for this purpose and there is word that next year's bill will be even larger. What actions have been taken to correct this problem?

Answer. The table below is a summary of the Department of the Navy completion of prior year shipbuilding requirement across all major shipbuilding programs as reflected in the fiscal year 2003 budget request

[Then-Year Dollars in Millions]

	Fiscal year—							Total
	2001	2002	2003	2004	2005	2006	2007	
LPD-17	140.0	173.0	242.7	373.4	419.1	71.4	0	1,419.6
SSN-774	119.0	227.2	276.7	213.1	254.4	75.8	0	1,166.2
DDG-51	125.0	143.6	125.5	59.4	70.2	38.1	0	561.8
CVN-76	106.0	169.4	0	0	0	0	0	275.4
CVN-68 RCOH	97.0	0	0	0	0	0	0	97.0
T-AGOS	10.0	0	0	0	0	0	0	10.0
SSN ERO	0	16.0	0	0	0	0	0	16.0
Total	597.0	729.2	644.9	645.9	743.7	185.3	0	3,546.0

I am equally concerned regarding the prior year shipbuilding bill for it hampers the Department's ability to initiate new, transformational programs by tying up funds in future budgets to pay for old programs. It is my intention and that of the Navy to eliminate this funding line as soon as possible. I have implemented a policy of budgeting to more realistic cost estimates for acquisition programs to avoid this situation in the future. In the meantime, the Department is taking steps to mitigate cost overruns on current programs.

The Navy is intensely managing the Completion of Prior Year Shipbuilding requirements as it prepares the fiscal year 2004 budget submission. The Navy has implemented rigorous controls to minimize changes in programs and has challenged its industry partners to improve cost performance by reengineering processes, employing lean manufacturing, and reducing overhead. If any cost increases beyond what is currently recognized in the fiscal year 2003 budget request despite these measures, the Navy plans to de-scope existing shipbuilding contracts to stay within budget constraints.

The Department's cost estimating process is under constant review to ensure that risk factors such as low rate production, labor availability, and inflation are appropriately reflected. Aggressive sharelines and contractual incentives are being implemented to better facilitate on-target performance. From a budgetary standpoint, the Department is striving to more effectively reconcile budget and program scope prior to contract award.

The cumulative effect of these actions should provide greater control of prior year cost growth and ensure that accurate cost estimates are used for future budgeting.

MILITARY TRANSFORMATION

Question. Mr. Secretary, everyone agrees that our military must transform over time to meet possible future threats. Yet the way ahead is not clear to many and sometimes there appears to be little coordination between the military services. I have a series of questions for your comment that I hope will help clarify to the Committee what your vision is for transformation.

Technological change, plus today's political environment and public expectation demand minimal casualties in war. All appear to lead to using fewer manned aircraft and ground systems in future wars. Will our military rely more on unmanned systems in future conflicts?

Answer. Unmanned systems are increasingly being integrated into ongoing operations and new generations of these systems will incorporate even more sophisticated capabilities and sensors. Use of Predator, including versions armed with the Hellfire missile, and Global Hawk UAVs in Afghanistan are harbingers of even more advanced systems to come. Already Predator's have transmitted live targeting data to AC-130 gunships within minutes of identifying potential targets. The Air Force's Unmanned Combat Air Vehicle prototype undertook its maiden flight recently and the service is interested in developing an even more capable version of Predator. The Navy is seeking to experiment with Global Hawk in support of carrier battle group operations while putting into place plans to procure these capabilities in future budget years. That said, the UAV capabilities in the force today can be considered quite primitive compared to where they are likely to be in another 10-15 years. That is because continuing information technology advances will lead to even more uses of unmanned systems in coming decades.

UAVs will likely play a critical enabling role in linking together hundreds and perhaps thousands of small sensors that can be deployed and integrated together across a future battlefield. Tremendous power will be derived from this future type of sensing phenomena—something referred to as the power of the collective. We don't want to sense in just one or two ways, but in a multitude of ways. If sensing is important to future military operations then U.S. forces must be able to sense in depth—vertically from space to beneath the sea—and horizontally deep into an enemies territory. Tactical and operational sensing are equally important so that sensing is brought to bear in a number of ways. Certain elements of this changed strategic concept can be glimpsed during operations in Afghanistan.

Question. If we move to more unmanned systems, do you expect military force manning requirements to decrease over time?

Answer. Increased use of unmanned systems is part of the demassification of combat taking place with the widespread embrace of Network Centric Warfare. Dramatically increased levels of integrated information, necessary for the extensive use of unmanned aerial vehicles, unmanned combat air vehicles and even unmanned undersea vehicles, allows the military services to relocate where personnel are located on future battlefields. There will always be a role for the infantryman or rifleman up close with the enemy, but many other aspects of how personnel can be redistributed and used in future conflicts will be more fully revealed over the course of experimentation and the development of new operational concepts in coming years. Transformation, by its very nature, will generate broad implications for personnel policies.

Question. Transformation is not simply buying futuristic weapons; it requires changes in doctrine, battle plans, and military culture. Yet, we are building ships and aircraft carriers now that could last until the middle of this century. Do you envision our naval forces fighting in carrier battle group formations 50 years from now like they do today?

Answer. Given the pace of transformation, it is unlikely that naval forces will be organized around carrier battle group formations by the middle of the century. The widespread adoption of Network Centric Warfare will enable vastly dispersed naval forces to exert operational control over vast swaths of the world's ocean and littoral regions. These forces will be characterized by starkly different platforms, including new high-speed hull designs and littoral combat ships linked to an Expeditionary Sensor Grid composed of thousands of discrete sensors and even unattended munitions. This change is all part of the demassification of warfare taking place with the transition from Industrial Age forces to those embracing Information Age capabilities. Speed is also a critical element in this transition, which includes speed of deployment, speed of employment and speed of sustainment. The Navy is already taking steps in this direction through its experimentation with the High Speed Vessel. This joint venture, in cooperation with the Army and Special Operations Command, is yielding valuable insights into what speed can bring to operations and is opening the door to new operational concepts as well.

Question. Military transformation calls for a heavy reliance on improved information management and communications systems. How can the United States remain dominant in this fast moving, ever changing field?

Answer. Our ability to successfully transform will depend in large measure on exploiting the power inherent in information and networks, while realizing use of the technology creates opportunities for both friends and foes alike. Transforming the military services from the Industrial Age to the Information Age thus hinges on leveraging Network Centric Warfare, which is the cornerstone of future force capabilities. With potential enemies likely becoming increasingly adept in leveraging information technology, it is imperative that the U.S. military dramatically reduce the cycle time required to field new generations of networks and information systems. Continuous adaptive acquisition and operational prototyping are two ways to quickly get new capabilities into the warfighter's hands, while simultaneously working on the next iteration and the next. The net effect is a continual flow of innovative capabilities to the combat forces with those capabilities growing and changing over time. This approach offers a more efficient means to stay on the technology curve rather than freezing a design and then developing and building it over a 15–20 year time horizon.

ABM TREATY

Question. This June, the United States will formally withdraw from the ABM Treaty. Mr. Secretary, will you describe for the Committee what withdrawing from the ABM Treaty means for our missile defense program? That is, what key testing programs can now move forward? What construction and development programs can now be undertaken?

Answer. When ABM Treaty withdrawal becomes effective in June, the United States will be able to effectively and efficiently test and develop the most promising missile defense technologies, as well as, eventually, deploy layered missile defenses to protect all 50 states, our Allies, and friends. In particular, the United States will be able to proceed with testing those promising technologies that were previously cancelled because they may have conflicted with ABM Treaty prohibitions. These include the AEGIS SPY-1 radar tracking strategic ballistic missiles, and concurrently operating ABM and non-ABM radars (GPR-P and THADD). Indeed, without ABM Treaty withdrawal this June, additional test activities of this sort, as well as those involving new mobile, sea-based, and land-based ABM sensors would all likely have been cancelled due to potential conflict with the ABM Treaty.

In addition, following ABM Treaty withdrawal the United States will be able to proceed this year with construction of missile defense test facilities in Alaska; in particular, construction of the ABM interceptor silos at the Missile Defense Test Bed at Fort Greely, Alaska. Other elements of the Missile Defense test bed will be built starting early in 2003. Moreover, following ABM Treaty withdrawal, the United States will be able to pursue cooperative development of missile defenses with our friends and allies against the full range of missile threats.

SPACE PROGRAMS

Question. Mr. Secretary, modernizing our military space assets is a key to transformation, yet there are several major space programs that have experienced numerous setbacks. In particular, the Space-based infrared system and the Advanced EHF communications satellite programs have had numerous delays and cost overruns. How do you plan to get these programs under control?

Answer. The Space Based Infrared System—High Component (SBIRS-High) has had significant problems, but the Department has identified and implemented corrective actions that I feel will solve the problems. Following the discovery of a \$2 billion over-run on SBIRS-High, the Air Force chartered an independent review of the program. This found that the prime contractor and government did not perform sufficient system engineering before aggressively moving into acquisition; that configuration control and design requirements “flow-down” were inadequate; and that internal government and contractor management was poor. Common to all these problems was the experimental use of contractor “Total System Performance Responsibility” (TSPR), which has proved a failure for complex developmental programs. To correct these problems, the SBIRS-High government and contractor management teams have been either replaced or significantly restructured. The contract has been changed to remove the TSPR clause and functions, and return those to the government. A government chaired and controlled system engineering board and configuration management board will reassert control of these functions. Finally, a series of senior management reviews and expanded cost reporting tools have been

implemented to track the SBIRS-High recovery plan and execution of the new baseline.

The Advanced EHF program has encountered numerous challenges, many of which arose from an attempt to accelerate the launch schedule following the April 1999 loss of a Milstar EHF satellite. The acceleration was to mitigate delays in getting protected EHF capability to the warfighter. A sole source contracting team was created in an attempt to gain efficiencies through a single contracting team that had experience developing EHF technologies and were already working on the Milstar program. As the design effort progressed, detailed cost estimates revealed that the design complexities required to address United States and International Partner operational requirements required changes to the satellite design and drove the need for increased funding. More recently, funding perturbations from a Congressional cut in fiscal year 2002 and some yet-unrealized funds from international partners have forced schedule delays. We believe the performance issues have been satisfactorily resolved and that the current baseline design will meet all operational requirements and enable satellite communications interoperability between the United States and our key allies in future joint operations. OSD remains fully engaged and will maintain oversight on this program to assure cost and schedule stability. Finally, DOD is evaluating alternatives for the protected satellite communications requirements after the third Advanced EHF satellite. This is part of our effort to achieve a transformed national security wireless communications system that will better enable network centric warfare.

QUESTIONS SUBMITTED BY SENATOR TOM HARKIN

IOWA ARMY AMMUNITION PLANT (IAAP)

Question. Secretary Rumsfeld, last year Congress passed an amendment I introduced regarding secrecy and worker health. I was pleased to get the support of your Department for this amendment. The amendment required you to notify workers at the Iowa Army Ammunition Plant of possible exposures and tell them how they can discuss those exposures without violating any security requirements. It modified a requirement to review secrecy and security policies as they impact former nuclear plants. And it asked you to report back within 90 days.

This issue is really important to the workers and former workers at the Iowa Army Ammunition Plant (IAAP), which has a unique status as both a former Atomic Energy Commission nuclear weapons plant and an operating Army ammunition plant. Recently the Department of Energy, as at other nuclear weapons facilities, has worked hard to foster openness at the plant and to address the health concerns of former workers. Unfortunately, the Army has not been in the same position.

Secretary Rumsfeld, when will we receive the overdue report, and when will the former workers at the Iowa Army Ammunition Plant be contacted? Can you expedite this?

Answer. The report is in final coordination at this time and should be forwarded to your office soon. Efforts are continuing to finalize a contract between the Army and the researchers who will, among other health related activities, contact current and former employees who worked at IAAP. Notification efforts should begin later this summer.

Question. Do you think it makes the government look foolish when the Energy Department says a plant assembled nuclear weapons, but the Defense Department won't admit the weapons were there?

Answer. Former nuclear weapons sites within the United States are unclassified. However, it is the policy of the U.S. Government to neither confirm nor deny the presence or absence of nuclear weapons at any location independent of the classification. The basis for security requirements inherent in this U.S. policy is to deny militarily useful information to potential or actual enemies, to enhance the effectiveness of nuclear deterrence, and to contribute to the security of nuclear weapons, especially against threats of sabotage and terrorism.

Question. In 1999 the Army asked for former nuclear weapons storage sites to be excluded from the "neither confirm nor deny" policy for similar reasons, but the request was denied. Army officials have told me this is still a problem for them. Will you reconsider that request?

Answer. The Army is no longer pursuing such an exception.

OVERSIGHT OF MISSILE DEFENSE

Question. When the Missile Defense Agency was created at the beginning of this year, national missile defense programs were exempted from normal testing require-

ments, including operational testing by the Director of Operational Test and Evaluation.

How will we know if the program is ready for deployment, if it will work against realistic threats, without independent operational testing and evaluation?

Answer. The Missile Defense Agency and the Ballistic Missile Defense System (BMDS) are not exempt from testing requirements. Each of the elements of the BMDS will undergo rigorous development testing to reduce risk in the program and to demonstrate technical maturity. Testing will become increasingly operationally realistic as development of the element progresses. As the element's capability evolves and military utility is demonstrated, an operational test agent will be designated to perform operational assessments to characterize the operational effectiveness and suitability of the element as an input to decisions to produce, operate, and deploy. The Director, Operational Test and Evaluation (Director, OT&E) will review test results and provide an input to the Department's decision process as well as, when applicable, to the Congress.

Question. What are the provisions for independent oversight of this new agency and its programs?

Answer. The Director, Operational Test and Evaluation (Director, OT&E) is represented on the Missile Defense Support Group and is in a position to review for and advise the Under Secretary for Acquisition, Technology and Logistics, and the Director, MDA on potential OT&E testing issues throughout the development of the Ballistic Missile Defense System (BMDS). His staff will attend test meetings, review documentation, and have access to MDA's plans and programs to accomplish the oversight mission. In support of decisions to procure and operate elements of the BMDS, the Director, OT&E will exercise his Title 10 oversight responsibilities with respect to OT&E and Live Test Fire and Evaluation. A report will be submitted to Congress characterizing the demonstrated operational effectiveness and suitability, where applicable. The Director, OT&E Annual Report to Congress will address OT&E activities.

Question. Recently, it was announced that in future missile defense tests, information on the targets and on countermeasures would no longer be made public.

How can Congress and the public evaluate the testing and the significance for creating an effective missile defense system if we don't know what the target was or how countermeasures were deployed?

Answer. We recently revalidated the classification of this information and it meets the criteria of Executive Order 12958. Last year the General Accounting Office reviewed the classification decisions made by the Missile Defense Agency over the past decade and determined that its classification process was accurate and reasonable, and agreed that this sensitive information was properly classified consistent with DOD standards and provided protection for national security reasons. Congress will continue to have access to this classified information in closed sessions for their deliberative processes. However, the nature of ballistic missile defense countermeasures is extremely sensitive. Detailed knowledge of these techniques, technologies and systems could lead an adversary to develop capabilities that can defeat our systems.

Question. There have been repeated problems with incomplete and misleading information on missile defense tests, with problems and limitations coming to light long after initial reports have described a success. Won't these restrictions make it harder ever to find out the truth?

Answer. Without more specific information as to what, if any, misleading information, problems and limitations you are referring to it will be impossible to specifically address these concerns. We are certainly willing to provide Congress with information addressing their concerns. As to the effect of our determination that target and countermeasures information will now be classified, Congress will continue to have access to this classified information in closed sessions for their deliberative processes consistent with the way other classified national security information is handled.

PENTAGON WASTE

Question. When you first took your position I was glad to see you placed an emphasis on reducing waste and improving contracting, inventory, and financial and accounting procedures. One of my big concerns has been lack of control over inventory that is shipped from one point to another—the Pentagon loses track of vast quantities of items, some of which are restricted or classified.

Can you describe your program, and give a timeline, for implementation of modern inventory control systems? What can we do to help?

Answer. Under the Future Logistics Enterprise initiative, the Department is focusing on integrating ongoing modernization programs within the Services and the Defense Logistics Agency to introduce a modern system architecture that supports best commercial practices for supply chain and inventory management. Under that initiative, between now and fiscal year 2005, commercial-off-the-shelf or COTS enterprise resource planning and supply chain management tools are being introduced and connected with Department "legacy" systems to enable the Department to improve logistics business processes. This embracing of commercial practices and COTS technology will allow the Department, by the end of fiscal year 2007, to tap into the power of online marketplaces to create supply chain exchanges that support true eBusiness with the commercial marketplace, thus reducing the Department's need to hold inventory by focusing on managing relationships with industry. In the meantime, we are already supporting true eBusiness with some of our key transportation service providers to improve in-transit visibility. DOD's in-transit visibility system, the Global Transportation Network or GTN currently receives movement information from over 50 commercial transportation service providers and 30 DOD automated information systems. GTN collects, integrates and displays transportation movement information to permit visibility as assets transit the Defense Transportation System pipeline. In fact, during Operation Enduring Freedom, GTN has reached record in-transit visibility levels. Considering the fact that the environment in which we are currently operating had a non-existent infrastructure, we are now routinely capturing and reporting over 93 percent of all cargo and passengers moving in support of the global war on terrorism. Congress can help by continuing to support, through legislation and funding, the Department's logistics modernization efforts as we move forward in adopting commercial practices.

Question. Recent reports have shown widespread abuse of credit cards issued to make small purchases easier. How will you prevent these credit cards from being used for personal goods?

Answer. On March 19, 2002, the Under Secretary of Defense (Comptroller), in conjunction with the Director of Defense Procurement, established a Government Credit Card Task Force. Their findings have been rolled into the newly established Concept of Operations for the Purchase Card that was created at the direction of the Director, Defense Procurement. In addition to serving as a deskbook for the purchase card program, the Concept of Operations will be a tool for reengineering the program. It emphasizes strong internal controls. The Joint Program Office for the Purchase Card is also developing new training tools, including web-based offerings, that will help ensure that cardholders have the most up-to-date information on how to correctly use the card. Finally, the DOD Inspector General has developed data mining techniques that improve our ability to spot card misuse/abuse. They are currently field testing those techniques.

QUESTIONS SUBMITTED BY SENATOR ARLEN SPECTER

CRUSADER

Question. Mr. Secretary, could you explain why Army leaders say the Crusader artillery program is vital to maintaining the Army's warfighting edge over the coming decade, but you have decided to cancel it?

Answer. One of the highest priorities that the current administration has placed on the Department of Defense is the need to transform all of our military departments. Our country needs an Army that is mobile, lethal, and deployable across a wide range of future contingencies. The Crusader decision was not about any one weapon system, but really about a strategy of warfare. This strategy drives the choices that we must make about how best to prepare and equip our total forces for the future. Accordingly, I decided to recommend to Congress that the Crusader funds be redirected so as to provide resources for more promising technologies that offer greater payoffs and are more consistent with the Army's overall transformation effort.

RISK IN MILITARY STRATEGY

Question. Secretary Rumsfeld, prior to September 11th, persistent funding shortfalls, compounded with expanding requirements and record high operational tempo, had resulted in significant risk in executing the national military strategy of fighting two nearly simultaneous major theater wars. Now our country faces just that scenario should we choose to escalate our activities in Iraq? Does the increase in the proposed fiscal year 2003 budget eliminate this risk?

Answer. First, the new defense strategy that this Administration has adopted is different from the previous one of fighting two nearly simultaneous major theater wars, and so the premise of your question no longer applies. However, let me say that the proposed fiscal year 2003 budget increase was not formulated to eliminate strategic risks. This increase does not buy as much as one might think. Almost \$20 billion is for the war on terrorism and related requirements. About \$28 billion of the increase went to cover inflation (\$6.7 billion), must-pay bills such as pay raises (\$2.7 billion) and new accrual funding for retirement and health care benefits (\$11.4 billion), and realistic costing of weapons acquisition and readiness (\$7.4 billion). That would be the entire \$48 billion, except we made program reductions and management changes that netted us over \$9 billion, which were used to fund our most pressing requirements. No funding was included for an escalation of activities against Iraq. For a major escalation such as this, added funding would be needed—otherwise there would be increased risks to other defense priorities and commitments.

EC-130 AIRCRAFT

Question. Secretary Rumsfeld, the recent Air Force plan to redistribute C-130 aircraft did not address the urgent need of the Pennsylvania Air National Guard's 193rd Special Operations Wing in Harrisburg. They were one of the first units to deploy to Afghanistan and only just returned on March 19, 2002. This unit is being asked to fly some of the oldest C-130's in the U.S. inventory around the world on a moment's notice to perform their Psychological Operations mission. Their recent performance in Afghanistan was so successful that the unit was often mentioned by General Myers and yourself in their daily briefings on the war. Mr. Secretary, what can you do to speed the delivery of new EC-130 aircraft to this unit?

Answer. I am very proud of the job that has been done by our special operations Commando Solo crews in Afghanistan. Commando Solos are unique, high demand/low density platforms and continue to be an asset for the department. Commando Solo is also wholly comprised of volunteer air national guardsmen.

In fiscal years 1997 through 2001, the transition from the EC-130E to the EC-130J model provided five of the planned eight C-130J aircraft and special operations-unique modifications. The Air Force Master Plan provides funding for the remaining three C-130J for conversion to EC-130J in fiscal years 2006 through 2008. The 193rd Special Operations Wing is the only unit that flies the EC-130 and will receive all eight EC-130J aircraft. In addition, the fiscal year 2003 budget request contains \$79.4 million to mitigate special mission equipment obsolescence and degraded capability equipment issues on EC-130 aircraft.

COUNTERDRUG TRAINING

Question. Secretary Rumsfeld, the Pennsylvania National Guard operates the Northeast Counterdrug Training Center at Fort Indiantown Gap and has been highly successful in providing a variety of counterdrug training for law enforcement from an eighteen state region. However, it has been widely reported in the media that you do not support counterdrug efforts by the U.S. Military. Can you tell me what your recommendations and plans are for future counterdrug support by the Department of Defense?

Answer. The Department issued its new counternarcotics policy on July 31, 2002. The Department will continue to execute drug supply reduction and drug demand reduction programs consistent with statutory responsibilities, Presidential direction and Department of Defense priorities.

Specifically, the Department will implement Drug Demand Reduction programs that promote the readiness of the Armed Forces and the Department's civilian personnel and that reduce illegal drug use within the Department's communities.

It will also implement supply reduction programs that collect, analyze and disseminate intelligence, support interdiction operations, and train host nation counternarcotics forces.

Finally, it will implement other programs that support foreign military and law enforcement counternarcotics activities, so long as they benefit the Department, enhance readiness of the Department, contribute to the war on terrorism, advance the Department's security cooperation goals, or otherwise enhance national security.

The Department is still evaluating how this new policy will impact specific programs, including National Guard training for domestic law enforcement. Currently we are exploring the possibility that the Department of Justice will assume responsibility for the National Guard Counterdrug Schools. We will keep Congress fully informed as this develops.

MORALE AND RETENTION

Question. Secretary Rumsfeld, can you describe the effects that the increased operational tempo has had on your personnel in terms of morale and retention?

Answer. Thus far, after controlling for the effect of Stop Loss which generates involuntary retention of certain critical skills, the overall retention picture has been favorable. This is consistent with research which suggests that a low number of deployments—including deployments to hostile areas—does not harm retention, whereas a number of such deployments could. My first hand experience in visiting with the troops suggests that the vast majority believe they are involved in necessary and important work, and morale is good.

QUESTIONS SUBMITTED TO GENERAL RICHARD B. MYERS

QUESTIONS SUBMITTED BY SENATOR DANIEL K. INOUE

JOINT STRIKE FIGHTER

Question. General Myers, keeping the cost down on the Joint Strike Fighter seems to be particularly important, since price increases could lead to force cuts. Given recent indications that the Navy may reduce the number of JSFs it will purchase; do you expect the unit price of the airplane to increase?

Answer. The Department of Defense is resolutely committed to the Joint Strike Fighter (JSF) program, and shares your concern about costs. While it would be premature for me to speculate about the Department of the Navy's Joint Strike Fighter force structure plan, clearly order numbers affect unit price. From JSF's inception, affordability has been a cornerstone for the program, and in this regard we have reason for optimism.

Current cost projections are based solely on planned United States and United Kingdom procurement quantities. With the recent Memorandum of Understanding signings by Canada, Denmark, and the Netherlands, and projected signings by Italy, Norway, and Turkey, conservative predictions estimate that total procurement quantities may climb by anywhere from 1,000 to 4,000 aircraft. The economies of scale associated with such an increase would reduce total costs for all program participants.

Question. General, some have argued that if the price of the JSF grows too high, the Air Force would pull out of the program. What is the current thinking?

Answer. The Air Force fully supports developing and fielding the Joint Strike Fighter (JSF) and has not given me any indication they are wavering in their commitment to the program. JSF, along with F-22 and Unmanned Combat Air Vehicle (UCAV), represents a crucial part of the Service's future force structure.

The JSF is an affordable precision engagement and global attack fighter with superb stealth capabilities. It will constitute the persistent portion of the Air Force's future force structure. Given its importance to the joint warfighter, we are making every effort to keep aircraft cost down, especially since affordability has always been one of its chief strengths.

QUESTIONS SUBMITTED BY SENATOR CHRISTOPHER S. BOND

Question. Currently we have 22 long range B-2 bombers. Is this sufficient? What is the plan for the next generation of short range and long range bombers?

Answer. [Deleted].

TACTICAL FIGHTER AIRCRAFT

Question. Are we spending too much money on Tactical Fighter Aircraft? When is the last time the United States lost a series of "dogfights?" How can we justify an estimated \$67 billion on the F-22 Raptor, an estimated \$300 billion on the Joint Strike Fighter, and the continued improvements and recapitalization efforts to the F-15 and F-16 fleet in the out years?

Answer. The United States can ill afford not to procure the F-22 and Joint Strike Fighter (JSF). These aircraft are essential to our capability to project force deep into the enemy's battle area while defending friendly airspace and ensuring maximum warrior survivability. Until the F-22 and JSF are combat ready, the USAF must continue to maintain the F-15 and F-16 fleets in order to respond to all threats to U.S. security.

Even though the last U.S. fighter to be shot down by an enemy fighter occurred during the Vietnam War, the F-22 and JSF remain critical to U.S. defense. These

aircraft are not designed solely to win “dogfights.” They are multi-mission capable and will use their unique, transformational capabilities, such as supercruise, stealth and integrated avionics, to attack fixed and mobile targets as well as perform electronic attack.

The F-15 has consistently enjoyed a competitive edge over all other air superiority fighters since its introduction into the USAF inventory in 1975. But today, as other countries and potential adversaries continue to improve and develop new anti-air systems and fighters, the F-15 is beginning to lose its advantage. Currently, the F-15 is at rough parity with the Su-27 and Mig-29. By 2005 the F-15 will be at a disadvantage with the anticipated fielding of the Su-35 and export versions of the Rafale and Eurofighter. Worse yet, the development and proliferation of advanced and, for many third world countries, affordable SAMs such as the SA-10/12 will result in a sanctuary for the enemy because the F-15 is unable to survive in this environment. This is where the F-22's stealth, supercruise, maneuverability, and integrated avionics make a transformational difference. As part of the Global Strike Task Force, the F-22's capabilities enable it to penetrate airspace denied to older systems, destroying enemy SAMs, command and control assets, and air threats. After the F-22 “kicks down the door,” the JSF is the persistent force that follows up with precision engagement of multiple enemy targets using its all weather, stealth, and precision air-to-ground capabilities.

SUBCOMMITTEE RECESS

Senator INOUE. The subcommittee will stand in recess until June 5. At that time we will receive testimony from public witnesses. I thank you very much, Mr. Secretary.

[Whereupon, at 12:18 p.m., Tuesday, May 21, the subcommittee was recessed, to reconvene at 10 a.m., Wednesday, June 5.]

**DEPARTMENT OF DEFENSE APPROPRIATIONS
FOR FISCAL YEAR 2003**

WEDNESDAY, JUNE 5, 2002

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 10:10 a.m., in room SD-192, Dirksen Senate Office Building, Hon. Daniel K. Inouye (chairman) presiding.

Present: Senators Inouye, Stevens, and Cochran.

DEPARTMENT OF DEFENSE

UNITED STATES MILITARY ACADEMY, U.S. ARMY

STATEMENT OF LIEUTENANT GENERAL WILLIAM J. LENNOX, JR., SUPERINTENDENT

ACCOMPANIED BY LIEUTENANT SECOND CLASS ANDREW BLICKHAHN

OPENING STATEMENT OF SENATOR DANIEL K. INOUE

Senator INOUE. Today we'd like to welcome the superintendent of the service academies. Each person is accompanied by an outstanding cadet or midshipman from their respective institutions.

The service academies have a long tradition of educating and training young men and women for future leadership as officers in the United States military. The academies couple economic rigor with military training and development to graduate top notch young officers.

Every year, the academies receive thousands of applications from outstanding young men and women across the country. The high school grade-point average for those accepted into the academies is, on an average, 3.9 on a 4.0 scale, and scholastic assessment test scores average over 1,300. Admissions are also based on participation in athletic and non-athletic extracurricular activities, leadership positions, community involvement, and work experience.

It's a rigorous application process, and only the highest caliber candidates are accepted. So why do these young men and women, who could have their pick of top universities, choose to apply in increasingly large numbers to the academies? The committee is looking forward to hearing from the cadets and midshipmen here today on that very subject.

This is the first hearing that this committee has held to review the service academies. We look forward to a frank and open discussion today with our panel on the state of service academies and

their continuing traditions of excellence to prepare our future military leaders.

Joining us today, we have the superintendent of the United States Military Academy at West Point, Lieutenant General William Lennox, Jr. Joining General Lennox is Second Lieutenant Andrew Blickhahn, who reached a rank of E-5 prior to becoming a cadet at West Point. We're also happy to have here today the first Marine commandant of midshipmen, Colonel John Allen, from the United States Naval Academy. And joining Colonel Allen is Ensign Benjamin A. Drew, who has just graduated from the Naval Academy. And finally, I would like to welcome Lieutenant General John Dallager, superintendent of the United States Air Force Academy. And joining General Dallager is Cadet First Class Todd Garner, who will serve as cadet wing commander next year. And congratulations to you for your achievements and to all of you who are here today.

Senator Stevens wanted to be here, but, as you know, the supplemental appropriations is now under consideration on the floor, and he is the senior Republican on the committee, and he has his job there. He has to be at his post, so he has asked me to submit his statement in the record. And without objection, it will be done.

[The statement follows:]

PREPARED STATEMENT OF SENATOR TED STEVENS

Mr. Chairman, I commend you for inviting the Superintendents of the Military Academies to appear before the committee this morning.

With our nation's military engaged in the Balkans, central Asia, the Philippines and Colombia, we must pay close attention to the means by which we train and prepare our combat leaders.

Mr. Chairman, you and I have each served more than 30 years in Congress, and have had the privilege of nominating many scores of men and women to the academies.

They have emerged as fine military leaders, but of equal importance, tremendous community and civic leaders.

That is the significant dividend from our investment in the academies—men and women with a commitment to public service, in every form.

I also want to note my interest in the role of the academies in training international students.

As we find our nation increasingly engaged around the globe, it is vital that we have strong personal ties with the military leaders of these nations.

Engaging those potential leaders at a young age, and providing them insight to our values, is critical.

Mr. Chairman, I welcome the witnesses, and look forward to the hearing. I may be called to the floor to assist in managing the pending supplemental, but will return if possible.

Senator INOUE. May I first call upon the superintendent of the Military Academy at West Point, General Lennox?

PREPARED STATEMENT

General LENNOX. Mr. Chairman, I appreciate the opportunity to appear before your subcommittee to discuss the mission, goals and the challenges of the United States Military Academy. I have a written statement that I'd like to submit for the record.

Senator INOUE. Without objection, so ordered.

[The statement follows:]

PREPARED STATEMENT OF LIEUTENANT GENERAL WILLIAM J. LENNOX, JR.

Mr. Chairman and members of the committee, I appreciate the opportunity to appear before your subcommittee to discuss with you the mission, goals, and challenges of the United States Military Academy. I would also like to thank you for allowing us to address this distinguished assembly during this momentous year for the Academy, our bicentennial.

The United States Military Academy was founded in 1802 under the presidency of Thomas Jefferson. In his vision, West Point was a means to democratize American military leadership and to ensure that it would be representative of American society. Since that time, the leaders who have graduated from the Academy have been representatives of the nation that they served. They come from all walks of life—varying economic, social, religious, and ethnic backgrounds.

West Point graduates have seen America through good times and bad, peace and war. Early leaders like William MacNeil or George Washington Whistler helped build the nation in the early 19th century. Gallant men like Ulysses S. Grant and Robert E. Lee, weathered the great Civil War. In the early 1900's, LTC Thomas Goethals directed the construction of one of the greatest engineering achievements—the Panama Canal. During the global conflicts of the 20th Century, individuals like John J. Pershing, Douglas MacArthur, and Dwight D. Eisenhower secured the nation. The past generation of the Long Gray Line contributed astronauts like Frank Borman, Ed White, Jr., and Buzz Aldrin; leaders like Norman Schwarzkopf in the sands of Desert Storm and Wesley Clark in the mountains of Kosovo; individuals as diverse as Roscoe Robinson—the Army's first African-American 4-star General and Allison Jones, Class of 2000, who was awarded the Soldier's Medal for her courage following the terrorist bombing in 1998 of the U.S. Embassy in Nairobi; and warfighters like Franklin Hagenbeck and Jason Amerine assisting anti-Taliban forces in the austere Afghanistan countryside. We are proud that the people we taught made much of the history we teach.

Many of our former cadets, now commissioned officers, are called upon to overcome obstacles they could not imagine when they graduated; but that is the purpose of the United States Military Academy. As the nation's premier institution for leader development, the mission of the United States Military Academy is: "to educate, train and inspire the Corps of Cadets so that each graduate is a commissioned leader of character committed to the values of Duty, Honor, Country; professional growth throughout a career as an officer in the United States Army; and a lifetime of selfless service to the nation."

As a result of their four-year experience, the Academy envisions that graduates will possess the intellectual, military, physical and moral-ethical foundation for professional growth and service as commissioned officers in the Army. They will be prepared for the uncertainty and ambiguity associated with military service during this period of strategic transition, and they will be able to anticipate and manage change in their organizations. They will be able to do so because they will have reflected upon and developed a personal understanding of the unique characteristics of their chosen profession and the principles that govern the fulfillment of their office. Additionally, they will be inspired to serve the nation as a lifetime endeavor.

Expressed as a specific outcome goal for its graduates, the Academy envisions that graduates will be: "commissioned leaders of character who, in preparation for the intellectual and ethical responsibilities of officership, are broadly educated, professionally skilled, moral-ethically and physically fit, and are committed to continued growth and development both as Army officers and as American citizens."

In support of this overarching goal, graduates must understand: the profession of arms and the application of a broad liberal education in the arts and sciences to that profession; the ideals of the American Constitution and the responsibilities of commissioned officers to its defense; and the values and ethical standards of the United States Army. Graduates must also demonstrate: personal devotion to the duties of a commissioned officer; intellectual curiosity, imagination, and creativity; ability to act rationally and decisively under pressure; mastery of the basic military and physical skills required for entry into commissioned service; inspiration and motivation to lead American soldiers in war and peace—leadership characterized by a winning spirit; ability and motivation to achieve and sustain unit climates that are conducive to military effectiveness and professional excellence; and personal commitment to the selfless standards of officership within the United States Army.

The developmental systems and programs—academic, military, physical, and moral-ethical—are structured to contribute to instilling these characteristics in each of our graduates.

Through our academic program, cadets receive a balanced, world-class, liberal arts education focused on the creation of independent and self-directed learners. The

curriculum balances engineering, math and science, and humanities. Understanding that the challenge for today's Army officer is to bring people and technology together to accomplish diverse missions in areas around the world, we have recently adjusted our curriculum. Cadets now receive more classes focused on foreign cultures, foreign languages and information technology. These changes allow us to continue to develop officers who can anticipate and respond effectively when confronted with new problems in this dynamic world. All cadets receive a Bachelor of Science degree, which is designed specifically to meet the intellectual requirements of a commissioned officer in today's Army.

Military development begins on a cadet's first day. First-year cadets spend their first summer learning military skills at Cadet Basic Training. They road march, conduct individual tactical training, and learn teamwork under tough, demanding conditions. At Camp Buckner, second-year cadets sharpen advanced military and leadership skills during Cadet Field Training. They carry out weapons training, combatives, and small unit maneuvers. They also spend a week at Fort Knox, KY conducting a mounted maneuver exercise. The third-year and fourth-year cadets plan and lead most of the training for the plebes and yearlings. In addition, upper-class cadets are sent to Army units and schools during the summer to train. Military training is combined with military science instruction throughout the academic year to provide a solid military foundation.

Each cadet also participates in a demanding physical education program. Cadets achieve the highest levels of personal fitness in a program that emphasizes a life-long pursuit of physical development and instills the winning spirit through four years of classes. Every cadet also participates in an intercollegiate, club or intramural level sport each semester. West Point fields 25 intercollegiate sports, 25 sports clubs, and a number of intramurals. This rigorous physical program instills the "winning spirit" and contributes to the mental and physical fitness that is required for service as an officer in the Army.

These programs—military, academic, and physical—are encompassed by ethical development centered on our Honor Code that simply says, "a cadet will not lie, cheat, steal, or tolerate those who do." The code is strictly enforced and imbedded in all that we do. Cadets receive formal, values education in areas such as respect, honor, and consideration of others. This is critical to developing our professional ethos.

These developmental programs combined create the West Point Experience. The West Point Experience is about producing leaders of character for our nation and our Army. Leaders that seek to discover the truth, decide what is right, and demonstrate the courage to act accordingly, and leaders that always choose the harder right over the easier wrong. But maintaining the West Point Experience and accomplishing our mission is not without challenges. There are two major challenges that we continuously face.

The first is maintaining the Academy's relevance in a perpetually changing world. Today, our Army and the officers who lead it are being placed on the path of peace as well as in harm's way. They are being asked to provide humanitarian relief and to fight and win our wars. They operate, in short, across the full spectrum of conflict. As a result, 21st century officers must have the mental agility and a comfort with ambiguity to operate and win in this complex, global environment. In response to this, two years ago the Academy conducted an academic curriculum review. We realized that rapid adaptation to ambiguous situations requires leaders broadly educated in the languages, customs, and cultures of the world beyond our shores. It also requires leaders who are familiar with technology, especially information technology. Accordingly, we slightly decreased the engineering course requirement allowing us to increase foreign culture, foreign language, and information technology opportunities. Currently, we are looking at the Cadet Honor System and our military program to confirm that they are balanced properly within the West Point Experience to enable us to fulfill our mission of developing leaders of character. This is West Point's challenge, to ensure that our developmental programs balance continuity with change to produce leaders relevant to the needs of America's Army.

The United States Military Academy must also actively compete with other similar colleges and academies to obtain an extremely scarce resource, namely, young Americans willing to commit to a lifetime of service to the nation. However, schools that have cutting-edge recruiting programs, excellent facilities, top-tier professors, integrated student services and institutionally supported athletics have a distinct advantage in luring this limited human resource to their campuses instead of into the ranks of our Army. Therein lies the challenge: to maintain a physical plant and program plan that remains competitive with other tier one institutions; and to maintain the historic integrity of a 200-year-old institution and national historic landmark.

In the recent past, the Academy had been operating at a Minimum Sustainment Level (MSL) of funding for several years, and that was simply inadequate to compete with our sister service academies and our civilian undergraduate peers. The USMA staff worked closely with the Department of the Army to develop a Competitive Sustainment Level (CSL) of funding, which would represent a significant increase over the MSL. Beginning in fiscal year 2000, the Department of the Army supported a "Competitive Sustainment Level" in funds for West Point. In addition to this, the Association of Graduates has raised a considerable sum of funds used for "Margin of Excellence" gifts to the Academy. These gifts enhance our academic, military, physical, and moral-ethical programs as well as our facilities, recruiting and cadet activities. The synergy of public and private dollars—CSL and Margin of Excellence—will restore a competitive balance with other tier one institutions as we fight to attract America's finest young men and women to serve our nation.

As we look toward the future, every graduating class will play a critical role in leading and shaping the Army of the 21st century. We must continue to develop leaders who are capable of performing many roles. The Army needs officers who are both warriors and leaders who can serve as ambassadors. These future officers will have the character of a true leader who is ready, willing, and able to meet the challenges of the Army and the Nation. They will defend our way of life both on the home front and abroad, wherever they are called. Just as we have been by America's side for the last 200 years, we will continue to be by her side for the next 200 years.

Again, thank you for the opportunity to appear before you today.

BIOGRAPHICAL SKETCH OF LIEUTENANT GENERAL WILLIAM JAMES LENNOX, JR.

Lieutenant General William James Lennox, Jr. of Houston, Texas, assumed duties as the 56th Superintendent of the United States Military Academy at West Point, New York on June 8, 2001. He entered the Army following graduation from the United States Military Academy in 1971, where he earned his commission as a lieutenant of Field Artillery.

General Lennox has served in a wide variety of field assignments. He served as a Forward Observer, Executive Officer, and Fire Support Officer in the 1st Battalion, 29th Field Artillery, and as Commander, Battery B, 2d Battalion, 20th Field Artillery, 4th Infantry Division. He was the Operations Officer and Executive Officer for the 2d Battalion, 41st Field Artillery, 3d Infantry Division. He commanded the 5th Battalion, 29th Field Artillery in the 4th Infantry Division and the Division Artillery in the 24th Infantry Division. General Lennox has also served in a number of staff positions including White House Fellow, Special Assistant to the Secretary of the Army, and Executive Officer for the Deputy Chief of Staff for Operations and Plans. He served as Deputy Commanding General and Assistant Commandant of the U.S. Army Field Artillery Center; Chief of Staff for III Corps and Fort Hood; Assistant Chief of Staff, CJ-3, Combined Forces Command/United States Forces Korea and Deputy Commanding General, Eighth United States Army; and, most recently, Chief of Legislative Liaison.

In addition to his Bachelor of Science degree from the United States Military Academy, General Lennox holds a Masters Degree and a Doctorate in Literature from Princeton University. His military education includes the Field Artillery Officer Basic Course, the Infantry Officer Advance Course, the distinguished graduate from the United States Army Command and General Staff College, and the Senior Service College Fellowship at Harvard University.

General Lennox's awards include the Defense Distinguished Service Medal; the Legion of Merit with 4 Oak Leaf Clusters; the Meritorious Service Medal with 1 Oak Leaf Cluster; the Army Commendation Medal with 2 Oak Leaf Clusters; the Army Achievement Medal; the Korean Order of Military Merit, Inheon Medal; the Ranger Tab; the Parachutist Badge; and the Army Staff Identification Badge.

General LENNOX. Sir, first, I'd like to thank you and your colleagues for the support to the academies, both in terms of finances, but, more particularly, in terms of the great applicants that you give us every single year. I just want to highlight for you one class, the class that just graduated, and talk to you briefly about them.

Last Saturday, we commissioned 947 leaders of character. This year's graduating class was another great class. It included three Rhodes scholars, three Marshall scholars, three Truman scholars,

along with two all-American athletes and more than 40 all-conference athletes.

For 200 years, West Point has provided timeless leadership for our Army and for our Nation. We began by producing engineers and artillerymen. And throughout the past two centuries, we've produced presidents, military leaders, corporate innovators, heads of state, astronauts, and patriots. General Shinseki, the first Japanese-American Chief of Staff of the Army, is a 1965 graduate. The long, grey line includes over 100 all-Americans, 79 Rhodes scholars, 75 Congressional Medal of Honor winners. As the Nation's premier institution for leadership development, West Point continues to educate, train, and inspire leaders of character committed to the values of duty, honor, and country.

As seen in combat in Afghanistan, officers of the 21st century must be flexible, principled, and self-learning. Army officers must be ready and willing to lead American soldiers and make complex decisions in complicated environments with little or no time. To succeed, they must be part Ivy League professor, part professional athlete, part international ambassador, and all warfighter.

We've seen these traits in some of our graduates, like Captain Jason Amerine, class of 1993, the Special Forces officer who assisted Hamid Karzai in his march toward Kandahar; and in Captain Nate Self, class of 1998, the Army Ranger who led the attempted rescue of the Navy SEAL in the Shahiko Mountains.

How do we develop these traits? We develop them academically, physically, and militarily all in a moral, ethical environment.

First we develop them intellectually, challenging them to achieve in a curriculum that balances engineering, math, sciences, and humanities. For example, this past year, West Point cadets won academic competitions in all disciplines—from the National Security Agency (NSA) cyber-defense exercise in an international mathematical contest in modeling, to five National Honor Society awards for excellence in history and the best program at the National Model United Nations (U.N.). In creating independent, self-directed learners who can think critically, we produce officers who will anticipate and respond effectively when confronted with new problems in our dynamic world.

Second, we develop them physically. We imbue them with the winning spirit by putting them through the best college fitness program in the Nation and by training them to meet and exceed Army standards for fitness and by encouraging their participation in individual and team sports at the intramural, the club, and the intercollegiate levels. This past year, we produced conference champions in softball, men's indoor and outdoor track, men's cross-country, lacrosse, and golf. Our rugby club finished third in the Nation, behind Berkeley and Utah.

And, finally, we produce disciplined leaders by training them to be, know, and do. That is, we give cadets the knowledge, the loyalty, and the courage to follow orders, make decisions, and set the example for the soldiers whom they will lead in combat.

As we speak, West Point cadets are preparing to attend some of the Army's most demanding training. This summer, cadets will become paratroopers at Fort Benning, and combat divers in Key West. They will learn mountain warfare in Vermont, and cold-

weather warfare in Alaska. Finally, we'll send several hundred cadets to serve as platoon leaders in Army units worldwide.

Together the intellectual, the physical, and the military challenges create the leadership qualities needed to win our Nation's wars on the 21st century battlefields. But all of these qualities are wasted if we do not instill in them the moral and ethical values that are critical to maintaining the Nation's trust in our armed forces. West Point remains, in the words of President Bush, "the guardian of values that have shaped the soldiers who have shaped the history of the world."

As we look forward, every graduating class will play a critical role in leading and shaping the Army of the 21st century. On June 1, the class of 2002 added 947 leaders of character to our Nation's armed forces. The new class of 2006 will begin its exciting 4-year journey in just a few weeks.

At West Point, we will continue to develop leaders who are capable of performing many roles. These future officers will be ready, willing, and able to meet the challenges of the Army and the Nation. They will defend our way of life, both on the home front and abroad, wherever and whenever they are called. Just as we have defended America's freedom for the last 200 years, we'll be ready for the next 200 years.

Again, sir, thank you for the opportunity that you gave us today, and thanks for the support you've given us over the years.

I'd like to introduce Andy Blickhahn—Second Lieutenant Andy Blickhahn, our First Captain, who just graduated June 1, last Saturday.

Senator INOUE. Before I call upon the Lieutenant, may I call upon my colleague?

STATEMENT OF SENATOR THAD COCHRAN

Senator COCHRAN. Mr. Chairman, thank you very much. I'm glad to join you this morning in welcoming our panel of witnesses from the service academies. I know of no finer institutions of higher learning in the country than our service academies that are represented here today.

And I'm very, I guess, unique among Members of the Senate. I've had the privilege of serving on each of the Board of Visitors of each academy, was chairman of the Military Academy at West Point at one time, and now on the Navy Academy. My first opportunity was on the Air Force Academy. I haven't been at King's Point, I'm afraid, but I—maybe I will get to visit there and learn more about what they do.

But these experiences have convinced me that these are true national assets of great importance, and we need to do everything possible to support them and protect their interests and ensure that they continue to provide the kind of leadership for our country—and not just military officers, but even beyond. When you look back over the course of our Nation's history, some of our greatest political leaders have been graduates of the service academies.

So I take our responsibilities in this regard, making sure we appropriate the funds that are sufficient to carry on these important activities, very seriously. And we appreciate your being here and

sharing with us your views and your suggestions about how we can do that.

Thank you.

Senator INOUE. I thank you very much, Senator.

Before I call upon the Second Lieutenant, I want to advise all of you that the absence of our membership here is not any indication of disinterest. We happen to have, at this moment, eight committees having hearings. A very important supplemental appropriations bill is now pending on the floor, which, among other things, would include an \$18 billion account for the military. And so it is understandable that members will have to be absent.

STATEMENT OF LIEUTENANT BLICKHAHN

And so, with that, I'd like to call upon the next general—Second Lieutenant Blickhahn.

Lieutenant BLICKHAHN. Mr. Chairman, I appreciate the opportunity to appear before your subcommittee to discuss with you my experiences as a recent graduate of the United States Military Academy at West Point. My name is Lieutenant Andrew Blickhahn. I graduated from West Point as the First Captain and Brigade Commander 4 days ago. I was commissioned the Second Lieutenant of Infantry.

Why did I go to West Point? It seemed like the only choice for me. I've always wanted to be a soldier. I enlisted in the Army right after high school. And after spending about 3 years on active duty and having reached the rank of sergeant, I knew I wanted to make a career out of the Army, and I knew I wanted my contribution to affect the Army as a whole. I decided I wanted to be an officer. From the examples set by my commanding officers, I knew I wanted to be commissioned as a graduate of West Point.

Leadership lessons start on day one at West Point. To be a good leader, each cadet must be a great follower. Daily inspections of rooms, personal appearance, academic requirements, and homework all contribute to an ingrained habit of excellence. Cadets learn to lead by example in every aspect of their lives. As I developed into a leader of the corps of cadets, I found West Point offers leadership development opportunities not found at any other place.

West Point is superb in developing character. Cadets police their own ranks with a strong and active honor code. I have learned that living honorably enables and is a requirement for outstanding leadership. The mentorship and knowledge of our professional staff and faculty help cadets make sense of their experiences and grow as people and leaders.

The time I spent, the knowledge I gained, and the experiences I had have better prepared me to lead soldiers and were things I could have gained only at West Point. Most of all, West Point taught me what it means to be a selfless servant of the Nation and a leader of character.

Again, thank you for the opportunity to appear before you today.

Senator INOUE. I thank you very much, Lieutenant.

Now may I call upon Colonel Allen?

UNITED STATES NAVAL ACADEMY

STATEMENT OF COLONEL JOHN R. ALLEN, COMMANDANT OF MIDSHIPMEN**ACCOMPANIED BY ENSIGN BENJAMIN A. DREW**

PREPARED STATEMENT

Colonel ALLEN. Mr. Chairman, good morning, sir, Senator Cochran.

We are very grateful for this opportunity to speak with the committee this morning, sir. And as did General Lennox, I also have a written statement, which, with your permission, I'd like to submit into the record.

Senator INOUE. Without objection, so ordered.
[The statement follows:]

PREPARED STATEMENT OF COLONEL JOHN R. ALLEN

Mister Chairman and committee members, it is an honor to speak to you today on behalf of the Naval Academy Superintendent, VADM Ryan. Last month we graduated almost 1,000 Navy Ensigns and Marine Corps Second Lieutenants, and I could not have been prouder to send them into the Fleet and to our operating forces to serve this great nation at home and abroad. Your Midshipmen, and the officers they become, never cease to amaze me for their maturity, insight, dedication, and commitment to service. They become men and women of profound character; and they have never failed the American people.

Your Naval Academy today is persevering in the midst of the war against terrorism and the threat of future strikes against the United States. And from the front lines, to the streets of America, Annapolis graduates are playing a central role in this struggle. The United States Naval Academy continues to produce officers of the Naval Service who are prepared for the rigors and challenges of leading our Sailors and Marines in combat. As I speak with you today, there are Naval Academy graduates in the forward echelons of Operation Enduring Freedom—leading Marines and SEALs, flying in the skies above Afghanistan, positioning our ships and preparing for the next phase of this conflict. In the coming struggle I, and all of us at the Naval Academy, gather encouragement and strength from your untiring support. It is times such as these when America needs certainty—certainty that you so steadfastly provide as you support our services and as you lead this nation into the future.

Our mission at Annapolis is enduring:

To develop midshipmen morally, mentally and physically and to imbue them with the highest ideals of duty, honor and loyalty in order to provide graduates who are dedicated to a career of naval service and have potential for future development in mind and character to assume the highest responsibilities of command, citizenship and government.

We view the mission's component elements as developing midshipmen morally, mentally and physically. In my testimony, let me address each of these. In terms of moral and professional development, we know that in war, in peace, and in crisis, character is the single most important quality in a leader—moral courage, the conscious choice—the habit—of doing the right thing everyday. What Douglas Southall Freeman once described as, "That quality of mind which makes truth telling instinctive rather than strange."

We recognize the imperative that men and women who lead in combat must possess the moral authority to issue orders which may sorely tax their Sailors and Marines in the crucible of battle. This plays in virtually every dimension of the Academy experience today, from the carefully crafted and orchestrated immersion of the midshipman in leadership, our honor concept, in ethics instruction, and in our character development; to instruction in seamanship, tactics and naval warfare; to the vital spiritual preparation of our young leaders in their faith and in their beliefs.

This year, with the Class of 2005, we placed significant emphasis on military and social etiquette—the "gentleman" portion of the classic term "officer and a gentleman." This focus on officership is not new, but this year we concentrated it in a series of lectures on customs, courtesies, traditions, and etiquette. We remain res-

olute in our commitment to continue this program, and we are expanding it into the upper three classes next year and beyond.

In all our emphasis on moral development we continue to return to the message that an officer of the naval service is a public figure and servant of the nation. Indeed, our message is clear: Our oath of office, sworn so solemnly on Induction Day, means midshipmen have an absolute, a sacred, obligation to embody the highest moral principles of our precious naval service in every dimension of their lives—and in every one of their pursuits.

For the current Brigade, men and women who arrived here during a period of relative peace, the discovery of their true purpose and of the Nation's reliance on them during these moments of trial, in Afghanistan and beyond, is interesting and enlightening to watch. As I observe the midshipmen react to reports from the front lines and prepare themselves for their role in this conflict, I see purpose in their eyes and sense grim resolve as these young men and women, especially the recently graduated Class of 2002, prepare to join the fight against terrorism. These midshipmen know this conflict is for the long haul; this fight is to the finish, and they know there will be a place for them in the struggle ahead.

To transition to the next element of our mission, the mental development of the Brigade, this was an important year for the Naval Academy—a year of continued accomplishment. As the Members of the Committee are aware, there is a survey conducted annually amongst the students of the 331 top universities and colleges in the Nation. This survey, the Princeton Review, provides important insights into the student perceptions of the quality of their educational and college experience. The Naval Academy has always fared well in this survey, but this year, the Naval Academy, in the category of “student accessibility to the professors of the faculty,” placed first in the nation. This high praise by the midshipmen speaks volumes about the commitment of the faculty to the academic and intellectual development of these future officers.

The Naval Academy's admissions process, aided and supported by nominations from Senators, Congressmen, and other of our country's leaders, continues to deliver some of the finest of America's youth. Our nationwide efforts to attract the highest qualified young men and women have yielded more than 1,200 great Americans who will join the Brigade of Midshipmen on June 28. As I administer the oath of office to these future members of the Class of 2006, it will reaffirm once again the quality of the bright young men and women of America who seek service to their country. I am also proud that more than ten percent of our incoming class are enlisted Sailors and Marines who have already proven themselves as leaders in the operating forces. Once these students arrive at the service academies, they are afforded one of the finest academic experiences an institution of higher learning can offer. This is our return on the sacred trust by the Congress of the United States and the American people.

Another means of gauging the academic experience and accomplishments of the Brigade is through the graduate education opportunities afforded our young officers after commissioning. For the size of our student body, this is an important signal of the quality of the academic rigor of our institution. This year, from the Class of 2002, twenty-seven graduates continue on to immediate postgraduate education. Of these, three will attend Oxford University, including our Rhodes Scholar, ENS Emmy Spencer. Three ensigns will attend Cambridge, including one Marshall scholar and two Gates Scholars. The remaining 21 graduates will attend other splendid postgraduate institutions in the country including Georgetown, MIT, and University of California at Berkeley. These accomplishments are something about which we are truly proud.

Yet another example of the academic achievements of the midshipmen is in space operations. This year, Naval Academy midshipmen, sponsored by the Aerospace Department, built and launched a satellite and controlled it from a Naval Academy ground station—truly a great accomplishment and an example of institutional commitment to space and the aerospace program. Also this year, we added a new academic major, Information Technology. Its appearance as the 19th major at the Naval Academy is in direct response to the expressed needs of operational commanders in the Fleet. This demonstrates the Academy's ongoing efforts to leverage advances in computer systems and command and control technologies to ensure the relevance of the institution to the operational needs and requirements of the naval service. In addition, we have added significant Information Technology components to the core engineering curriculum to ensure all midshipmen have opportunity to keep pace with today's technology.

To transition to the physical development of our midshipmen, and in celebration of the 200th Anniversary of our magnificent sister Academy, the United States Military Academy—let me recite the words of one of the distinguished sons of West

Point who said: "Upon the fields of friendly strife are sown the seeds that on other fields . . . on other days will bear the fruits of victory." I believe with all my heart Douglas MacArthur was right in this statement, and this institution is committed to the physical development of its young officers. The end state of our physical mission is to create young officers who are accustomed and conditioned to winning, but who possess humility in victory and resilience in setback.

The physical preparation of midshipmen spans a wide range of activities from individual conditioning in any one of several world-class fitness centers, to intramurals and club sports, to Division 1A intercollegiate competition in 30 sports administered within the Naval Academy Athletic Association. We have made great strides this year to truly insinuate a sense of individual physical fitness and physical discipline for the midshipmen. The fierceness of our intramural competition has already paid big dividends in building small unit esprit de corps and cohesion, as well as generating additional leadership opportunities.

Every day, Navy athletes continue to achieve the same kind of excellence on "the friendly fields of strife" as they do in the classrooms or within their professional development. Last year Navy athletes won two-thirds of all their competitions, and the Naval Academy produced 5 All-Americans, 2 Academic All-Americans, 4 Conference Athletes of the Year, and 1 Coach of the Year Award. We have welcomed a new Director of Athletics who has already made an impact on the Academy, as his focus is not just on athletics, but on the institution—on its traditions, history, mission, and service. The athletic department, and the teams that will benefit from his leadership, understand their role in preparing midshipmen to lead Sailors and Marines.

This is another area where we will seek your continued support in the future. One of our challenges to properly support our very necessary athletic program is to provide proper indoor physical education space. However, the Naval Academy is currently operating with a deficit of adequate indoor athletic space of 180,000 square feet. Therefore, our Board of Visitors has indicated to the President that our highest military construction priority is the construction of a new field house at Turner Field. The new field house will provide a 120,000 square foot facility, which will substantially address our critical deficit. We need to advance this facility as much as possible.

There could be, perhaps, no greater measure of the marriage of the principal components of our mission—the moral, mental, and physical preparation of the midshipmen—than in the areas of our club and extracurricular activities, opportunities for our midshipmen to ply the skills, prowess, and leadership qualities they learn every day. For example, this year our International Pistol Team finished #1 in the country with 7 All-Americans, our Triathlon team finished #1 in the country and our Powerlifting, Men's Rugby, Boxing, and Women's softball club teams ranked #2 in the country. In addition, we won the International Law Competition, the Ethics Bowl Competition, and our community service outreach program, the Midshipman Action Group, was awarded the Council for Advancement and Support of Education Circle of Excellence Award.

As I speak to you today, your midshipmen have transitioned into their summer training period. After a long year of academic and physical rigor, you could feel their excitement and their anticipation as they departed Annapolis for service around the world with the Fleet and Marine Corps units. The diversity of the summer training experience for the midshipmen is simply remarkable and spans the spectrum from service with forward deployed operational Fleet units, to internships in the Federal Government. Midshipmen will be going to sea in submarines and on surface combatants, and they will be serving with operational naval aviation squadrons and aboard forward deployed aircraft carriers. Midshipmen will train with special operations and special warfare elements, and will be serving with Marine Corps units around the world. As well, over 150 midshipmen will be involved in summer internships with organizations such as NASA Goddard and Johnson Space Flight Centers, Lawrence Livermore and Brookhaven National Laboratories, and with the Defense Intelligence Agency, the Office of Naval Intelligence, and in various Offices of the Secretary of Defense and the State Department.

As we graduate the Class of 2002, we are reminded the academic year began with a national tragedy that caused death and devastation upon this nation in a way we have never before experienced in all the annals of American history. The enemy, an evil malignant force, is bent upon one thing, the destruction of our country, its way of life, and its people. Already, 15 Naval Academy graduates have fallen in the opening attack and the continuing battle. With the Class of 2002, nearly 1,000 graduates entered the naval service to join this fight. Of that number, 272 are joining the surface units of the Fleet, 345 will become naval aviators and naval flight officers, 129 will go to sea in our submarines, 27 will become SEALs or special operators, and 165 have become Marines. From our youngest graduates, to the Vice

Chairman of the Joint Chiefs of Staff, General Peter Pace, your Naval Academy graduates are engaged in every facet of the defeat of this implacable and determined enemy, the elimination of terrorism, and the restoration of peace. In the months and years to come, the leadership and fighting prowess of the graduates of your Naval Academy will be profoundly and unambiguously demonstrated to the enemies of America and to the opponents of freedom.

In this, and in the coming struggle, we always remain mindful of the silent messages so dramatically displayed on the monuments and the buildings of the Naval Academy. From these granite words we draw strength and inspiration. Words such as "Don't give up the ship." or "I have not yet begun to fight." define who we are and color our enduring role in the defense of America and its people. But perhaps no message left for us by our alumni better embodies that for which your Naval Academy and its graduates stand than that cast in the magnificent bronze doors of our Naval Academy Chapel. They are ancient Latin words, *Non Sibi Sed Patriae*, and are rendered not just in bronze, but are emblazoned on the heart and in the soul of every graduate of Annapolis and translate as "Not for self . . . but for country." Distinguished Members, your Naval Academy continues today, as it has for one hundred fifty-seven years, to produce men and women of character and unimpeachable integrity to lead the Sailors and Marines of our naval service. We are tremendously grateful for your continuing support in so many areas and for your leadership in this time of national emergency. As we discharge our duties at the Naval Academy, we will remain always faithful to our mission and to those silent, but all encompassing words: "Not for self . . . but for country."

Colonel ALLEN. Thank you, sir. I'd also like to make some preliminary comments, if I may.

I speak to you this morning to tell you how great an honor it is for us to come to the Hill and to speak to you about the Naval Academy and this great institution—the great institutions of the service academies.

Admiral Ryan asked me to extend his greetings to you, sir, and his sincere thanks for the tremendous support of this committee, to the Naval Academy, in so many ways—not just resources, but in advice and other services that the committee has provided to us for so long.

He asked me also to relay that last month we graduated nearly 1,000 Navy ensigns and Marine second lieutenants. We could not be more proud of these young men and women and more confident of their capabilities and role as they join the fleet and our operating forces, particularly to serve this Nation now in this time of emergency.

And one of these fine graduates is with me today, Ensign Benjamin Drew, who will have an opportunity to speak in just a few moments, sir.

Ensign Drew hails from Michigan and is a third-generation Jewish-American. He entered the Naval Academy with the Class of 2002 directly from high school. He has excelled in all facets of midshipman life, achieving a 3.83 in mechanical engineering over his 4 years, graduating 11th in his class.

Beyond that, Ben had an opportunity to serve as an exchange midshipman with the Air Force Academy in the Service Academy Exchange Program and will be attending, shortly, Georgetown University in the National Security Studies Program, eventually becoming a submarine officer in the United States Navy.

Ben is a prime example of the success the Naval Academy program continues to produce in the officers of our naval service, officers who are prepared for the rigors and for the challenges of leading sailors and marines in combat.

Now, the preparation of our officers is done through three main mission areas: moral, mental, and physical development.

In terms of mental—or moral development, we recognize the imperative that men and women who lead in combat must possess the moral authority to issue orders, which will sorely test the sailors and marines that they will lead in the crucible of combat. This plays in virtually every dimension of the academy experience today, from the immersion of the midshipmen in leadership instruction, in the honor concept, in ethics, to character development, seamanship, tactics instruction, to the vital spiritual preparation of our young midshipmen for their beliefs and their values.

In mental development, in the brigade this year, it was a year of continued accomplishment. Our admissions process continues to deliver some of the finest young men and women of America to Annapolis. And once these students arrive at the Naval Academy, they are afforded one of the finest academic experiences an institution of higher learning can provide in America today. This year, for example, the class of 2002 produced 27 midshipmen who will go to postgraduate education, including a Rhodes scholar, Ensign Emmie Spencer. And, as previously mentioned, Ensign Drew will continue on to Georgetown University.

Also this year, we added a new academic major, a 19th major, in information technology, and have done so in response to the needs of our operating forces. We have incorporated significant information-technology components in our core engineering program, and we ensure that all midshipmen will be able to continue to lead in the expanding technology that will confront our forces in the future, sir.

The physical preparation of the midshipmen is the third mission area and spans a wide range of activities, from individual physical readiness, to leadership opportunities and intramural and club sports, to Division 1A intercollegiate competition in 30 varsity sports. And this year, Navy athletes won two-thirds of all of their competition. The Navy produced five all-Americans, two academic all-Americans, and four conference athletes-of-the-year and one coach-of-the-year award.

While this was a year of accomplishment for the Naval Academy, it was a different year for us, because it began with a national tragedy unparalleled in its proportions in American history. Fifteen Naval Academy graduates have already fallen in the opening attack and in the continuing operations in the continuing battle. Midshipmen understand that this enemy is bent upon nothing less than the destruction of this country, its way of life, and its people. In the class of 2002, nearly 1,000 graduates, entered the naval service at the end of May to join this fight. And whether they're serving with the surface or the subsurface—the submarine forces of our fleet, flying in naval aviation or leading SEALs or marines, they are ready, and they're determined, and they will not fail this country or its people.

The remaining midshipmen in the brigade are preparing themselves morally, mentally, and physically for the challenges ahead, challenges to their homeland and challenges to American interests and our friends overseas. In the months and years ahead, you, Mr. Chairman, Senator Cochran, the other members of the committee,

and the American people can continue to rely on the graduates of the Naval Academy, like Ben Drew, to do their duty and to deal swiftly and decisively with the enemies of this Nation.

In all this, again, sir, we are so grateful for the support of this committee and of Congress and of the American people. We could not be more proud of these midshipmen, of the officers that they have become. And, again, sir, thank you for the opportunity for us to come today to speak to you about the academy.

Senator INOUE. Thank you very much, Colonel.

And now may I recognize Ensign Drew?

Ensign DREW. Thank you, Colonel Allen. Mr. Chairman, Senator Cochran, I would like to sincerely thank you for this opportunity to come before this committee and speak on behalf of the recently graduated class of 2002 and relate my own experiences about the U.S. Naval Academy.

Exactly 12 days ago, nearly 1,000 newly commissioned officers became ensigns and second lieutenants in the United States Navy and the United States Marine Corps, respectively. I can honestly tell you that these are some of the most motivated, dedicated, hard-working, and altruistic young people that you will ever come across. After 4 years by the bay, as we know it, they have challenged themselves mentally, morally, and physically, beyond their limits to reach a new potential and to do what they came to do, and that job is to lead.

As I sit here right before this committee today, I have classmates who have already opted and eagerly accepted the opportunity to go directly to their ship. I have other classmates who have eagerly accepted and relinquished all of their leave so they can go directly to flight school, submarine school, and dive school so that they can take part in defending this country.

As a third-generation Jewish-American, I have been indebted to this country for my entire life, because it gave my grandparents refuge after World War II. And I am honored today to wear this uniform before you. That is just one story. That's my personal story. There's 4,000 other midshipmen in the brigade that had their own stories and their own reasons why they came to the Naval Academy, which are just as good and better, just as influential and just as convincing.

Annapolis—the men of Annapolis and the women of Annapolis—revere the 68,000 graduates who have preceded us. On May 24, 2002, when the newly commissioned officers accepted their diplomas, received their commissions, donned their new uniforms and rank insignia, they accepted a commitment to this institution, to the Naval Academy, to themselves, and to this country. And I assure you, Mr. Chairman and Senator Cochran, as a representative of my class, we will fulfill that promise.

Thank you very much, gentlemen.

Senator INOUE. Ensign, I thank you very much, sir.

And now may I call upon the General?

UNITED STATES AIR FORCE ACADEMY

**STATEMENT OF LIEUTENANT GENERAL JOHN R. DALLAGER, SUPER-
INTENDENT****ACCOMPANIED BY CADET FIRST CLASS TODD GARNER**

PREPARED STATEMENT

General DALLAGER. Thank you very much, Mr. Chairman, Senator Cochran. We appreciate the opportunity to tell you and America that you can be very proud of the cadets, the faculty and the staff at your United States Air Force Academy.

And, Mr. Chairman, with your permission, I would request my statement be inserted into the record, and I would just like to summarize a few of the major points.

Senator INOUE. Without objection, so ordered.

[The statement follows:]

PREPARED STATEMENT OF LIEUTENANT GENERAL JOHN R. DALLAGER

INTRODUCTION

Good morning Mister Chairman and committee members. It's an honor to be here today to discuss the United States Air Force Academy and the people, programs, and facilities we're most proud of. As you know, many of our Air Force professionals are presently deployed to remote locations around the globe defending our nation's security interests. Many of these individuals are graduates of the Air Force Academy. For almost 50 years the academy has been commissioning second lieutenants into the Air Force. Officers who have gone on to win the Congressional Medal of Honor, become Chief of Staff of the Air Force, hold public office, and die in defense of this country. There's a recipe for success at USAFA, and it includes the focus on academic education, character development, athletic competition, and military training. Or as I like to refer to them: "brains, heart and soul, and guts."

OVERVIEW

This past year has been one of tremendous tragedy and perseverance. Ask any graduate of West Point, the Naval Academy, or the Air Force Academy and they'll all admit their service academy experience was very challenging. Compound this already difficult challenge with the events of 9-11 and the security requirements following, and we have, I believe, entered a new era. Yet, much like our nation, the officer, enlisted, civilian, and cadet populations never waived, and became keenly focused on the potential threats to our country and the ways and means to protect it.

We just graduated over 900 second lieutenants dedicated to defending the Constitution of the United States of America. As Superintendent I can assure you they are up to the task. The continued strength of America's Air Force will depend on our ability to recruit and retain quality people. Thanks to your and other Members of Congress' support, the Air Force Academy continues its tradition as a top tier leadership institution and commissioning source. Thank you for your continued support.

BODY

Developing the brains, heart and soul, and guts of America's youth is an institutional challenge to say the least. Yet, if I had to select only one thing I could highlight as being most proud of, it would be the caliber of graduates we commission each year. I'd like to take a moment and touch on a few reasons why I feel this way.

First, we start with the best and brightest. Our admissions experience has been a college president's dream, especially for the past couple of years. Competition for nominations is keener than it has ever been both in terms of qualifications and numbers of applicants. Acceptances of appointment offers remain at all-time highs, and cadet attrition has been far lower than historic averages. That says good things not just about the academy, but also the caliber, determination and patriotism of America's high school youth.

All of our academy programs are dedicated to building leaders of character for the nation. We maintain a very challenging core curriculum, but it doesn't stop there. We exist to make our Air Force and nation better, and relevance is critical. For example, the academy was the first undergraduate institution to design, build, launch, and command its very own satellite. The program, now known around the academy as Falconsat was just an idea in one astronautics instructor's head back in 1991; but by 1995, 15 cadet astronautics majors "balloon launched" the first USAFA spacecraft known as USAFASAT-B. Several successful balloon launches followed and the lessons learned from these "near-space" flights led to the first "true" launch of Falconsat I aboard a "minotaur" missile. Falconsat II goes up in January 2003 aboard the Space Shuttle with a USAFA graduate as pilot and a former USAFA math instructor as mission commander.

On a similar note, USAFA cadet programs are impacting our fight against terrorism. As you know, the AC-130 gunship is a formidable weapon and has flown over Afghanistan in that war. Despite its effectiveness, the modifications required to make it as deadly as it is had a price in efficiency. The Air Force Academy took on the challenge to reduce the gunship's drag without moving anything, affecting its functionality, or becoming "expensive." Over a 4-year period, 36 cadets and an aeronautical engineering instructor came up with a solution fitting these criteria. Pending funding approval, when fully implemented, the modifications recommended will result in a 30-minute increase in flying time and a 2,000-foot increase in ceiling—improvements positively affecting future operations. This program received rave reviews from the cadets involved: their studies were more than mere theory and hypothetical problems. They are solutions being used right now, in today's Air Force.

Speaking of today's Air Force, it's an expeditionary force with global reach and global power. But how do you relate this experience and knowledge to 4,000+ cadets? For several years now we've included a program entitled "Global Engagement" that gives cadets a taste of what life is like in a deployment situation. Global Engagement is an intense 9-day course, taught 6 times throughout the summer. In these 9 days, under the supervision of officers and enlisted personnel (many from the Reserve components), cadets construct, defend, and re-deploy an entire base. They're responsible for their own security, facilities, defense against attack, morale, and welfare. If they don't have a good plan, and fail to construct appropriate housing, then they have nowhere to sleep. If they fail to properly secure their perimeter, a small aggressor force will succeed in a surprise attack, and if they're unable to properly configure their mess hall, then they go hungry until they get it right. This program challenges the cadets' abilities to absorb training and put it to use immediately. Nothing beats hands-on training and, in my opinion, this hands-on approach to preparing our graduates for deployments is as close as you can get to operational missions.

For you see, it's all about leadership. The academy is often referred to as a "leadership laboratory" because the cadets run the squadrons, the groups and the wing with supervision from active duty personnel. At each level they have cadet commanders and staff. All of these positions run for a single semester allowing as many cadets as possible to experience the challenges of leading. The purpose behind our leadership laboratory is to provide experience in a somewhat forgiving arena. I use the word somewhat because there are definitely consequences for cadet actions. They may not be commanding a fighter squadron or sending their troops into combat, but trust me, many of their decisions seem like life and death—especially those affecting their peers.

As we all know too well, peer pressure can be a powerful thing, both positively and negatively. At USAFA, character development programs educate the cadet wing on how to handle peer pressure, and many other challenges to ethical decision making. For example, programs like our National Character and Leadership Symposium (NCLS) invite speakers from around the country and the world to address character issues to an international audience. This last year we hosted guest speakers from senior military ranks, CEOs/presidents of private corporations, and professors from other universities. Students traveled from as far away as Japan to attend the NCLS. This program continues to grow, and with it its audience, benefitting many more people than just the cadet wing.

Most of our other character development programs specifically target the cadet wing. The Falcon Heritage Forum is a good example. In this program, distinguished veterans are united with cadets to share experiences, mentor, and appreciate one another. This link with previous generations provides tremendous understanding of the honor, dedication, and selflessness required to serve in our armed forces. As it turns out, the Falcon Heritage Forum is equally as popular amongst cadets and veterans alike.

Turning now to athletics, members of the Falcon football team and I were at the White House less than a month ago to receive our 15th Commanders in Chief trophy. Air Force has provided a home for the CINC trophy for all but one year since 1989. Athletic competition is crucial to developing our future leaders. Our men's and women's intercollegiate sports, our many and varied club teams, and the cadet wing level intramural competitions all demand the pursuit of victory with honor—a lesson that serves our future leaders well.

The goal of athletics at the service academies isn't so much to win games—it's a means to the much more important end of transforming cadets into officers who will subordinate "self" to pull together as a team to accomplish the mission under difficult circumstances. General MacArthur probably said it most eloquently: "On the fields of friendly strife are sown the seeds that, upon other fields, on other days, will bear the fruits of victory." It's a truism, but one well worth reminding ourselves about; the pressures of competitive athletics are often regarded as the closest peacetime comparison to those experienced in actual military combat. In this pressurized crucible, competitive athletics forges the high levels of individual character we expect—and demand—of our service academy graduates.

Now, let me take a moment and thank you and other Members of Congress who supported our breaking ground on an important addition to our athletic facilities. This new facility provides upgrades for both our men and women further fostering development of traits such as: courage, aggressiveness, self-confidence, intensity, and teamwork.

CHALLENGES

While the nation can be proud of all its military academies and their graduates, there remain challenges we must address.

The nationwide shortage of science and engineering talent affects the Air Force and the Air Force Academy in the sense that we have to compete for "blue-suit" instructors in these areas. Given the operational Air Force's requirements for people in the S&E area, we'll almost certainly have to hire additional civilian professors to teach. While they are outstanding teachers, what they cannot offer to the degree uniformed instructors can is the mentorship that comes from being in front of a class in uniform, bringing past military experiences to bear on classroom instruction. You teach subject matter by what you say, but inspire professionalism by what you are.

CONCLUSION

Mr. Chairman and members, in its short history the Air Force Academy has established a tradition of producing quality leaders for the nation. One hundred and sixty-two academy graduates have made the ultimate sacrifice in America's battles. Graduate valor and bravery have garnered this nation's highest awards including a medal of honor, 16 Air Force crosses, and 266 silver stars. Thirty-six graduates have been POWs. Exceptional graduate leadership has saved lives and produced victories in conflicts around the globe. Our graduates have led and are leading the Air Force—there have been 315 generals including 18 four-stars. Graduates have made an impact in every walk of life. Many of our alumni are captains of industry—727 are presidents/CEOs of companies, 33 are astronauts, and over 500 are doctors. Others are lawyers, airline pilots, entrepreneurs, inventors, teachers, ministers, government officials, coaches, authors—and one, Heather Wilson, is the first female veteran Member of Congress. The long blue line is making an impact across society and the Air Force Academy is proud of its living legacy.

The events of 9–11 were a watershed in our history. For the first time, our homeland faces a real and constant threat of attack. These are extraordinary times which demand extraordinary leadership, not only to win the war against terrorism but to guide our economy and inspire confidence in all sectors of society. The cornerstones of the Air Force Academy experience—integrity, service before self, and excellence are expected from all academy graduates. Now, more than ever, the country needs leaders of character to lead the nation.

On behalf of the men and women who serve in America's Air Force and sister services, thank you for your leadership and superb support—and for the privilege to appear before you today. We would be honored to host you at USAFA and share with you the privilege of serving alongside America's most precious treasure—its sons and daughters—as we develop leaders of character for our Air Force and nation.

BIOGRAPHICAL SKETCH OF LIEUTENANT GENERAL JOHN R. DALLAGER

Lt. Gen. John R. Dallager is Superintendent, U.S. Air Force Academy, Colorado Springs, Colo. He directs a four-year academic, military training, athletic and character development program leading to a bachelor's degree and commission as an Air Force officer.

The general, a distinguished graduate of the U.S. Air Force Academy, earned a bachelor of science degree in mechanical engineering in June 1969. He has served in several United States, joint staff and instructor positions, as well as squadron, wing numbered air force and combined/joint task force command positions.

A command pilot with more than 2,900 hours in F-4, A-10 and F-15 aircraft, he has accumulated 600-plus combat hours over Southeast and Southwest Asia, and Bosnia.

QUALIFICATIONS OF APPLICANTS

General DALLAGER. First, applications are up substantially. The qualifications of applicants are at an all-time high resulting in an extraordinarily competitive and extremely challenging selection process. Appointment offers are being accepted at record-high rates. For the past 2 years, attrition has been at record lows.

We just completed the selection process for the class of 2006, which will arrive and start basic cadet training in just a couple of weeks. We had 16,500 applications, up from around 9,000 last year. The average combined scholastic assessment test (SAT) score for selectees was 1,310, and the average high-school grade point average (GPA) was better than 3.9. Women will comprise 19 percent of the class, and minorities will make up 18 percent. Both the women and the minority admissions are up, continuing a trend that we're very, very proud of. Clearly, there's an abundance of patriotic, high-achieving, goal-oriented young people who are eager to learn and earn their commissions and serve their country.

CURRICULUM REVISION

Secondly, we've just completed a thorough revision of our core and our majors programs. They say it's easier to move a cemetery than to undergo a curriculum revision, but we felt it was essential to do so to permit our time-challenged cadets to meaningfully integrate our exceptionally rigorous academic, military training, athletic, and character-development programs. I'm proud to say that our Secretary of the Air Force, Dr. Jim Roche, personally took part in the process because of his fierce belief in the importance of education. The result, we believe, will be a better-balanced, more interdisciplinary curriculum that will, among other things, ensure enhanced technical literacy of all our graduates and increase our output of badly needed science and engineering graduates.

From our nationally recognized character-development programs, to building and launching our own satellites, we have much to be proud of. Our cadets are preparing for our wars of the future with sister-academy competition in NSA's highly technical cyber-war program. And on the fields of friendly strife, we compete for the coveted Commander-in-Chief's trophy. Despite the traditional competition, we all realize that ultimately, we're on the same team, America's team, fighting the same fight for national security.

The sky is the limit for our cadets, literally and figuratively. Our graduates emerge as leaders of character and have achieved stellar records in the military, in government, and in civilian life serving our Nation.

When you think about what kind of young person typifies our future Air Force officer, you should think of outstanding young women and men, like the cadet right here with me, Cadet First Class Todd Garner, of Bettendorf, Iowa, our Cadet Wing Commander for the fall semester. There's no doubt in my mind that with the young men and women like Todd, preparing to serve their country, our Nation will be in great hands.

Thank you, Mr. Chairman, Senator Cochran. I'm happy to answer any questions you may have and, with your permission, would like to turn the microphone over Cadet Garner.

Senator INOUE. I thank you very much, General Dallager.

And now may I call upon Cadet First Class Garner?

Cadet GARNER. Mr. Chairman, Senator, thank you and good morning. I'd like to say thank you for the opportunity to speak before this subcommittee today. It is always a pleasure to have the opportunity to express the awesome opportunities and experience provided by the Air Force Academy.

With the graduation of the class of 2002, I can say firsthand that the academy finished another year of producing nearly 1,000 extremely motivated and committed officers into the United States Air Force. This year, with the class of 2003 at the reins, we hope to go above and beyond 2002's success in developing leaders for our future Air Force.

UNITED STATES AIR FORCE ACADEMY CADET WING

As the vision created by the United States Cadet Wing says, we are the United States Air Force Academy Cadet Wing, a wing united and committed to carry on the honor, tradition, and sacrifice of those who, inspired in spirit, came admirably before us. We take pride in our academy and revere the privilege it presents us to serve our Nation. We willingly accept the challenges ahead, and demand the passion and desire essential to overcome all obstacles and break all barriers. We are the United States Air Force Cadet Wing, and we will leave no doubt that we create the world's finest officer.

Again, I am excited to be here to express the awesome attributes of the academy, and I'd be happy to answer any questions. Thank you.

Senator INOUE. I thank you very much, Cadet First Class.

I decided to suggest to the committee that we have a hearing of this nature, because these are the young men, the young men and women they represent, who have said to us that they are willing to stand in harm's way to uphold and defend the honor of our country. I wanted the people of the United States to see why we are spending their hard-earned tax monies.

Hardly a day goes by when I don't receive a letter or a call telling us that we're spending too much for defense. My response is a very simple one. If any person is willing to stand in harm's way and give his life for this country, the least I can do is to provide the best. And that's what this committee is committed to doing.

And so, with that, I know I speak for all of the members of the committee. We thank you very much, and we are extremely proud of all of you.

RESPONSE TO BRANCHING QUESTION

Lieutenant Blickhahn, you're in the infantry, aren't you?

Lieutenant BLICKHAHN. Yes, sir.

Senator INOUE. I was told that the—of all the special services, the infantry is not on the top of the list. Why did the number one man pick the infantry?

Lieutenant BLICKHAHN. Sir, if you're looking to lead soldiers and to execute the Army, the infantry is the place to be. West Point ingrains everyone into an understanding of the total Army picture. I felt that the contribution that I could best give to the United States Army, to America, is to be at the top of the spear being an infantryman, making sure we take care of the business for America.

Senator INOUE. As you know, I have something very personal here. I was scheduled to become a member of the class of 1949 at West Point, but the war came along and denied me that privilege. But seeing all of you, it makes me feel good that I could have been there, once upon a time.

Ensign Drew, you have been selected for the submarines?

Ensign DREW. Yes, Mr. Chairman.

Senator INOUE. You know that that's top of the heap.

Ensign DREW. I am aware, Mr. Chairman.

Senator INOUE. I want to congratulate you, because I've been told that to be selected as a member of a submarine, you must be exceptionally good—not just disciplined and knowledgeable, but one who is willing to live with other people under extraordinary circumstances. That means psychologically, you're top of the heap here, so congratulations. What made you select the submarines?

Ensign DREW. I'm sorry, could you repeat your question, Mr. Chairman?

Senator INOUE. What made you select the submarines?

Ensign DREW. Well, Mr. Chairman, during the second-class summer at the Naval Academy, I had the opportunity to go to Italy and embark upon the U.S.S. *Hartford*, which was conducting dynamic mixes with the North Atlantic Treaty Organization (NATO), a 30-ship Italian operation, and I had an opportunity to see the versatility of the submarine. I was very impressed with the mission. I was very impressed with it being covert, uncertain, and stealth. And essentially everything on the surface is a floating target.

Beyond that, sir, the people, the enlisted sailors, are some of the top-quality—actually are the cream of the crop of what you see in the Navy. They are some of the most intelligent and hardworking individuals—a lot of them have college experience, and generally something went awry that led them to the Navy and to the nuclear power program—and they're incredibly capable and incredibly motivational.

And, finally, sir, the actual equipment, the submarine itself, is a very exciting platform, being on it, being inside a closed, confined space. It's quite a leadership challenge, and I was—it was an overwhelming experience to be onboard it, and I would like to pursue it.

Senator INOUE. Cadet First Class Garner, what made you become what you are today?

Cadet GARNER. Mr. Chairman, I have a passion for flying. I have a passion for this country. And I felt that there was one place where I could do both to the best of my ability, and that was at the academy. I came here, have been working my best, hope to get out there, get a fighter jet, and then serve our Nation proudly.

Senator INOUE. What do you hope to be flying?

Cadet GARNER. Sir, I hope to fly the F-16.

Senator INOUE. He's got it all selected.

Cadet GARNER. Now I just need some people to agree with me on this one, sir.

Senator INOUE. You want to try the F-22?

Cadet GARNER. That would be awesome, sir.

Senator INOUE. Well, it'll be ready for you.

Senator Cochran.

APPROPRIATED FUNDS FOR SERVICE ACADEMIES

Senator COCHRAN. Mr. Chairman, thank you very much. I know that there is not enough money appropriated every year to meet all the needs of the service academies. And because of that, you've all engaged in some fundraising activities among your alumni and other friends of the service academies. Tell us about, each of you—I hope you will give us an overview of what your program is in this regard, and what it's designed to do, and the nature of the success that you've had so far in these efforts?

General LENNOX. Sir, that's a great question. It's not so much that we have not gotten enough money. What we do is, we ask from the Federal Government, from the departments, the money it takes to make second lieutenants, and we get that money. The Army, in my case, has been very supportive of providing us the money that it takes to run the academy. What we look for is margin of excellence, the things that provide the cadets a broader experience, one step above.

Over the last few years, we've been able to raise about \$200 million. Where does it go? It goes into facilities first—for example, the football stadium, our marksmanship center, a gymnastics center, a tennis center—giving us some of the best facilities in the college experience across the Nation. We also provide money for cadet clubs, for the academic experiencing, sending cadets to 25 different countries around the world during the summertime for language immersion, for example. And, let's see, a few of the other things that we do with the money is providing cadets the broader experiences they would not get in just the basic program.

Senator COCHRAN. One of my best friends back in Mississippi is a graduate of the academy, Billy Munger, and he's—

General LENNOX. Yes, sir.

Senator COCHRAN [continuing]. And he's told me about his personal commitment to the academy and his efforts to encourage others to support the fundraising drive that you have going on. He's been a very generous supporter of the academy.

General LENNOX. Sir, he has been one of the best. And it's people like him who have given us that boost that we need to give these

cadets the broader experience that they need for confronting some of the things that they're going to see over the next few years.

Senator COCHRAN. Colonel Allen, tell us about the Naval Academy?

Colonel ALLEN. I'd like to echo General Lennox's comments with regard to the resourcing that we receive from the Government, that we are well resourced, and, as a result, the fundraising in which we are engaged—and I'll use for an example the program we now call the Campaign for Leadership for the Nation, which is a campaign—a 5-year campaign being run through the Naval Academy Foundation. It permits us to provide excellence above the core to the Brigade of Midshipmen. In particular, at this juncture, the campaign's objective is \$175 million. We're about \$100 million into the campaign at this point.

Some of the kinds of benefits for which we find that this money can be of value to the academy is, for example, the Glenn Warner Soccer Stadium, renovation for the football stadium, enhancements to some of the academic experiences that the midshipmen have, the funding of distinguished chairs amongst the faculty, conferences—there's a conference on leadership that has been very generously funded by one of our benefactors.

So we recognize that there are so many magnificent young men and women in America today who are making difficult choices with the 4 years that they will spend in a college environment. And as prestigious as the academy is, the added benefit of this public or private giving, above the core, is excellent in helping us to attract the very finest young men and women of the country to come to the Naval Academy because they see the magnificent facilities that can be achieved—or the potential that can be achieved through this private giving.

As well, it also connects the citizens of the Nation to the service academies, and we think that's very important. And just as the General said, someone who truly supports the academy is able to demonstrate that support by generous support in many ways.

So we think that the private giving, in addition to the resourcing that we receive from Congress, truly permits us to add the margin of excellence to attract the very finest young men and women in this country for future service as officers of the naval services and the armed forces, sir.

Senator COCHRAN. Thank you.

General Dallager.

FUNDING FOR THE AIR FORCE ACADEMY

General DALLAGER. Senator Cochran, thank you very, very much. I would echo my colleagues' comments. One slight difference with the Air Force Academy is that, of the three that are represented here, we are the junior academy. We're following in their footsteps, in that we're embarking on what we would call the "silent phase" now of the first-ever capital campaign that will occur in conjunction with our 50th anniversary.

The themes, I think, are essentially the same at the Air Force Academy. We receive tremendous support from our Nation through appropriated funding.

PRIVATE FUNDING

As we look at the competition for men and women of the quality who are represented here, I would offer to you that the competition amongst the top-tier institutions in the Nation continues to get tougher and tougher and more competitive. To maintain that margin of excellence that they've both suggested, we believe will take Government funding. We also think there's an opportunity there for graduates and friends of the academy to help.

So this will span literally all four mission pillars at the Air Force Academy—academics, athletics, character development, as well as military training—to ensure that we are able to continue producing the types of leaders that you can see we're producing right now.

INCREASED ENROLLMENT

Senator COCHRAN. The Armed Services Committee, in its authorization bill, has a provision in there suggesting an increase in enrollment from 4,000 to 4,400 students per academy by the year 2007. What impact is this going to have in the current fiscal year's budget request? Are there going to be any additional needs for funds because of this authorization, or is this something that will be phased into your regular appropriations request over time?

General LENNOX. Sir, the military academy supported that provision, as long as it didn't require us to do it by the deadline. Right now, I do not have the space to expand to 4,400. I'm short barracks space. I could probably go to about 4,200, but that's all. Over time, we will work on the barracks, and then we would be able to go to that number later.

Senator COCHRAN. Okay.

Colonel Allen.

Colonel ALLEN. Sir, we have the existing infrastructure now to go to 4,400. Back in 1986, in fact, the size of the Brigade of Midshipmen was 4,685, so we have the infrastructure for an expanded brigade at this point. As well, with the numbers of magnificent men and women who are applying to the academy, our admissions can support it, as well, sir. So we can field a brigade of 4,400, sir.

Senator COCHRAN. General Dallager?

General DALLAGER. Sir, we are undergoing, in our dormitories right now and for the next several years, renovation after—in the case of the one dormitory, it's about 40 years old now. It's the first time it's had a renovation, and we are triple-bunking about one-quarter to one-third of the cadet wing. That will be resolved probably in 2 to 3 years.

The Air Force is currently looking at the mix—we are just one of three commissioning sources for our Air Force—we have Reserve Officer Training Corps (ROTC), as well as the academy—and looking at the proper balance there. And then once they have determined whether they would like to retain the same mix or increase some of those commissioning sources, then we would be able to support that. But it would take a phased-in approach, and we would then need the budget for that.

HONOR CODE-STUDENT RESPONSIBILITY

Senator COCHRAN. My last question is for the current graduates or students at the academy, and it relates to the military leadership training in character education that has made the service academies quite distinctive, in my opinion. Could you tell us how important you think, it is to involve the students in this process, to give them responsibilities for helping enforce the provisions of the honor code and the integrity of the individual students at the academy?

Lieutenant BLICKHAHN. Senator Cochran, sir, the involvement of the Corps of Cadets within the enforcement of the honor code is critical to the success and the implementation of the honor code itself. When the cadets have internalized it and when they own the code, when they're policing their own ranks, that's where you see the manifestation of all the ideas and theories about honor and character—is when they're actually executing it. And it's that daily habit of accountability, standards, and discipline that makes the West Point graduate so inundated in the concept of the honor code and become that leader of character when we graduate.

On a daily basis, our decisions, our time schedules, everything is centered around the decision-making process and doing the right thing at West Point. And I think for the cadets to own it and for the cadets to be the enforcers of that code brings it down, internalizes it, and makes it personal for every cadet.

Senator COCHRAN. Thank you.

Mr. Drew.

Ensign DREW. Senator Cochran, the Brigade of Midshipmen is a leadership laboratory. And that laboratory is run entirely by the Brigade of Midshipmen. We have a chain of command that operates everything from the honor concept to the adjudicatory authority on conduct and minor offenses, and major offenses at times.

The point is—is that the midshipmen are in charge, and they take an active role in the military professional development at formations, at training evolutions. They plan the training evolutions. They plan the objectives for the year—the leadership objectives. And the midshipmen are an entirety—it's in their hands to make a difference and to do what they want. And they do a great deal at this time.

In addition, we also police our own, and we also enforce our own standards, and not only by learning about it in the classroom, but by actually demonstrating in Bancroft Hall, on the athletic fields, doing different obstacle courses and different training evolutions. We actually have an opportunity to internalize what we learn in the classroom. And it is up to the midshipmen to cultivate themselves and develop themselves into the officer, as well.

Senator COCHRAN. Thank you.

Mr. Garner.

AIR FORCE HONOR SYSTEM

Cadet GARNER. Senator Cochran, just like the other two academies, our honor system is completely cadet-run. We do everything from the actual initial allegations to the clarifications to the actual board, and we take it very seriously. This is something that we

have a lot of respect for, and which we really feel is extremely important to the success of the academy. It teaches us not only to make tough decisions, but to hold each other accountable for tougher situations, for instances where it might not be so clear. It tells us that we are here, we are making decisions, we are responsible for those decisions, and, when it comes down to it, we can trust one another, we can count on one another, and we will be officers who take accountability for their own actions.

Senator COCHRAN. Thank you. Thank you, Mr. Chairman.

TECHNOLOGY AND THE SERVICE ACADEMIES

Senator INOUE. Thank you. And if I may, now I'll ask a few technical questions.

Recent events in Afghanistan have demonstrated to us that our military is becoming highly dependent upon technology. At the same time, we have seen statements and articles suggesting that the service academies may not have been up to par in preparing our young students to meet the needs of this day. Is there any justification to that?

General LENNOX.

General LENNOX. Sir, none at all. Right now, we have a core curriculum that includes the engineering aspects, math, science, as well as the humanities. Every graduate has a background in technology. We've just reviewed the curriculum. We've opened up more humanities courses because of the kinds of things that you saw in Afghanistan, but each graduate will have that engineering, math, and science background. And, in fact, we added another information-technology course.

If you take a look at some of the competitions over this past year, whether it was math modeling or the NSA's competition, all three academies have been in the running there. I see no problem in the technology area for our graduates.

Senator INOUE. Colonel Allen.

Colonel ALLEN. Mr. Chairman, the Naval Academy produces about two-thirds of the technical degrees, the annual accession of young officers into the Navy and the Marine Corps, so we believe that we are, in fact, on the leading edge of the technical preparation of the young officers for their challenges, their leadership challenges, in the operating forces and in the fleet.

And, as I have mentioned in my statement, sir, this year we have added a 19th major, a major in information technology (IT), which will have 10 additional core courses added in that major. Plus, we'll have five, what we call, secondary-discipline courses, which all other midshipmen will have the opportunity to take. Plus, we'll be expanding information-technology opportunities in other aspects of our curriculum. So the midshipmen are, in fact, exposed significantly—and certainly with the advent now of the 19th major in IT—to the challenges of information technology.

As well, we're in the process of the renovation of Luce Hall, which is the center for our professional development. And when Luce Hall comes out of renovation, we will have a new network-centric operations center, which will, in many ways, give us added capability to—for the midshipmen to be trained and educated in the principles and processes of network-centric warfare, which, of

course, is the way by which the fleet and the Navy prosecute warfare in conjunction with the Marine Corps today and in joint operations.

So we believe that we do, in fact, prepare the midshipmen technically for the challenges of the Navy and the Marine Corps. Very importantly, though, we also believe that the moral preparation that they receive and their personal dedication to physical development, prepares them very well, sir, at the accession level, and, of course, prepares them with habits of leadership and dedication for a lifetime in their career. So we believe that the academy is, in fact, answering the needs of the Nation technically, morally, and physically, sir.

Senator INOUE. General Dallager.

AIR FORCE ACADEMY TECHNOLOGY CURRICULUM

General DALLAGER. Mr. Chairman, I would echo my colleagues' comments. We, too, have a broad-based core every academy cadet goes through that is 55 to 56 percent technically oriented—math, science, physics, chemistry—and ultimately every graduate from the Air Force Academy graduates with a Bachelor of Science. That is significant.

One of the areas of particular concern to us is the relevance of the instruction we're providing. And I've already mentioned the fact that we have had cadets who have designed, built, launched, and controlled their own satellite. They will be doing something similar this coming January on a shuttle launch, where the pilot is a graduate of the United States Air Force Academy, and the commander of that shuttle, which will launch this satellite, was a math teacher several years ago at the Air Force Academy. They work things such as drag reduction on unmanned aerial vehicles. Cadets and faculty worked together to do some drag reduction on the AC-130 gunship, which most of you are familiar with and which has been used extensively in Afghanistan that will increase the ceiling as well as the time over target, which is critical in areas like Afghanistan, for example.

So we believe that we are very focused on the technical aspects—information technology, information operations, information warfare—and it's important, as the other academies do, to look ahead 10 to 15 years and to focus our educational efforts on what we think will be the technology and the facility with that technology that officers will need to have in the future.

ADMISSION STANDARDS FOR ATHLETES

Senator INOUE. Recent press articles have been very critical of admissions standards for athletes by service academies. If you care to, I'd like to get your comments.

General?

General LENNOX. Sir, our admissions process looks at the whole-candidate score. That score examines a high school or a candidate's academic background, athletic, and leadership qualities—about 60 percent academic, about 30 percent leadership, and about 10 percent athletic. Our athletic department is one of 15 departments that sit on the admissions committee.

All people coming into West Point are qualified at the beginning. All candidates have been qualified. We don't use the concept of waivers. So—and, in fact, over the last 3 years, we've reduced the number of recruited athletes coming in, focusing—to be honest, focusing more on the athlete who can play the sport and perform academically at the academy.

So I'll tell you that our athletes are not a problem area. Some of them are at risk, but they are no more at risk than some of the other areas that we recruit, possibly some of the minority areas. So I would say it is not a problem at the Military Academy.

Senator INOUE. Colonel?

Colonel ALLEN. I would echo the comments of General Lennox, sir. The athletes who come to the Naval Academy are—fall within admissions standards upon entry, sir. They adhere to the standards of the institution while they are members of the Brigade of Midshipmen, and they meet the standard for graduation when the time comes. Just as any other potential candidates who come to the Naval Academy, should we elect—or should we detect that someone needs additional grooming or additional opportunities to learn something in the line of chemistry or calculus, we have other options—foundation private schools where we might suggest that an entering candidate could receive an additional year after graduation from high school for preparation for the very demanding technical education of the Naval Academy. But upon their entry to the Naval Academy, they fall within admissions standards, sir.

Senator INOUE. When the academy requested that your star quarterback be kept for another season, was that because of academic standing?

Colonel ALLEN. Mr. Chairman, the academy did not request that he remain another season.

Senator INOUE. Well, maybe the football team.

Colonel ALLEN. I think he might have wanted to stay another season, sir, but we did not countenance a request for that midshipman to remain another season or another year, sir.

Senator INOUE. General Dallager.

RECRUITMENT OF ATHLETES

General DALLAGER. Mr. Chairman, we, like the other academies, recruit scholar athletes. The classes that have entered in the last several years rank in the top 14 percent across the Nation, using the whole-person concept. So we're very, very interested in their academic capabilities, their leadership and extracurricular activities, their character, as well as their athletic abilities. Approximately 85 to 86 percent of the young women and young men over the years that come to the Air Force Academy have lettered in at least one sport during their high-school career. So, again, it does emphasize the whole-person concept.

SCHOLAR-ATHLETE SCHOLARSHIPS

As an indicator of the success of that program, the National Collegiate Athlete Association (NCAA) awards postgraduate scholar-athlete scholarships, and the Air Force Academy ranks number two, behind only Stanford, in the total number of recipients during the years those have been presented.

Again, I would echo the sentiments of our colleagues. We believe that athletics is absolutely essential for a well-rounded officer, particularly individuals who will be entrusted with people's lives and have to make decisions, sometimes under the stress of combat. And one of the great venues for cultivating and honing those skills is on the fields of friendly strife.

ACADEMY STANDARDS

Senator INOUE. Then I would say that you would agree that the athletic programs do not in any way dilute the standards set by the service academies?

General LENNOX. Sir, our athletes are all qualified to come to the military academy.

Colonel ALLEN. Sir, they enhance the experience at the Naval Academy.

General DALLAGER. I would agree with both those comments.

Senator INOUE. Then, once again, in behalf of the committee, I'd like to thank all of you and tell you how proud we are to have you serving us and leading us.

It should be noted that less than one-half of 1 percent of the people of the United States step forward to take the oath and say, "We are willing to stand in harm's way." When you consider that less than one-half of 1 percent defend the honor of this country, it's awesome. And you are the heart of that 1 percent—the one-half of 1 percent—and we depend much upon you, and we just hope that the training we have provided you has not only been adequate, but the best available.

But before we call a recess, Senator Cochran, do you have any further questions?

Senator COCHRAN. I thank you, Mr. Chairman.

I think we've been reassured this morning, and impressed with the quality of the statements and testimony we've heard. And I just want to add my thanks to all of you for the hard work you do and the great job you do in helping to ensure that we are capable of defending our country.

Senator INOUE. Gentlemen, yours is an awesome responsibility, training our Nation's future leaders. And listening to all of you, I can say that I can go to sleep tonight much more soundly.

To our students and recent graduates, naturally we say congratulations. We wish you the very best in the years ahead. We expect one day that you'll be called upon to testify before us, because many of the academy graduates become the highest offices. Right now, the Army Chief of Staff is an academy grad. And I believe the same thing is with the Navy. And so it is not farfetched when someday the Chief of Staff may be a man named Blickhahn, or the CNO maybe someone called Drew, or the Chief of the Air Force may be someone called Garner. And, in fact, I'd be willing to put my money on that.

[The following questions were not asked at the hearing, but were submitted to the Department for response subsequent to the hearing:]

QUESTION SUBMITTED TO LIEUTENANT GENERAL WILLIAM J. LENNOX, JR.

QUESTION SUBMITTED BY SENATOR CHRISTOPHER S. BOND

CADET EXPOSURE WITH THE USNG AND USAR FORCES

Question. What exposure do the Cadets have with the National Guard and Reserve Forces? Is there an appreciation for the many capabilities that these forces bring to the table and is there an adequate amount of time given to developing a working relationship between the Cadets and Midshipmen and the National Guard and Reserve Forces?

Answer. USMA Cadets are exposed directly to the Army Reserve, who provide instruction to the cadets during their Military Science education and Cadet Field Training. Cadets gain an appreciation of the Army Reserve and Army National Guard during Military Science education when introduced to the Total Army and the contributions of the Reserve Component towards the Army mission and National Defense. An appropriate amount of time is allocated on this subject. During Cadet Summer Training, all cadets are introduced to the fundamentals of rifle marksmanship by a reserve training battalion. The Military Academy has also had cadets participate in its Troop Leader Training Program with reserve units. Additionally, West Point has a Army National Guard officer assigned to the Academy, who is fully engaged in cadet activities—to include coaching the Army Rifle Team.

QUESTION SUBMITTED TO COLONEL JOHN R. ALLEN

QUESTION SUBMITTED BY SENATOR CHRISTOPHER S. BOND

MIDSHIPMEN EXPOSURE TO NATIONAL GUARD AND RESERVE FORCES

Question. What exposure do the Cadets and Midshipmen have with the National Guard and Reserve Forces? Is there an appreciation for the many capabilities that these forces bring to the table and is there an adequate amount of time given to developing a working relationship between the Cadets and Midshipmen and the National Guard and Reserve Forces?

Answer. Midshipmen receive exposure to the reserve forces primarily through the Merchant Marine Individual Ready Reserve Group during “youngster” (sophomore) training cruise on the yard patrol (YP) craft. During the summer, approximately 15 of these individuals volunteer to perform as safety officers aboard the YPs. The skills that they bring to the training program are invaluable since many have been employed as pilots in the areas that the YPs visit. Additionally, a few reservists are actively involved with the sailing program during the summer. Academically, there are several instructors who are reservists that have been called to active duty to teach. Although they do not specifically teach topics about the National Guard and Reserve Forces, they interact with the midshipmen on a daily basis. In the Strategy and Tactics course, the reserves are addressed in a case study of Operation Desert Storm. The case study discusses the large numbers of reserves that were mobilized and some of the roles that they filled. Additionally, a proposal is being reviewed that would establish a reserve unit at the Naval Academy to support the YP training during the summer.

QUESTIONS SUBMITTED TO LIEUTENANT GENERAL JOHN R. DALLAGER

QUESTIONS SUBMITTED BY SENATOR CHRISTOPHER S. BOND

CADETS AND MIDSHIPMEN

Question. What exposure do the Cadets and Midshipmen have with the National Guard and Reserve Forces? Is there an appreciation for the many capabilities that these forces bring to the table and is there an adequate amount of time given to developing a working relationship between the Cadets and Midshipmen and the National Guard and Reserve Forces?

Answer. The short answer is that there is good—and growing—exposure to the Air Reserve Component (ARC), appreciation for their capabilities, and working relationship with these forces. Moreover, we plan to continue to expand this relationship in light of the current indispensability of the ARC to the national defense.

In the fall of 2001, the United States Air Force Academy (USAFA) began to examine how to improve our interaction with the Air Reserve Component (ARC). Our goal is simple; better prepare cadets for the “real” Air Force where the ARC is an

equal partner in the daily execution of the Air Force mission. We began a multi-pronged approach and have already made measurable, reportable progress.

In order to improve the exposure cadets have to the Guard and Reserve we have established an ARC Support Office in Harmon Hall (USAFA headquarters building) manned by two experienced ARC Colonels, one each from the Air Force Reserve Command (AFRC)—an Academy grad, and the Air National Guard (ANG). Concurrently, we began adding ARC members (primarily pilots) to the faculty, 34th Training Wing and Prep School staffs. We employed a process where we recalled ARC personnel to Extended Active Duty (EAD) in tours ranging from two to four years. These people will primarily be full-time instructors working for the Dean. Deploying ARC members serving on EAD tours fulfills two key objectives: first, we are increasing the rated presence in the classroom as role models to our future Air Force leaders; second, we are exposing the cadets to outstanding examples of the ARC. This second objective can be summarized by a comment in a recent staffing package entitled "Developing the Air Reserve Component Vision at the USAF Academy." In addressing the needs of the cadets for increased knowledge of the ARC, it stated, "The one effective way to improve their knowledge is through direct, routine contact with the ARC, similar to what they will experience in the Air Force after graduation." Aggressively using tools available, including the EAD approach, we will achieve increased Total Force integration and thereby awareness and appreciation of the ARC role in the Air Force and the nation's defense by our cadets.

A final note on the status of the EAD program: Although we are in the early stages of the EAD program, we have already added seven AFRC and two ANG officers to our team. An article was recently published in the June 2002 edition of Citizen Airman magazine that recounts the journey of two AFRC members who have recently joined the USAFA faculty. The web address is: <http://www.afrc.af.mil/hq/citamn/jun02/academy.html>. As we continue to evaluate the requirements in the classroom and couple that need with our desire to grow the ARC presence at the Academy we will continue to seek nominations from the Guard and Reserve for qualified instructors. We currently have an additional five positions advertised. The advertisements are located on the ANG web site and other locations. The ANG web address is: http://www.ang.af.mil/OM/career/Recall%20Vacancies/ead_advertisements%20default.htm

The first exposure to the ARC is the interaction of United States Air Force Admissions Liaison Officers (ALO) with prospective candidates. Out of the 1,900+ ALOs, over 800 are primary duty, Category E (CAT E, [non-pay, retirement points only]) reservists assigned to the 9001 Air Reserve Squadron, HQ ARPC. Many others are CAT A and B Reservists or National Guardsmen, who perform ALO duties as additional duty volunteers. These officers provide information about Air Force educational opportunities to high school counselors and administrators in all 50 states and several overseas locations. They explain U.S. Air Force Academy and Air Force Reserve Officer Training Corps programs and admissions procedures to young men and women potentially qualified and interested in an Air Force career.

USAFA's rated officer presence has declined due to Air Force wide rated management issues. This situation has required the 34th Operations Group (OG) to increase the use of both officer and enlisted reservists to relieve the manning shortfalls in their airmanship programs and associated staff duties to accomplish the mission. Currently, the 34 OG's robust reserve program stretches over four squadrons and currently has 37 reservists actively participating. The trend would indicate continued growth. The 34 OG's airmanship programs motivate and inspire USAFA cadets to make the crucial decision to attend undergraduate pilot training (UPT). Currently 42 percent of Air Force UPT students come from the Air Force Academy. Reservists provide the much-needed manpower in all of the 34 OG programs, including scheduling in airmanship programs, managing flying hours program, tours, orientation rides, and tandem jumps.

Air Force Reserve members provide critical management to numerous programs within the 34 Operations Support Squadron (OSS). Many of these programs were previously non-existent due to the 34 OSS's limited rated presence and other manpower shortages. For example, a Reservist serves as the Pegasus program manager. Pegasus is an "operationally geared" orientation flight program for Air Force Academy cadets serving to motivate future officers toward rated careers. Another critical area for a safe flying training operation is the Cockpit Resource Management (CRM) program. Here again a Reservist created and maintains CRM periodic training courseware and collects trend data thereby ensuring compliance with all Air Force CRM regulatory guidance. As with all Air Force flying operations, there is an active Bird Aircraft Strike Hazard (BASH) program. Again, a Reservist established and manages the 34 OG BASH program. A Reservist also functions as our primary ground safety officer implementing all 34 OG ground safety programs.

94 Flying Training Squadron (FTS) Reserve augmentation accounts for over 50 percent of Supervisor of Flying (SOF) staffing levels, ensuring airfield safety and program effectiveness for Airmanship 251, 461, and advanced programs. Reservists serve as instructor pilots for the “Soar For All” program, teaching cadets the basics of flight and culminating with a solo in a glider. Reservists support staff training deployments, competitions, and Higher Headquarters taskings and serve as the core of experience in many of the 94 FTS flying programs.

Reservists assigned to the 98 FTS serve as AM-490 (Basic Parachute Course) instructors, UV-18B Twin Otter pilots and parachute riggers. They serve to elevate the 98 FTS experience level and contribute continuity and quality to the flight and jump operations. Reservists actively augment several high-visibility training deployments.

In the 557 FTS Reservists provide augmentation for squadron’s safety and standardization and evaluation programs for their Initial Flight Training (IFT) program. Reservists provide recent Undergraduate Pilot Training (UPT) experience to enhance the cadet’s understanding of the future UPT environment.

The Department of Civil Engineering is particularly successful in blending academic instruction on the ARC with the establishment of working relationships. For example, our Civil Engineering Senior Seminar (CE 405) last spring, both the ANG/CE (Col Jan Stritzinger) and the AFRC/CE (Col Jon Verlinde) presented a lesson on the mission of the ANG and AFRC civil engineers and how they fit in the total force mission. All 66 of our civil and environmental engineering majors from the Class of 2002 attended the class.

Additionally, we get great support from the AFRC and ANG each year providing CE and Services NCOs to serve as mentors during the Field Engineering and Readiness Laboratory (FERL) portion of our 5-week summer course. This year we have 91 students (77 USAFA, 12 ROTC, and 2 West Point cadets) enrolled in the course. Twenty active duty, two AFRC, eighteen ANG NCOs and four civilians serve as mentors to the cadets, leading them through numerous construction activities (house construction, concrete placement, asphalt roadway, surveying, operating heavy equipment, etc.). The Buckley ANG (140 FW/SV) unit cooks the meals in Jack’s Valley for our cadets and mentors for the three weeks at FERL. Through this program, our cadets get an appreciation of the skills and abilities the AFRC and ANG folks bring to the fight. CE 351 is our cornerstone CE course to give the cadets a hands-on feel for what CE and construction is about before they begin the last two years of course work as a Civil or Environmental Engineering major.

The Global Engagement (GE) training exercise is the annual bare-base exercise experienced by third-degree cadets each summer. In the exercise, cadets learn the basics of deployed operations during five ten-day rotations. Each group of 200 cadets learns how, (many for the first time), to survive in a deployed environment. In all, over 1,000 cadets will receive the training. There are 33 associate instructors supporting GE and of that number, four are members of the 951 Reserve Support Squadron, AFRC, Dobbins AFB GA. Last year members of the 140FW/SF (Security Forces) CO ANG were members of the cadre. The continued support of the ARC has been crucial to the successful outcome of Global Engagement exercise through the years.

The Department of Philosophy’s instructors occasionally use the Guard and Reserve to make points about military ethics. Every USAFA cadet must take Philosophy 310, “Ethics” a course that focuses on moral issues in war-fighting and professional military service. Each year about 30 cadets choose to take a follow-on elective course entitled “War, Morality, and the Military Profession.” Instructors sometimes explore the roles and founding philosophies of the National Guard and the Reserve to illustrate concepts taught in these courses. For instance, an important principle in what’s called the “Just-War Tradition”—a centuries-old but living system of principles intended to ensure that war is ethically commenced and prosecuted—is usually called “right authority.” Among the questions this principle helps answer is, “Who may, with moral authority, order forces into combat?” Activation and deployment of Guard and Reserve assets offer valuable cases in point for discussions of this principle. Cadets who at first do not see a substantive moral issue in the War Powers Act may suddenly “get it” when they’re asked to explain why a state governor can’t order his Guard forces to deploy to Afghanistan. Class discussions might then turn to broader questions—e.g., if troops have been illegally deployed, are any actions they undertake necessarily immoral? Sometimes an instructor will choose to discuss questions surrounding the concept of the citizen-soldier—e.g., whether a professional (full-time) military is necessarily less connected than a conscript, Guard or Reserve force to the ethics of its parent society and thus more likely to act in ways the society would consider immoral. (The alleged disconnect between the ethos of the U.S. society-at-large and the U.S. military is something of a hot topic; cf.

Ricks' "The Widening Gap between the Military and Society" in *The Atlantic Monthly*, July 1997, or Halberstam on Mogadishu in *War in a Time of Peace*: Bush, Clinton, and the Generals, Scribner 2001.) All sections of the core course spend significant time considering the extent of the military member's obligation to service and, if necessary, sacrifice. (Is an enlistment a "contract" with built-in limitations, or is the call to service absolute? In discussions of this and similar questions, the actions of Guard and Reserve members provide useful case studies—e.g. in instances of "failure to go" during Desert Shield).

The Department of History's core course, History 202, "Introduction to Military History", addresses the historical development and expanding role of United States Guard and Reserve forces, air, land, and sea. Starting with lessons on 18th century colonial America and the Revolutionary War, the course describes the origins of the Minutemen and the development of America's citizen army. Further lessons trace changes in the American military throughout the early part of the 19th century and focus subsequently on the American Civil War. The use of state militias, irregulars, and volunteers between 1861 and 1865 is introduced to cadets. Our students learn about what one historian has identified as "the American Way of War." This refers to the uniquely American approach to conflict characterized by citizen-soldiers, rapid mobilization, industrial strength, overwhelming power, decisive victory, and a return to civilian life. With several lessons devoted to the wars of the 20th century, our cadets are exposed to the increasing role of American National Guard forces as they were called up and integrated into a globally deployed military. The last lessons of the course cover post WWII developments, the Cold War, Vietnam, the Gulf, and more recent conflicts. Cadets are fully apprised of the contributions of Guard and Reserve personnel and, in particular, understand that the reserve component carries out a huge percentage of our war fighting and contingency missions. We feel that it is important to devote in-class time to discussion of the ARC as well. Fortunately, their ubiquitous use in the history of American warfare and their unique nature as "citizen-soldiers" provide rich examples for instruction.

The Academy's three reserve legal functions provide direct mission support as well as instruction to cadets. The 10th Air Base Wing Legal Office has five reserve attorneys who provide services ranging from environmental law to legal assistance, including military justice. The law department has two reserve attorneys who teach courses to cadets. The Headquarters legal office has two attorneys who provide services ranging from constitutional law to senior management legal counseling on A-76 procurement issues, utility privatization and legislative initiatives. The seamless integration of the reservists into Academy operations not only directly benefit the Academy, but provide career incentives to the reservists who develop the skills necessary to assume active duty mission elements when required by AEF rotations.

The Chaplains at the Academy depend on reservists (both ANG and AFRC) to augment our staff during periods of surge activity. During the summer over 20 reservists support not only the arrival of the new class of cadets, ministering to their spiritual needs at this sometimes stressful period of their young lives, but continue in place, many for a month or more to support the Basic Cadet Training (BCT) activities in the field. A typical ARC contingent would involve six chaplains representing a diversity of faiths and one or more enlisted Chaplain's Assistants.

The events of September 11 had a dramatic impact on the Academy's deliberate and systematic ARC integration plan intended to improve our working relationship with ARC forces. The Academy needed to add capability, primarily to our security and medical forces, and we needed to do it immediately. The ARC responded with 39 officers and 33 enlisted members serving in both long and short tour capacities. The integration process was smooth as our new colleagues joined the rest of the team in the performance of critical tasks thereby allowing the Air Force Academy to remain focused on our number one mission, taking our Nation's best and brightest and producing second lieutenants. The rapid surge capability demonstrated by the ARC provided additional assurance that we were on the correct vector in embracing this new relationship. Based in part on our early successes, but also because we know that it is the correct approach, we are seeking additional nominations for Air Officers Commanding (AOCs), Faculty and Training Wing staff members from the ANG and AFRC.

The important bottom line to this answer is that we are being aggressive and rapidly pressing ahead with our ARC Vision to enhance the Total Force experience of our Cadets. Again, the goal is simple and to the point: ensure that our Cadets have a seamless transition from the Air Force Academy to the operational Total (Air) Force.

SUBCOMMITTEE RECESS

Senator INOUE. So, with that, we thank you all very much for your testimony, and we wish you godspeed.

[Whereupon, at 11:10 a.m., Wednesday, June 5, the subcommittee was recessed, to reconvene at 10 a.m., Wednesday, June 12.]

**DEPARTMENT OF DEFENSE APPROPRIATIONS
FOR FISCAL YEAR 2003**

WEDNESDAY, JUNE 12, 2002

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 9:50 a.m., in room SD-192, Dirksen Senate Office Building, Hon. Daniel K. Inouye (chairman) presiding.

Present: Senators Inouye and Domenici.

NONDEPARTMENTAL WITNESSES

**STATEMENT OF BENJAMIN H. BUTLER, DEPUTY LEGISLATIVE DIRECTOR,
NATIONAL ASSOCIATION FOR UNIFORMED SERVICES**

OPENING STATEMENT OF SENATOR DANIEL K. INOUYE

Senator INOUYE. First, my apologies. I just had an emergency requiring medevacating a patient I hope you will understand.

Good morning. Today the subcommittee will receive testimony of members of the public who have petitioned the committee to be heard. The right of the public to petition the Congress is one of the most sacred of our country's promises. It is a right that helps ensure our democracy remains strong, and we have traditionally ended our annual hearing process with public witnesses, and today we continue that tradition.

We have received and granted the request of 37 witnesses to testify. Because of the large number, we would ask that you try to limit yourselves to about 4 minutes, if that is possible. However, your complete statement will appear in the record, and I can assure you that I will read every one of them.

Let me assure you that the committee will review your statements, and before we begin I should tell you that, at this moment, there are eight committee hearings going on. This is just one of them. As a result, the members on this committee are the chairmen of other committees, and they have their responsibilities. So with that, may I proceed by calling our first witness, the deputy legislative director of the National Association for Uniformed Services, Mr. Benjamin H. Butler.

Mr. Butler, welcome, sir.

Mr. BUTLER. Thank you, Mr. Chairman. Mr. Chairman, I am also a retired U.S. Marine and master gunnery sergeant, and I am representing the National Association for Uniformed Services today, and we are very grateful for the opportunity to testify before you.

We know that Congress has not passed the authorization bill yet, but we understand it calls for a fully funded defense health budget. We greatly appreciate how this committee has always funded our health care, and especially appreciate this committee's support for the TRICARE for Life and Senior Pharmacy program. In light of this, I would like to bring your attention to some of our medical care issues of interest for this year.

During recent hearings, a major topic of discussion has been the Department of Defense and Department of Veterans Affairs (DOD-VA) sharing. We believe that improved cooperation will save funds, but we have the following recommendations. First, we do not want to see unification of the budgets. The budgets should be kept separate, with memos of understanding at sharing sites. We think the joint procurement of medical equipment and drugs is a good idea, because such purchases would benefit from economy of scale to save money in both systems.

Development of a uniform claims and billing system would greatly benefit DOD-VA sharing initiative. It has been our long-time hope that part of the growing costs of medical treatment in both DOD and the VA could be paid by improved billing of private insurance companies and authorizing payment by the medicare system, commonly called medicare reimbursement or subvention.

Numerous attempts to allow retirees to use their medicare benefits and the Military Treatment Facility (MTF's) have failed. In part this failure has been called because various systems do not share the same system for claims and billing. Since one of the primary systems for all medical claims in the country is medicare, if DOD and the VA adopted the standard industry claim system, all parties such as private insurance companies, the DOD, VA, and medicare would know what medical services, pharmaceuticals, laboratory services and so forth have been provided, thus making better use of scarce appropriated funds.

On another topic, the law enacting the TRICARE for Life program requires medicare part B enrollment for participation. In addition, part B is required for all retirees reaching age 65 on or after April 1, 2001 for them to participate in the new pharmacy program. Although we believe in the principle that the military benefits should stand alone and not require part B participation, the part B will save the TRICARE for Life program funds. However, we believe that requiring part B for participation in the pharmacy program does not result in significant savings, and creates a hardship for some beneficiaries and should be eliminated. In addition, some 12,000 retirees residing overseas are required to participate in part B Medicare in order to enroll in TRICARE for Life. Since they cannot use their medicare benefits overseas, we recommend that this requirement be eliminated for all retirees residing overseas.

Some retirees who live near military installations did not enroll in part because they believed that they would receive care at the hospitals and clinics located on the military bases, which later closed. Many are in their seventies and eighties now, and to enroll would require them to pay huge penalties. While we certainly understand that this is going to cost money, we recommend that those who relied on these hospitals and were 65 on or before the date

TRICARE for Life was enacted be allowed to participate in TRICARE for Life without enrolling in part B medicare. We think it is the right thing to do.

Mr. Chairman and distinguished members of the subcommittee, the funding and implementation of TRICARE for Life and the Senior Pharmacy program has had a significant positive impact on our military retirees at a time when they need it the most. As we travel throughout the country and visit with retiree at Retiree Days, we find that they are very appreciative of these new programs. We greatly appreciate your part in this. We want to thank you for your continued support on these additional key issues.

[The statement follows:]

PREPARED STATEMENT OF BENJAMIN H. BUTLER

INTRODUCTION

Mister Chairman and distinguished members of the Committee The National Association for Uniformed Services (NAUS) is very grateful for the invitation to testify before you about our views and suggestions concerning current and future issues of defense funding.

CURRENT AND FUTURE ISSUES FACING UNIFORMED SERVICES HEALTH CARE

The National Association for Uniformed Services would like to thank the Subcommittee and the Full Appropriations Committee for its leadership in passing landmark legislation last year extending the Pharmacy benefit and TRICARE system to Medicare eligible military retirees, their families and survivors, making the lifetime benefit permanent, establishing the DOD Medicare Eligible Retiree Health Care Fund, reducing the catastrophic cap and making other TRICARE improvements.

Mr. Chairman, the overall goal of the National Association for Uniformed Services is a strong National Defense. We believe that comprehensive, lifelong medical and dental care for all Uniformed Service beneficiaries regardless of age, status or location supports this goal. In light of these overall objectives we would request that the committee examine the following proposals.

UNIFORM CLAIMS AND BILLING

It has been the long term hope that part of the growing costs of medical treatment in both the Department of Defense and the Department of Veteran Affairs could be paid by billing private insurance companies and Medicare/Medicaid systems (DOD and VA Subvention). Numerous attempts to improve these financial streams have failed. In part this failure has been caused we believe because the various systems do not share the same system for claims and billing. Since the dominant system of all medical claims in the country is clearly Medicare if DOD and the DVA adopted the Medicare claims system ALL parties—Private Insurance Companies, DOD, the DVA and Medicare/Medicaid would know what medical services, pharmaceuticals, laboratory services and the like have been provided. Such a uniform billing plan could also lead to improvements in allowing the VA to be a fully participating TRICARE network provider. This does not solve the other billing problems but at least it would put all the parties on the same sheet of music.

DOD AND VA SUBVENTION

The attempt of Medicare subvention (having Medicare pay for treatment of its beneficiaries at MTFs) with the DOD has been a huge disappointment. The Department of Defense has received no stream of payments. Medicare's "required" level of effort has never been reached by an MTF. But this goal should not be abandoned. The active duty member, his or her working spouse, the Veteran and the Military Retiree have all spent their working careers paying money into the Medicare system. The taxes have been paid but if they receive treatment in a MTF or a DVA hospital or clinic the facility receives nothing from Medicare to help pay for that beneficiary. Of course, the people sworn to protect the Medicare trust fund like the situation as it is. And who can blame them? However the financially strained medical systems of the VA and DOD should receive some of the support their patients

have paid. Again, if DOD and the VA adopted Medicare's billing system it could support an effective attempt at subvention.

THE DEPARTMENT OF VETERANS AFFAIRS AS A TRICARE PROVIDER

At this time 80 percent of Veteran Affairs installations are nominally TRICARE providers in the TRICARE Networks. However, last year TRICARE paid only \$3.7 million to VA facilities for care provided to TRICARE beneficiaries. Part of the problem is clearly the previously discussed failure to have one system of Medical Record keeping and one method of claims and billing. Therefore, the change suggested above to follow Medicare's claims and billing system could alleviate some of the problems. It is also crucial to solve this problem so that the VA can qualify to be a TRICARE for Life provider. It could be a way to help improve coordination and predictability as well as a cost saving for both the DVA and DOD if the VA became a qualified Medicare provider. If this was accomplished then Medicare Part A or Part B would be first payer and TFL would pay the rest. This could be a serious stream of money (primarily from Medicare) to the VA for non-service connected treatment that the VA provides to military retirees. But unless and until the VA qualifies as a MEDICARE provider this is not possible. Since the door has been opened to coordinate Medicare payments and TRICARE by the coordination of their benefits in TRICARE for Life this would be a coordination that should make sense for all three Departments and would most importantly, improve the treatment of many beneficiaries.

JOINT MTF/VISN/TRICARE CONTRACTOR PROJECTS

When looking far into the future we can see coordinated networks for a region's Military Treatment Facility (MTF), its Veterans Integrated Service Network (VISN) and the civilian TRICARE contractor. This would actively use the VA as a provider of specialty health care, save money for DOD and plan a core of coordinated services. A test program in the Central TRICARE region called the Central Regional Federal Health Care Alliance has just been rolled out to look at, and coordinate areas of practice including possibly: "catastrophic case management, telemedicine, radiology, mental health, data and information systems, prime vendor contracting, joint provider contracting, joint administration processes and services and education and training." The governing board's members of this experiment include DOD's Lead Agent for the Region, VA's VISN Director and the president and CEO of the Region's TRICARE Contractor. If this plan succeeds in improving the health care of the beneficiaries and, hopefully, saving money for the taxpayers perhaps its form can be transported or modified for other regions.

MEDICARE PART B ENROLLMENT

The law enacting the TRICARE for Life program requires Medicare Part B enrollment for participation in the TRICARE for Life program. In addition, Part B is required for all retirees reaching age 65 on or after 1 April 2001, for them to participate in the new pharmacy program. Although we believe in the principle that the military benefit should stand-alone and not require Part B participation, the Part B will save the TFL program funds. However, we believe requiring Part B for participation in the pharmacy program does not result in significant savings and creates a hardship for some beneficiaries, and it should be eliminated. In addition, some 12,000 retirees residing overseas are required to participate in Part B Medicare in order to enroll in TRICARE for Life. Since they cannot use the Medicare benefits overseas we recommend that this requirement be eliminated for all retirees residing overseas.

Some retirees who lived near military installations did not enroll in Part B because they believed they would receive care at the hospitals and clinics located on the military bases, which subsequently closed. Many are in their 70's and 80's now and to enroll would require them to pay huge penalties.

We recommend that those who relied on these hospitals and were 65 on or before 6 October 2000, the date TFL was enacted by NDAA for fiscal year 2001, be allowed to participate in TFL without enrolling in Part B Medicare.

MILITARY HEALTH CARE IN PUERTO RICO AND VIRGIN ISLANDS

The TRICARE benefit in Puerto Rico and the Virgin Islands is different than that provided in the United States. NAUS believes that the TRICARE triple option benefit should be implemented in Puerto Rico and the Virgin Islands in the same manner that it is being offered in the United States. Further, the FEHBP Demonstration program has been highly successful in Puerto Rico and is due to end on 1 Janu-

ary 2003. NAUS strongly recommends that the FEHBP demonstration in Puerto Rico be extended and made a permanent program.

INCLUDE PHYSICIAN AND NURSE SPECIALTY PAY IN RETIREMENT PAY COMPUTATIONS

The military services continue to lose top quality medical professionals (doctors and nurses) at mid-career. A major reason is the difference between compensation levels for military physicians and nurses and those in the private sector.

Results of a recent survey of military urologists show that pay and benefits are the most important factors impacting retention. Improving specialty pay/bonuses and including specialty pay/bonuses in retired pay calculations would aid retention. More than half of mid-level military urologists (5–15 years of service) have not made their future career decisions. The survey also showed that 83 percent of senior military urologists, those with over 15 years of service, plan to retire at the earliest opportunity. Therefore, prompt action to retain these and other highly skilled medical professionals is needed.

NAUS recommends that prompt action be taken to improve these special pays and to include them in the retired pay calculations.

END PREAUTHORIZATION REQUIREMENTS/NON-AVAILABILITY STATEMENTS FOR TRICARE STANDARD

When the TRICARE program was begun beneficiaries understood that options would include a fee-for-service plan (TRICARE Standard), a preferred-provider plan (TRICARE Extra) and an HMO (TRICARE Prime). However, TRICARE standard is not a fee-for-service plan. Beneficiaries who use the TRICARE Standard plan must obtain pre-authorizations to obtain care out of the Military Treatment Facilities or the networks. TRICARE Standard should be a true fee-for-service plan and no preauthorization or non-availability statement should be required.

FEHBP

The NAUS has been a long time supporter of legislation that would provide military personnel the option of participating in the Federal Employees Health Benefit Program. Currently, a bill introduced in the 107th Congress, H.R. 179, would provide that option. NAUS believes that FEHBP should be an option for all uniformed service beneficiaries. We are confident that the TRICARE program and the TRICARE for Life program will be successful. Further, because they are an outstanding value for most beneficiaries, they will be the health plans of choice. However, in a few cases, the TRICARE/TRICARE for Life options may not be the best choice, or may not be available; and for that reason, we believe the FEHBP option should be enacted. Providing the FEHBP as an option would help stabilize the TRICARE program, provide a market based benchmark for cost comparison and be available to those for whom TRICARE/TRICARE for Life is not an adequate solution.

SUMMARY

Mr. Chairman and distinguished members of the Sub-Committee, we want to thank you for your leadership and for holding these hearings this year. You have made it clear that the military continues to be a high priority and you have our continuing support.

Senator INOUE. Well, I thank you very much, sir. I can assure you that this committee will do its utmost to meet your requests. That is the least we can do. Most people do not realize this, but our military is made up of volunteers, and all of them have taken the oath to stand in harm's way in our behalf if such be necessary, and anyone who is willing to stay in harm's way in my behalf, as far as I am concerned, you deserve the best.

Secondly, we have the problem of recruiting and retention, and if we do not provide the wherewithal, then I do not expect the young men and women to volunteer, so we are quite sympathetic with the problem. We will do our very best, sir. Thank you very much.

Mr. BUTLER. Thank you, Mr. Chairman.

Senator INOUE. Our next witness is the associate professor of psychology at George Mason University, representing the American Psychological Association, Dr. Stephen Zaccaro.

STATEMENT OF DR. STEPHEN ZACCARO, ASSOCIATE PROFESSOR OF PSYCHOLOGY AT GEORGE MASON UNIVERSITY, ON BEHALF OF THE AMERICAN PSYCHOLOGICAL ASSOCIATION

Dr. ZACCARO. Good morning, Mr. Chairman. I am Dr. Stephen Zaccaro, professor of psychology at George Mason University, and a researcher who studies leadership, leader development, and team effectiveness in military contexts. I am testifying today on behalf of the American Psychological Association (APA) a scientific and professional organization with more than 155,000 psychologists and affiliates.

While I am sure you are aware there are a large number of psychologists providing clinical services to our military members here and abroad, you may be less familiar with the extraordinary range of research conducted by psychological scientists within the Department of Defense. Our behavioral researchers work on issues critical to the national defense, particularly with support from the Army Research Institute, the Office of Naval Research, and the Air Force Office of Scientific Research.

As a member of the larger scientific community, APA joins the Coalition for National Security Research and over 40 scientific associations and universities in urging the subcommittee to provide DOD with \$11 billion for 6.1, 6.2, and 6.3 level research in fiscal year 2003, or 3 percent of the overall Department budget. This figure also is in line with the recommendation of the Independent Defense Science Board, the Quadrennial Defense Review, and the House and Senate Armed Services Committee. We strongly urge the committee to direct a small portion of the proposed increases for national security activities to these Science and Technology (S&T) research accounts to achieve the \$11 billion funding target.

Beyond the overall S&T budget, the behavioral research programs within the military labs need your continued attention. In 1999, the Senate requested from the Department of Defense a report on the behavioral, cognitive, and social science research in the military due to your committee's ongoing concerns about the erosion of DOD's support for research on individual and group performance, leadership, communication, human-machine interfaces, and decision making.

In the final report, the Department found that, quote, the requirements for maintaining strong DOD support for the behavioral, cognitive, and social science research capability are compelling, and that this area of military research has historically been extremely productive, with a particularly high return on investment and high operational impact, end quote.

My own research on leadership has been funded by the Army Research Institute (ARI). The focal point and principal source of this expertise for all the military services. Identifying, nurturing, and training leaders is especially critical to the success of the military, as war-fighting and peace-keeping missions demand more rapid adaptation to changing conditions, more skill diversity in units, increased information processing from multiple sources, and increased interaction with semiautonomous systems.

The ARI budget for fiscal year 2003 will sustain the Army's current investment in leadership and cognitive readiness research, but APA is very concerned again this year that both the Office of Naval Research and the Air Force Office of Scientific Research appear to be eliminating entire lines of applied human-centered research in fiscal year 2003. Given the current global climate, this is not the time to zero out research in human factors and training that is mission-specific to the military, and we urge the subcommittee to request further clarification from the Navy and the Air Force and reinstate their budgets for 6.2 and 6.3 behavioral research.

Clearly, psychological scientists address a broad range of important issues and problems vital to our national security, and we ask you to support the men and women on the front lines by supporting human-oriented research.

Senator INOUE. We shall most certainly discuss this matter with the authorities, as you suggested, and we will do our very best.

Dr. ZACCARO. Thank you, Mr. Chairman.
[The statement follows:]

PREPARED STATEMENT OF STEPHEN ZACCARO, PH.D.

Conflict is, and will remain, essentially a human activity in which man's virtues of judgment, discipline and courage—the moral component of fighting power—will endure—It is difficult to imagine military operations that will not ultimately be determined through physical control of people, resources and terrain—by people—Implicit, is the enduring need for well-trained, well-equipped and adequately rewarded soldiers. New technologies will, however, pose significant challenges to the art of soldiering: they will increase the soldier's influence in the battlespace over far greater ranges, and herald radical changes in the conduct, structures, capability and ways of command. Information and communication technologies will increase his tempo and velocity of operation by enhancing support to his decision-making cycle. Systems should be designed to enable the soldier to cope with the considerable stress of continuous, 24-hour, high-tempo operations, facilitated by multi-spectral, all-weather sensors. However, technology will not substitute human intent or the decision of the commander. There will be a need to harness information-age technologies, such that data does not overcome wisdom in the battlespace, and that real leadership—that which makes men fight—will be amplified by new technology. Essential will be the need to adapt the selection, development and training of leaders and soldiers to ensure that they possess new skills and aptitudes to face these challenges.—NATO RTO-TR-8, Land Operations in the Year 2020

Mr. Chairman and Members of the Subcommittee, I'm Dr. Stephen Zaccaro, Associate Professor of Psychology at George Mason University, and a researcher who studies leadership development and team problem solving in military contexts. I am submitting testimony on behalf of the American Psychological Association (APA), a scientific and professional organization of more than 155,000 psychologists and affiliates. Although I am sure you are aware of the large number of psychologists providing clinical services to our military members here and abroad, you may be less familiar with the extraordinary range of research conducted by psychological scientists within the Department of Defense. Our behavioral researchers work on issues critical to national defense, particularly with support from the Army Research Institute (ARI), the Office of Naval Research (ONR), and the Air Force Office of Scientific Research (AFOSR). I would like to address the proposed fiscal year 2003 research budgets for these three military laboratories within the context of the larger Department of Defense Science and Technology budget.

DEPARTMENT OF DEFENSE (DOD) RESEARCH BUDGET

APA joins the Coalition for National Security Research (CNSR), a group of over 40 scientific associations and universities, in urging the Subcommittee to provide DOD with \$11 billion for 6.1, 6.2 and 6.3 level research in fiscal year 2003 (or 3 percent of the overall department budget). This figure also is in line with the recommendation of the independent Defense Science Board, the Quadrennial Defense Review, and the House and Senate Armed Services Committees.

As our nation rises to meet the challenges of a new century, including multiple, asymmetric threats and increased demand for homeland defense and infrastructure protection, enhanced battlespace awareness and warfighter protection are absolutely critical. Our ability to both foresee and immediately adapt to changing security environments will become only more vital over the next several decades. Accordingly, DOD must support basic Science and Technology (S&T) research on both the near-term readiness and modernization needs of the department and on the long-term future needs of the warfighter.

Despite substantial appreciation for the importance of DOD S&T programs on Capitol Hill, and within independent defense science organizations such as the Defense Science Board (DSB), total research within DOD has declined in constant dollars during the last decade. This decline poses a real threat to America's ability to maintain its competitive edge at a time when we can least afford it. APA, CNSR and our colleagues within the science and defense communities recommend funding the DOD Science and Technology Program at a level of at least \$11 billion in fiscal year 2003 in order to maintain global superiority in an ever-changing national security environment. We strongly urge the Committee to direct a small portion of proposed increases for national security activities to the core S&T research accounts to achieve the \$11 billion funding target.

BEHAVIORAL RESEARCH WITHIN THE MILITARY SERVICE LABS

In August, 2000 the Department of Defense met a congressional mandate to develop a Report to the Senate Appropriations Committee on Behavioral, Cognitive and Social Science Research in the Military. The Senate requested this evaluation due to concern over the continuing erosion of DOD's support for research on individual and group performance, leadership, communication, human-machine interfaces, and decision-making. In responding to the Committee's request, the Department found that "the requirements for maintaining strong DOD support for behavioral, cognitive and social science research capability are compelling" and that "this area of military research has historically been extremely productive" with "particularly high" return on investment and "high operational impact." Given such strong DOD support, APA encourages the Committee to provide, at minimum, increases at the level of inflation for behavioral science programs within the three Service research laboratories.

Within DOD, the military service laboratories provide a stable, mission-oriented focus for science and technology, conducting and sponsoring basic (6.1), applied/exploratory development (6.2) and advanced development (6.3) research. These three levels of research are roughly parallel to the military's need to be able to win a current war (through products in advanced development) while concurrently preparing for the next war (with technology "in the works") and the war after next (by taking advantage of ideas emerging from basic research). Our past investment in basic research in particular is responsible for the dramatic increases we have seen in our military capabilities—and yet basic research continues to be a target for cuts and elimination. Especially at the 6.1 and 6.2 levels, research programs which are eliminated from the mission labs as cost-cutting measures are extremely unlikely to be picked up by industry, which focuses on short-term, profit-driven product development. Once the expertise is gone, there is absolutely no way to "catch up" when defense mission needs for critical human-oriented research develop. As DOD noted in its own Report to the Senate Appropriations Committee:

"ilitary knowledge needs are not sufficiently like the needs of the private sector that retooling behavioral, cognitive and social science research carried out for other purposes can be expected to substitute for service-supported research, development, testing, and evaluation . . . our choice, therefore, is between paying for it ourselves and not having it."

THE ARMY RESEARCH INSTITUTE FOR THE BEHAVIORAL AND SOCIAL SCIENCES (ARI)

ARI works to build the ultimate smart weapon: the American soldier. ARI was established to conduct personnel and behavioral research on such topics as minority and general recruitment; personnel testing and evaluation; training and retraining; and attrition. ARI is the focal point and principal source of expertise for all the military services in leadership research, an area especially critical to the success of the military as future war-fighting and peace-keeping missions demand more rapid adaptation to changing conditions, more skill diversity in units, increased information-processing from multiple sources, and increased interaction with semi-autonomous systems. Behavioral scientists within ARI are working to help the armed forces better identify, nurture and train leaders. One effort underway is designed to help the Army identify those soldiers who will be most successful meeting 21st century non-

commissioned officer job demands, thus strengthening the backbone of the service—the NCO corps.

Another line of research at ARI focuses on optimizing cognitive readiness under combat conditions, by developing methods to predict and mitigate the effects of stressors (such as information load and uncertainty, workload, social isolation, fatigue, and danger) on performance. As the Army moves towards its goal of becoming the Objective Force (or the Army of the future: lighter, faster and more mobile), psychological researchers will play a vital role in helping maximize soldier performance through an understanding of cognitive, perceptual and social factors.

THE OFFICE OF NAVAL RESEARCH (ONR)

The Cognitive and Neural Sciences Division (CNS) of ONR supports research to increase the understanding of complex cognitive skills in humans; aid in the development and improvement of machine vision; improve human factors engineering in new technologies; and advance the design of robotics systems. An example of CNS-supported research is the division's long-term investment in artificial intelligence research. This research has led to many useful products, including software that enables the use of "embedded training." Many of the Navy's operational tasks, such as recognizing and responding to threats, require complex interactions with sophisticated, computer-based systems. Embedded training allows shipboard personnel to develop and refine critical skills by practicing simulated exercises on their own workstations. Once developed, embedded training software can be loaded onto specified computer systems and delivered wherever and however it is needed.

THE AIR FORCE OFFICE OF SCIENTIFIC RESEARCH (AFOSR)

AFOSR behavioral scientists are responsible for developing the products which flow from manpower, personnel, and training and crew technology research in the Air Force, products which are relevant to an enormous number of acknowledged Air Force mission needs ranging from weapons design, to improvements in simulator technology, to improving crew survivability in combat, to faster, more powerful and less expensive training regimens.

As a result of recent cuts to the Air Force behavioral research budget, for example, the world's premier organization devoted to personnel selection and classification (formerly housed at Brooks Air Force Base) no longer exists. This has a direct, negative impact on the Air Force's and other services' ability to efficiently identify and assign personnel (especially pilots). Similarly, reductions in support for applied research in human factors have resulted in an inability to fully enhance human factors modeling capabilities, which are essential for determining human-system requirements early in system concept development, when the most impact can be made in terms of manpower and cost savings. For example, although engineers know how to build cockpit display systems and night goggles so that they are structurally sound, psychologists know how to design them so that people can use them safely and effectively.

SUMMARY

On behalf of APA, I would like to express my appreciation for this opportunity to present testimony before the Subcommittee. Clearly, psychological scientists address a broad range of important issues and problems vital to our national security, with expertise in understanding and optimizing cognitive functioning, perceptual awareness, complex decision-making, stress resilience, and human-systems interactions. We urge you to support the men and women on the front lines by supporting the human-oriented research within the laboratories and universities.

Below is suggested appropriations report language which would encourage the Department of Defense to fully fund its behavioral research programs within the military laboratories:

DEPARTMENT OF DEFENSE

Behavioral Research in the Military Service Laboratories

The Committee recognizes that psychological scientists address a broad range of important issues and problems vital to our national security through the three military research laboratories: the Air Force Office of Scientific Research, the Army Research Institute, and the Office of Naval Research. Given the increasingly complex demands on our military personnel, psychological research on leadership, decision-making under stress, cognitive readiness, training, and human-technology interactions have become even more mission-critical, and the Committee strongly encourages the service laboratories to fully fund their behavioral research programs.

Senator INOUE. Our next witness represents the Juvenile Diabetes Research Foundation International. Major General Paul Weaver, (Ret.).

STATEMENT OF MAJOR GENERAL PAUL WEAVER, (RET.), ON BEHALF OF THE JUVENILE DIABETES RESEARCH FOUNDATION INTERNATIONAL

General WEAVER. Good morning, Mr. Chairman. I want to thank you, Mr. Chairman, for allowing me to testify before you this morning. As you know, I have had the privilege of appearing before this committee numerous times over the last 8 years in my capacity as the Deputy Director, and then as the Director of the Air National Guard. You have been more than gracious with your support in our efforts to have the Air National Guard as the most effective and sought-after reserve component force in our Nation, and I cannot thank you enough. You all made it happen, Mr. Chairman.

I come to you today, obviously, as a civilian who retired after 35 years of military service with a plea to ask for your support and assistance in a cause that became very personal to me on January 1 of this year. On that day, my wife, Kathy Lee, behind me, and I took our 2½-year-old daughter Julia, with us here today, the youngest of our eight children, to the emergency room at Mary Washington Hospital, Virginia. That date really changed our lives.

A few days before, when we sought and received medical assistance for her, we were told she had all the signs of the flu, which was prevalent at that time. We were told to treat her with all the normal precautions for a young child, drinking plenty of fluids and so on. For 3 days, her condition worsened to the point that a weight loss became very noticeable, and she was losing mental awareness of her surroundings.

On New Year's Day morning we noticed a severe degradation of her overall health. We proceeded to the emergency room at Mary Washington Hospital, where we were told after her blood was tested that she had diabetic ketoacidosis. Simply put, she had juvenile diabetes. The attending physician stated her condition was grave, and that he was not sure that she was going to make it. Julia, who we called the Precious, needed to get into a pediatric intensive care facility immediately. The closest available was Walter Reed, here in the District. The attending physician said the only chance she would have would be to be transported by helicopter ambulance, and then he said that would be a long shot.

The chopper arrived a short time afterwards, and Julia was put on the chopper with the staff, not allowing us to proceed with her because of the lack of space in the chopper. We prayed to our Lord Jesus Christ to bless her and keep her safe. As the chopper lifted off, I could never explain the feeling in our hearts that we may never see our little girl alive again.

We were told that upon her arrival at the pad at Walter Reed Medical Center, a flurry of activity by the crack and professional staff kicked in. We arrived approximately 2 hours later by car to find her alive, barely, with multiple tubes and IV's coming from her little body. She was in the intensive care ward for approximately 2 days and then moved to a regular ward after her condition became stable. The great medical staff at Walter Reed saved her life, and for that my wife and I will be eternally grateful.

I made a commitment to God that if I could ever do anything to help in finding a cure for diabetes, I would do that, and so, Mr. Chairman and members of this committee, that is why you see me before you today. I am pleading for your help and assistance in honoring the Juvenile Diabetes Research Foundation's request for funding for \$3 million for the technologies in metabolic monitoring that are known as TMM at the Department of Defense.

My daughter's daily regimen with juvenile diabetes begins in the morning with a finger prick to test her blood and her first shot of insulin of the day. At lunch she will have her blood tested again, usually followed by another insulin injection. Prior to dinner, the same protocol takes place, and then again at bedtime. At 3:00 every morning we test her blood again to make sure her blood is within range, never quite knowing what to expect, whether we will need to give her an insulin shot if she is too high, or a glass of orange juice to bring up her glucose level from going too low. In a nutshell, Julia has her fingers pricked about five to eight times a day, and receives two to four shots a day, Mr. Chairman.

Just briefly, let me explain how technologies in metabolic monitoring, better known as TMM, could help greatly and be of benefit to all members of the Armed Forces, something I know a little bit about, as well as you. The Juvenile Diabetes Research Foundation's interest in technologies in metabolic monitoring arises from the needs of men, women, and children with diabetes who must endure four to six finger pricks a day to regulate their blood glucose levels. TMM would noninvasively monitor diabetes metabolism, and would allow individuals with the disease to ultimately improve the control of fluctuations in their blood glucose levels, potentially reducing the severity of complications such as kidney failure, blindness, nerve damage, amputation, heart attack, and stroke.

I cannot overemphasize enough the need to control the fluctuations of a person's blood levels. The greater the fluctuations, the more severe consequences will occur for the individual in later life. You simply cannot control these fluctuations unless you can continually monitor them.

The development of TMM would also have a significant application in protection the men and women of the Armed Forces. It will monitor more than just glucose levels for diabetics. TMM could potentially monitor metabolic products of personnel in the field to determine health status and accurately communicate this information. Furthermore, Mr. Chairman, it would provide an ability to respond quickly in the field by also providing technology that would enable us to deliver drug treatments and nutritional supplements that may be required by our personnel.

Mr. Chairman, I ask for your support from the bottom of my heart to not only assist our daughter, Julia, but thousands like her who are afflicted with this disease. I ask your generous support in assisting our Armed Forces in advancing the technology that will have the potential of saving lives on the battlefield. Let my daughter, Julia, and so many like her help in aiding our brave young men and women who are on the front lines today in our war on terrorism. No funds are too great for their sacrifices being made today.

God bless you, Mr. Chairman.

Senator INOUE. General, I am going to do whatever I can, and when we do, it will be called the Julia Weaver Foundation Fund.
 General WEAVER. Thank you, Mr. Chairman. God bless you.
 Senator INOUE. You will get it.
 General WEAVER. Thank you, sir.
 [The statement follows:]

PREPARED STATEMENT OF THE JUVENILE DIABETES RESEARCH FOUNDATION
 INTERNATIONAL

The Juvenile Diabetes Research Foundation International (JDRF) thanks Chairman Inouye, Senator Stevens and the Members of the Subcommittee for the opportunity to submit this testimony in support of \$3 million in research funding to allow the Department of Defense (DOD) to continue and expand the Technologies in Metabolic Monitoring (TMM) Initiative, the goal of which is to identify and expand research areas that have direct impact on the ability to monitor, understand and predict metabolism with special emphasis on issues associated with diabetes.

APPLICATIONS

JDRF's interest in this technology arises from the needs of men, women and children with juvenile, or insulin dependent, diabetes, who must endure four to six finger pricks a day to test their glucose levels.

Anyone who has a loved one with this disease, or has the disease him or herself, knows the difficulties of controlling ever-fluctuating glucose levels with insulin and diet. With our current technology, it is extremely difficult to maintain tight control of glucose levels over long periods of time and devastating complications, such as blindness, kidney failure, amputation, heart disease, and nerve damage, are often the inevitable result of a lifetime with this disease. Largely as a result of these complications, diabetes costs our economy in excess of \$105 billion per year, and its financial impact is so severe that one out of four Medicare dollars and one out of ten health care dollars overall are spent on individuals with the disease.

Technologies that would non-invasively monitor diabetes metabolism, coupled with an ability to provide information remotely (or wirelessly), would allow individuals with the disease to monitor their blood sugar levels accurately, constantly, and non-invasively, which could ultimately improve the control of fluctuations in their blood glucose levels and potentially reduce the severity of debilitating complications. In this way, this technology could offer a significant and immediate improvement in the quality of life of 16 million Americans who suffer from this disease and relieve much of the economic burden of this disease on our nation.

More broadly, however, the development of wireless, remote, non-invasive technologies that could measure the state of metabolism in an individual would have a significant application in protecting the men and women of the armed forces. The Subcommittee is undoubtedly aware of the risks that our men and women of the armed forces face while in the field, but may not be aware of their risk due to medical problems. In fact, it is an alarming statistic that most wartime deaths occur due to medical problems, caused by environmental stress and illness, rather than to enemy attack.

Technologies for metabolic monitoring could potentially determine health status and accurately communicate this information. This technology could be used to track key personnel in remote areas and monitor their metabolic changes to determine and prevent distress due to stress or illness. Furthermore, it would provide an ability to respond quickly in the field by also providing technology able to deliver antidotes and drug treatments that may be required by sick or injured personnel, as well as nutritional supplements.

One example of the potential value of this technology would be in the monitoring of astronauts when they are in space for several months. During this time, astronauts are at risk for illness due to disease or environmental stresses, such as temperature extremes, vacuum or sleep deprivation. This technology would provide continuous and real-time measures of health, and a means to intervene if stress or illness is detected. NASA also foresees applications to utilize this technology to conduct research on the development and sustenance of life in extreme environments.

Thus, this technology has a potential application as a more efficient and effective means to protect the health and safety of both civilians and the military by detecting abnormalities early and providing real time information that could be acted upon therapeutically. Such a device would ultimately improve the lives and health of both civilians and the military.

PROGRAM STATUS

The Technologies in Metabolic Monitoring (TMM) Initiative was established in 2001 by direction and with the support of Congress and close involvement of several agencies including JDRF, the Department of Defense (DOD), the National Institutes of Health (NIH) and NASA. We want to extend our appreciation to the Subcommittee for their support of this initiative.

The fiscal year 2001 appropriation of \$2.5 million was used to establish the Department of Defense Research Program in Technologies for Metabolic Monitoring, which is managed at DOD by the United States Army Medical Research and Materiel Command (USAMRMC). Ultimately 5 applications addressing aspects of metabolic monitoring were funded in fiscal year 2001.

With the additional \$2.5 million in congressional appropriations secured for fiscal year 2002, the TMM Initiative will solicit research programs that aim to identify potential new metabolic measures of diabetes that can be adjunct measures to glucose, ultimately potentially increasing the sensitivity of glucose measure.

The TMM Initiative held a workshop meeting May 21st–22nd, 2002, which was attended by approximately 70 researchers from the sensors community encompassing academia, industry, the military and space researchers. Through a series of short research presentations the meeting provided an overview of the ‘state of the art’ of current research in metabolic monitoring as well as a focus on problems that had been encountered. Metabolic sensing of glucose, the gold standard measure of diabetes metabolism, was a key area of focus. Others addressed metabolic monitoring in aeronautical and military scenarios. The meeting increased awareness in the research community of the TMM Initiative and the key needs for sensors in diabetes, the military and NASA. An important accomplishment of this meeting was that it brought together researchers from a very broad range of backgrounds to discuss common problems and develop new ideas because of these interactions.

The fiscal year 2002 Technologies for Metabolic Monitoring Request for Proposals (RFP) was finalized and made public at the end of May of 2002. The 2002 RFP is intended to provide seed funding for proof of concept studies. Collaboration between military, NASA, academics, and/or industry is encouraged and all persons are eligible to apply.

REQUEST

JDRF requests funding for this program in fiscal year 2003 at \$3 million to enable USAMRMC to expand this research and develop a broad program that includes military, academia and industry researchers. A \$3 million appropriation will allow USAMRMC to fund this crucial outside research and capitalize on the opportunities provided by the fiscal year 2002 funding.

Considering that this funding could ultimately save the United States billions of dollars in health care, improve the quality of life for 16 million Americans with diabetes, and better protect the lives of our men and women of the armed forces in the field, we believe that this is a worthwhile investment for the Department of Defense.

Thank you for considering this request.

Senator INOUE. Our next witness is the director of marketing and communications of the Air Force Sergeants Association, Command Sergeant (Ret.) Richard M. Dean. Command Sergeant.

STATEMENT OF CMSGT RICHARD M. DEAN, (RET.), DIRECTOR, MARKETING AND COMMUNICATIONS, AIR FORCE SERGEANTS ASSOCIATION

Sergeant DEAN. Good morning, Mr. Chairman. First off I want to thank you for this opportunity before this committee, and I want to thank you for the tremendous support this committee continues to provide for increased pay and allowances, enhancements of military health care, increased educational benefits, and enhanced reserve component benefit for active duty and retired military personnel.

Everything is in the written testimony, but there are a couple of items that I would like to highlight. The first is, as you said earlier, our military personnel are engaged all over the world in police

actions, they are rooting out terrorists, and providing humanitarian relief missions wherever they are needed. These deployments are really stretching the forces thin, as we all know, and as they are deployed more often away from their families the support system that is left at home becomes even more critical, and the systems I am talking about are the commissaries, the BX systems, the educational and job opportunities for dependents. We would ask you fully fund these programs and not make any reductions in these programs.

For military pay for enlisted personnel, last year the targeted pay increases did a lot to decrease the gap between the enlisted and the officer pay charts, and we ask that you continue the targeted pay raises to decrease that gap, because the enlisted personnel in our military forces today have stepped up. With the decreased manning they are assuming positions of greater responsibility, many that were held by commissioned officers in the past, and they are also increasing their education tremendously so that they can better perform their jobs out there, so we ask that you continue the targeted pay raises for the enlisted personnel.

Military health care, you have done a great job in funding the health care programs for the military, especially the TRICARE for Life and TRICARE Senior Pharmacy program. What we would ask is that you continue to do these and prevent any increases in copay or reductions to the TRICARE Senior Pharmacy program or the TRICARE for Life program.

As far as retired pay, we ask that funding be provided to restore full military pay compensation, along with concurrent VA disability compensation to retirees, and for the Air Force Reserve component members we ask that funding be provided to provide adequate health care, full benefits, comparable retirement benefits similar to the active duty, all of which are critical to providing a strong and ready militia.

For this opportunity, Mr. Chairman, I thank you.
[The statement follows:]

PREPARED STATEMENT OF RICHARD M. DEAN

Mr. Chairman and distinguished committee members, on behalf of the 135,000 members of the Air Force Sergeants Association, thank you for the tremendous support this committee continues to provide in increased military pay and allowances, overall benefit increases, enhancement of military health care, increased educational benefits, an increased focus on the needs of military reserve component members, and support for military retirees who are also disabled as a result of their military service. We also thank you for this opportunity to offer our views on the 2003 funding efforts needed to assure the quality-of-life of our Armed Forces, thereby improving recruitment and retention goals in an effort to ensure the defense of our country. Of course, your task is especially critical this year as we wage a war on terrorism while, at the same time, working to enhance quality-of-life programs.

In this testimony, we will limit the focus to items directly related to quality-of-life issues for active duty Air Force, Air Reserve Component, and retired members and their families. Those items are overall quality-of-life, workload vs. available workforce, military health care, housing and housing allowances, pay, and retirement benefits.

THE QUALITY OF THE MILITARY LIFE

The men and women in the Armed Forces work very long and hard hours in extremely difficult environments to protect this nation. They are generally selfless and devoted to get the job done—often to the detriment of their own well-being while sacrificing many things the average American citizen often takes for granted. Espe-

cially with Operations Enduring Freedom and Noble Eagle, military forces today face significantly greater missions with considerably fewer people, increasing family separations, a decline in some health care programs, deteriorating military housing, diminishing opportunities for educational benefits, and still sizable out-of-pocket expenses with every military member relocation. It is amazing that so many continue to selflessly serve in the Armed Forces. They obviously do so because of their dedication to a higher, patriotic ideal. Another factor in today's environment is the increasing reliance on reserve component military members, and the extraordinary sacrifices they make in balancing their civilian jobs and long-term call-ups to military duty. While all of these issues are important, the paragraphs below will highlight several areas you will consider as you develop the appropriations for fiscal year 2003.

WORKLOAD VERSUS AVAILABLE WORKFORCE

As a result of our Armed Forces members' efforts, we have witnessed the fall of the Berlin Wall, the collapse of the Soviet Union, and the emergence of the United States as the world's only true "super power." Of course, as those memories and challenges fade into the past, we now have entered a new era of military challenges. Clearly, our National Strategy is no longer one of projecting America's military force only in support of our "vital national interests." We are now, instead, globally engaged in police actions, rooting out terrorists where we can find them, and in humanitarian efforts (military operations other than warfare) around the world. As you are well aware, this has taken a tremendous toll on maintaining an all-volunteer force, because instead of decreasing the workload commensurate with the decrease in personnel, the workload has increased to provide support for those expanded operations. Global military missions (with far fewer people) have increased several fold while manpower has decreased by almost half. The results are not only an increase in deployments, but also an increase in responsibilities of those left behind as they now must assume even more tasks because the job that needs to be done at home must continue to be accomplished. Added to this is the increased burden of providing for the quality of the lives of military family members who require additional support as military members deploy for longer periods of time. In that environment, programs such as family support and morale welfare and recreation programs, military commissaries and exchanges, educational and job opportunities for family members all become even more important.

These programs will only remain viable if manning levels are increased to parallel tasking. The Fiscal Year 2002 National Defense Authorization Act called for more base realignments and closures to eliminate unnecessary infrastructure and transfer the assets (people, equipment and money) to remaining bases. If this is in fact done, it would decrease the workload and lessen the pace of deployments. If this transfer of manpower is not done, more and more military members will leave, and fewer and fewer people will choose to enter any of our Armed Services. This is a situation we have created, and it is one we can and must correct.

At a minimum, we urge this subcommittee to fully support the manpower required both to maintain our military missions at home, to carry out the war of terrorism and other obligations abroad, and to provide for the unique manpower requirements of the reserve component as a result of the call-up of over 80,000 Guard and Reserve members to successfully execute Operations Noble Eagle and Enduring Freedom.

MILITARY PAY AND COMPENSATION

Continuing to build on the gains made in the fiscal year 2002 Authorization, it is important to realize that the work is not finished. We applaud the pay adjustments made, especially for enlisted members who receive relatively lower pay, but they are only the first step in accurately adjusting the pay charts. Also, annual minimum military pay raises through the year 2006 a half percentage above the Employment Cost Index continues to send a strong signal to those serving in our Armed Forces. However, there are some realities which must be examined about the way we pay our military members—especially the enlisted members. There are two pay charts for the military: one for commissioned officers, and a significantly lower one for enlisted members. The net effect of across-the-board pay raises over the years has served to pull these charts further apart while the manpower reductions have placed more and more responsibility upon the shoulders of the enlisted force. As AFSA representatives visit Air Force bases around the world, they run into innumerable cases where relatively low-ranking enlisted members are handling technologically awesome tasks. In addition, many positions previously held by commissioned officers are now held by enlisted members. The responsibilities of these con-

verted positions, often involving life or death decisions, have not changed; only the pay grades of the persons now making those decisions have changed. Not only have the mid-to-upper grade NCOs assumed many tasks formerly handled by commissioned officers, they often train junior commissioned officers.

While at the same time facing the same “economic survival” challenges as the commissioned officers, the enlisted members have not only accepted the burden of increased responsibility, they have become increasingly educated in an attempt to adequately carry out those responsibilities placed upon them. In fact the most recent quadrennial review report has highlighted the need to increase enlisted pay commensurate with increased responsibility and education levels. This subcommittee can help make those necessary adjustments.

It is time that military compensation be re-examined and a new model must be established to remove the disparity between the officer and enlisted compensation tables by moving them closer together to accurately reflect the changing enlisted roles in relation to the overall military establishment. No longer should we have to discuss “military poverty.” We would urge this subcommittee to establish minimum military pay levels above the poverty level. Recent targeted enlisted pay raises supported by this subcommittee have greatly helped. We ask that you support or exceed full funding for the targeted raises indicated in S. 2514, the fiscal year 2003 NDAA, as it has developed through the Senate Armed Services Committee. These continuing pay adjustments will aid tremendously to help sustain an enlisted force.

We sincerely appreciate the good work of this subcommittee in protecting those who serve by providing increases in military pay. We ask that we continue to build on past achievements by:

- Fully fund a 4.1 to 6.5 percent military pay raise for fiscal year 2003, with weighting toward middle- and senior-enlisted grades.
- Establish a new model for military pay recognizing modern enlisted responsibilities.
- Establish minimum pay and compensation levels to place all members above the national poverty level.
- Fund increased BAS rates to enlisted members assigned to single quarters without adequate availability of a government messing facility (S. 2514, Sec. 602).

HOUSING AND HOUSING ALLOWANCES

A military member’s residency location is dictated by a number of factors, usually not by the member’s choice. Those deploying, of course, live where (and under whatever conditions) the location of the mission dictates. At home base, factors include the member’s rank, the number of family members (if any), the availability of on-base housing, dormitory space, and other factors. Those living on base generally face a variety of models of on-base housing ranging from a half-century old, to very modern structures. Some homes meet the quality muster—some are substandard. In an effort to achieve efficiencies, DOD has entered into arrangements with private industry for the construction and maintenance of on-base facilities. The goal of construction outsourcing and privatization is to cut down on the backlog of the number of homes that are dilapidated and which must be upgraded or replaced. AFSA supports this effort toward privatization with the caveat that we must ensure that privatization should not infringe on any military benefits or cause more out-of-pocket expenses for the military member.

For those who must live off-base, the provision of the Basic Allowance for Housing (BAH) is intended to account for the average of 85 percent of the members out-of-pocket housing expenses. This committee has recently taken strong steps to provide funding to achieve that goal. Indeed, BAH is based on an independent assessment of the cost of housing for given areas based on certain parameters, including an arbitrary standard of housing (square footage, number of bedrooms, and whether an apartment/townhouse or stand-alone dwelling) determined by rank. Unfortunately, under the BAH standard, the only enlisted grade authorized a stand-alone dwelling is the very highest grade of “E-9.” AFSA supports full funding of BAH, but maintains that BAH has created significant consternation among the military members because of the unrealistic standard used to determine where enlisted military members may live. Their allowance generally dictates the neighborhoods where they reside and the schools their children may attend. Ironically, in order to protect their families from the limitations of the standard, enlisted members—especially the mid-to lowest-ranking (who are obviously paid the least)—must expend additional out-of-pocket dollars. A fact of the military institution is that privileges and benefits increase following the achievement of higher rank; however, BAH needs to be restructured to protect all military members and their families regardless of the member’s rank.

To improve housing and housing allowances, we ask this committee to:

- Ensure that military members' housing and housing allowances are adequate to cover actual housing costs.
- Restructure BAH to provide adequate housing in safe neighborhoods with quality schools for those members who must live off-base.
- Modify the housing standard that determines square footage, number of bedrooms, and apartment or stand-alone dwelling to more closely coincide with average private sector standards.

MILITARY HEALTH CARE

Military health care and readiness are inseparable, and military members and their families must know that no matter where they are stationed or where the families live, their health care needs will be taken care of. In recent years, this subcommittee has made significant contribution to restoring funding of military health care programs, providing TRICARE Prime Remote to active duty family members, eliminating TRICARE Prime co-payments for active duty family members, and providing the TRICARE Senior Pharmacy and TRICARE for Life programs. We ask that full funding is provided to support comprehensive, low-cost pharmaceuticals for military health care beneficiaries. Further, that full funding is provided to support military health full usage of military medical facilities and to support the manpower needed to service all beneficiaries. The health care benefit is absolutely critical to readiness for those currently serving. It is also an earned career benefit for those who have served—a strong, clear message that this committee has continued to send through its support of these programs.

We ask the support of this committee for the following health care concerns.

- Provide full funding to support comprehensive health and pharmaceutical care to all beneficiaries.
- Support TRICARE eligibility of dependents residing at remote locations after the departure of the sponsor for unaccompanied assignments (S. 2514, Section 703).
- Establish continuing eligibility of surviving dependents for the TRICARE Dental Program benefits (S. 2514, Section 701).
- Establish funding for full Reserve health care and for research related to warfield environments in light of the high rates of deployment as part of Operations Noble Eagle and Enduring Freedom.

RETIREMENT BENEFITS

One of the values of the enlisted corps—before “core values” were buzzwords—was “service before self.” Thankfully many military members took this value seriously and decided to remain in the service to their country because of patriotism, their desire to make a difference in the world, and their dedication to and pride in their country. Regretfully, their country has not shown a reciprocal dedication to many of those who gave so much in defense of this country—those being the members who retired after 20 or more years of honorable service with a service connected disability. Retired members in this category have their retirement pay reduced dollar-for-dollar for each dollar they receive in veterans disability compensation.

It is AFSA's position that “retirement pay” is for extended and honorable service. It is also our position that “veterans disability compensation” is compensation for decreased functionality or suffering as a result of that service. We do not believe these two in any shape, form or fashion—regardless of the math used—equate to using the same period of service for similar benefits. Retirement pay and disability compensation are not similar benefits, they are as different as daylight and dark. Armed Forces' retirees see a disgrace in their country asking them to pay their disability compensation for injuries sustained in the defense of their country!

We ask this committee to support, at a minimum:

- Appropriate to support the funding parameters indicated in the Senate Budget Committee report for fiscal year 2003, and S. 2514, the fiscal year 2003 NDAA, to phase-in restoration of retired pay for those with VA service-connected disability ratings of 60 percent or higher. While this association supports full retired pay restoration regardless of VA disability level, the phase-in of full retired pay for those with the highest disability ratings is a good first step.

SURVIVOR PROGRAMS

Our members greatly appreciate the provision in the fiscal year 2002 NDAA extending Survivor Benefit Plan (SBP) eligibility to members killed on active duty, regardless of years of service. This action corrected a long-standing inequity. But more still needs to be done. Before age 62, SBP survivors receive an annuity equal to 55

percent of the retiree's SBP-covered retirement pay. At age 62, however, the annuity is reduced to a lower percentage, down to a floor of 35 percent. For many older retirees, the amount of the reduction is related to the amount of the survivor's Social Security benefit that is potentially attributable to the retiree's military service. For member who attained retirement eligibility after 1985, the post-62 benefit is a flat 35 percent of covered retired pay. Although this age-62 reduction was part of the initial SBP statute, large number of members who retired in the 1970s (or who retired earlier but enrolled in the initial SBP open season) were not informed of the reduction at the time they enrolled. As such, many still are very bitter about what they view as the government changing the rules on them in the middle of the game. Thus, thousands of retirees signed up for the program in the belief that they were ensuring their spouses would receive 55 percent of their retired pay for life. They are further dismayed to find out that widows who earned Social Security through their own earnings still face a reduction in the SBP annuity at age 62. To add further to the need for changes in this program, the DOD actuary has confirmed that the 40-percent government subsidy for the SBP program, which has been cited for more than two decades as an enticement for retirees to elect SBP coverage, has declined to less than 27 percent. This means that the government has enjoyed a 13 percent reduction in its burden to fund the program—shifting the benefit cost to the beneficiary. Clearly, this benefit has become more beneficial and less costly for the government, and more costly and less beneficial for the retirees and survivors the program was created to protect.

We urge this subcommittee to provide appropriations to correct some of these inequities. The paid-up SBP initiative enacted in 1998 will ease this disparity somewhat for members retiring after 1978, but the subsidy will still fall far short of the promised 40 percent and now comes too late for many older retirees. In other words, members who enrolled in SBP when it first became available in 1972 (and who have already been charged higher premiums than subsequent retirees) will have to continue paying premiums for up to 36 years to secure paid-up coverage. Unfortunately, the 1998 paid-up provision does not become effective until 2008. That is simply too late for many enrolled in the program; we urge that you accelerate the paid up provision to October 2003 at the latest.

To show this country's dedication and compassion for its military retirees, we ask you to:

- Eliminate the Age-62 SBP annuity reduction by supporting S.145.
- Provide funding to accelerate the "paid-up" SBP program (for those 70 years of age and who have paid into the program for 30 years) from the current implementation in 2008 to the year 2003.

EDUCATION

We should take action now to raise the value of the Montgomery G.I. Bill (MGIB), the military's primary tool for a successful post-military readjustment into civilian society. The MGIB should cover the cost of an average university, instead of an arbitrary dollar figure that has little to do with actual education costs. This should include adequate funding to cover books, tuition and fees toward a higher education for not only after separation, but also for those able to take classes while in the military. The better educated a member becomes, the better he/she can perform their increasingly difficult taskings and accept greater responsibilities.

Also, we ask this Congress to change the enrollment methods now in place. The first thing to do is immediately provide an opportunity, an open window, for all military members not enrolled in the MGIB to enroll in that program. The other enrollment change is to eliminate the one-time enrollment opportunity during basic training—when members can little afford to enroll and are so overwhelmed with information. We ask you to allow military members to enroll in the MGIB anytime during their careers. However, if only windows of opportunity for enrollment are to be used, a less than optimum option we recommend is to allow an opportunity for enrollment at each reenlistment point.

Additionally, we ask you to support legislation to change the policies that tend to push members away from the educational benefit. Policies such as requiring military members to contribute \$1,200 toward their own educational "benefit," merely provide a deferred-compensation windfall to DOD. A better move would be to eliminate the \$1,200 member contribution; this would affirm that military members "earn" the benefit by putting their lives on the line for this nation.

Although we realize that many of these benefits below fall under the purview of the Department of Veterans Affairs, cross-funding/income will require VA and DOD support. Therefore we ask that this subcommittee support:

- A new G.I. Bill Model tying the value of the MGIB to an annual educational benchmark that reflects the actual cost of tuition, book, and fees at an average 4-year college be implemented.
- An open window for enrollment for in the MGIB be established.
- Eliminate the member's \$1,200 enrollment fee.
- Make enrollment in this benefit an automatic part of being in the military or, at the least, allow members to enroll at any time during their careers.
- Allow members to transfer the educational benefit, in whole or in part, to immediate family members.

AIR RESERVE COMPONENT (ARC) MEMBERS

Our nation's military is now truly a "Total Force." The citizen soldier works side-by-side with their active duty counterparts on a daily basis. It is safe to say that our military forces could not meet mission requirements without the constant dedication and support from the ARCs. In addition to facing many of the same challenges active duty members face, ARC members are still not totally recognized for all their sacrifices. Therefore, additional funding must be made available to provide the ARC members with adequate health care, full benefits, comparable retirement benefits, and protection of their families. Their readiness is critical to our nation's defense and attainment of these goals for ARC members is important.

Just as with the active duty force, increased mission taskings are coming despite plans for continued cutbacks in Reserve forces end strengths. Furthermore, because of the nature of the use of America's military forces, today—more than ever—reserve component members face challenges of accomplishing increasingly long-term military deployments, while at the same time hoping to continue to enjoy the support of their civilian employers. Proposed tax credits as in S. 540, Reserve Component Tax Assistance Act of 2001, if implemented for employers and self-employed ARC members would be great gestures on the part of our nation for their support to our ARC members and more importantly—the defense of this country.

In order to meet the readiness needs of today's ARC forces, we should:

- Provide full benefits and protection of the families of reservists.
- Ensure proper manning levels to allow home land missions and the ability to participate in military tasking abroad.
- Provide full funding for an accelerated study to reduce the reserve retirement age from 60 to 55.

GENERAL FUNDING ISSUES

In addition to the issues explained above, we asked the subcommittee to consider the following:

- Fund a daily stipend for those who support funeral honors details.
- Fund POV storage in lieu of shipment when members are ordered to non-foreign ports outside of CONUS when POV shipment is prohibited.

SUMMARY

We not only ask members of our military forces to accomplish great things under austere conditions, but to be ready to accomplish those great things anywhere in the world on a few hours notice. These members sacrifice many facets of their family lives. We ask them to sacrifice many things most Americans take for granted. Mr. Chairman, this subcommittee repeatedly demonstrates an understanding of these hardships and challenges. As such, we are pleased to have had an opportunity to share the views of our members with you relative to your deliberations about the fiscal year 2003 Defense Bill. As always, this association and its members are ready to provide you with full support on matters of mutual concern.

Senator INOUE. Sergeant, I want to commend you, because the latest reenlistment statistics indicate that in the Air Force for the first-timers it is over 70 percent, and in spite of the fact that we are at war, the reenlistment rate is high, and I think it has something to do with your work. Congratulations.

Sergeant DEAN. Thank you, sir.

Senator INOUE. Our next witness represents the American Association of Nurse Anesthetists, Ronald L. Van Nest.

STATEMENT OF RONALD L. VAN NEST, CRNA, M.A., VAN NEST AND ASSOCIATES, ON BEHALF OF THE AMERICAN ASSOCIATION OF NURSE ANESTHETISTS

Captain VAN NEST. Good morning, Mr. Chairman. My name is Ronald Van Nest, Captain, Nurse Corps, United States Navy (Ret.). I am a certified registered nurse anesthetists (CRNA) a member of the American Association of Nurse Anesthetists (AANA). I served in the Navy for 30 years. I am testifying today on behalf of the AANA, which represents more than 28,000 nurse anesthetists, including 540 that serve in the Armed Forces. I hope to inform you today about the critical need to maintain adequate numbers of CRNA's on active duty.

For several years, the number of CRNA's serving on active duty has been falling short of the number authorized by DOD. In a letter to the president of the American Association of Nurse Anesthetists dated March 14, 2002, the Assistant Secretary of Defense for Health Affairs stated that, quote, the nurse-anesthetist specialty has been identified by the Department as a critical wartime shortage for several years, close quote.

Right now in Afghanistan the only anesthesia professionals deployed are nurse anesthetists. Recruitment of nurse anesthetists for the military becomes increasingly difficult when the civilian sector faces shortages also. The number of nurse anesthetist vacancies increased 250 percent from 1998 to 2001. Staffing firms for health professionals report that from 1997 to 2000, nurse anesthetist recruitment has risen by up to tenfold, making nurse anesthesia the second most recruited health profession.

Incentives for recruitment and retention of nurse anesthetists in the military must remain of the highest priority so the services can meet their medical mission. There has been no change in the incentive specialty pay (ISP) since the increase from \$6,000 to \$15,000 was authorized in fiscal year 1995, even though civilian pay has continued to rise since then. We ask this committee to look at raising the ISP ceiling from \$15,000 to \$30,000 so the services can retain nurse anesthetists.

The AANA also supports funding for the critical skills retention bonus for fiscal year 2003 for CRNA's in the military. On May 8, 2002, the Assistant Surgeon General for the Air Force Nursing Services testified before this subcommittee requesting the expansion of the critical skills retention bonus to health professionals with critical skills like CRNA's. The Air Force has only 82 percent of its authorized CRNA's on active duty. They will not be able to maintain readiness without bonuses to retain nurse anesthetists.

At that same May 8 hearing, the Chief of the Army Nurse Corps told this subcommittee that the critical retention bonus is a priority issue to retain both CRNA's and operating room nurses in the Army Nurse Corp.

CRNA's are proud to serve this country. On September 11, 2001, military nurses were called to action to provide medical response to those who were injured from that terrorism. The Navy sent the hospital ship, *COMFORT*, within 18 hours of the attack.

In conclusion, the American Association of Nurse Anesthetists thanks you again for your support of military CRNA's, and I thank

you for your support over the years to me, when I was on active duty.

I would be happy to answer any questions you may have.

Senator INOUE. We will do our best to continue our support of the CRNA's, because without you our medical services would be incomplete. We do not have enough anesthesiologists, that is obvious, and you provide the necessary services that we need, so we will do our very best, sir.

Mr. VAN NEST. Thank you, sir.

[The statement follows:]

PREPARED STATEMENT OF RONALD L. VAN NEST, CRNA, M.A.

The American Association of Nurse Anesthetists (AANA) is the professional association representing over 28,000 certified registered nurse anesthetists (CRNAs) in the United States, including 540 active CRNAs in the military services. The AANA appreciates the opportunity to provide testimony regarding CRNAs in the military. We would also like to thank this committee for the help it has given us in assisting the Department of Defense (DOD) and each of the Services to recruit and retain CRNAs.

BACKGROUND INFORMATION ON NURSE ANESTHETISTS IN THE DOD

The practice of anesthesia is a recognized specialty within both the nursing and medical professions. Both CRNAs and anesthesiologists (MDAs) administer anesthesia for all types of surgical procedures, from the simplest to the most complex, either as single providers or in a "care team setting." Patient outcome data has consistently shown that there is no significant difference in outcomes between the two providers. CRNAs and MDAs are both educated to use the same anesthesia processes in the provision of anesthesia and related services.

Nurse anesthetists have been the principal anesthesia providers in combat areas in every war the U.S. has been engaged since World War I. Military nurse anesthetists have been honored and decorated by the U.S. and foreign governments for outstanding achievements, resulting from their dedication and commitment to duty and competence in managing seriously wounded casualties. In World War II, there were 17 nurse anesthetists to every one anesthesiologist. In Vietnam, the ratio of CRNAs to physician anesthetists was approximately 3:1. Two nurse anesthetists were killed in Vietnam and their names have been engraved on the Vietnam Memorial Wall. During the Panama strike, only CRNAs were sent with the fighting forces. Nurse anesthetists served with honor during Desert Shield and Desert Storm. Military CRNAs continue to provide critical anesthesia support to humanitarian missions around the globe in such places as Somalia, Haiti and Bosnia. Currently, CRNAs are the only anesthesia providers deployed in Afghanistan. No anesthesiologists are assigned to these missions.

On September 11, 2001, military nurses were called to action to provide medical response to men and women injured from the horrible acts of terrorism imposed on this country. The Navy sent the USNS *Comfort* ship to NYC, within 18 hours after the attack. Each Nurse Corps of the Navy, Army and Air Force responded quickly to the attacks on the Pentagon with TRIAGE units and worked with the civilian community rescue units.

When President George W. Bush reacted to the "terrible acts of terrorism" against the U.S. with Operation Enduring Freedom, CRNAs were immediately deployed. With the new special operations environment new training was needed to prepare our CRNAs to ensure military medical mobilization and readiness. On May 8, 2002, Brigadier General Barbara C. Brannon, Assistant Surgeon General, Air Force Nursing Services, testified before this Senate Committee providing an account of CRNAs on the job overseas. She stated, "Lt. Col Beisser, a certified registered nurse anesthetist (CRNA) leading a Mobile Forward Surgical Team (MFST), recently commended the seamless interoperability he witnessed during treatment of trauma victims in Special Forces mass casualty incident." This committee must ensure that we retain and recruit CRNAs for now and in the future for the ever-changing military operation deployments overseas.

NURSING SHORTAGE HOW THIS COMMITTEE CAN HELP THE DOD

In all of the Services, maintaining adequate numbers of active duty CRNAs is of utmost concern. For several years, the number of CRNAs serving in active duty has

consistently fallen short of the number authorized by DOD as needed providers. This is further complicated by the shortage of CRNAs in the nation. A letter dated March 14, 2002 from the Asst. Secretary of Defense for Health Affairs, William Winkenwerder, Jr., MD, to the AANA President, Debbie A. Chambers, CRNA, MHSA, states that, "The Nurse Anesthetist specialty has been identified by the Department as a critical wartime shortage for the last several years."

Recruitment of nurse anesthetists for the military becomes increasingly difficult when the civilian sector faces such critical shortages, too. Currently, the number of nurse anesthetist vacancies increased 250 percent from 1998–2001, according to CRNA managers' surveys. Health professions staffing firms report CRNA recruitment rising by up to ten-fold from 1997–2000, making nurse anesthesia the second most recruited health professional specialty. In addition, this is compounded by the baby boom retirement impact. As the number of Medicare-eligible Americans climbs, it compounds the number of surgical procedures requiring anesthetics. Indeed, among those retiring Americans are CRNAs themselves. One in seven CRNAs intend to retire within 5 years and one-third within 10 years.

In addition, the AANA cited a decline in anesthesiology resident positions, as well as an increase in office-based surgery and surgery in places other than hospitals as driving the increased need for CRNAs. Additionally, with managed care continuing to pursue cost-cutting measures, coverage plans are recognizing CRNAs for providing high-quality anesthesia care with reduced expense to patients and insurance companies. The cost-efficiency of CRNAs helps keep escalating medical costs down.

In 1990, the U.S. Department of Health and Human Services published findings indicating a national shortage of almost 5,400 nurse anesthetists. The study concluded that nurse anesthesia educational programs would need to produce between 1,500 and 1,800 graduates annually to meet societal nurse anesthesia demands by the year 2010. Nevertheless, only about 1,100 nurse anesthesia students graduate annually.

At a time of a national nursing shortage greater utilization of nurses at the military treatment facilities (MTFs) will be needed to meet the medical needs of aging retirees in the new TRICARE for Life program. The passage of the fiscal year 2001 Defense Authorization Act included TRICARE for Life, the expansion of medical care for all military retirees over the age of 65 at the MTF.

This Committee can greatly assist in the effort to attract and maintain essential numbers of nurse anesthetists in the military by their support of increasing special pays.

Critical Skills Retention Bonus

As recently as May 8, 2002, Brigadier General Barbara C. Brannon, Assistant Surgeon General, Air Force Nursing Services, testified before this Senate Committee requesting the expansion of the critical skills retention bonus, authorized in the fiscal year 2001 Defense Authorization Act, to health professionals with critical skills. Brigadier General Brannon stated:

"Currently, the Secretary of Defense is evaluating whether health professions will be designated as a critical skill. In anticipation, the TriService Health Professions Special Pay Working Group is evaluating future funding, and we have identified our critical nursing specialties. These specialties include obstetrical nurses, mental health, medical-surgical, neonatal intensive care, CRNAs and Women's Health Nurse Practitioners."

The critical skills retention bonus would assist each of the service branches to both retain and recruit CRNAs. Currently, the Air Force will be losing between 15–17 CRNAs in 2002. With the Air Force only having an 82 percent capacity of CRNAs filling critical needs for war time, they will not be able to maintain military medical readiness without needed bonuses to retain CRNAs.

Currently, the Army is facing similar shortages in CRNA billets too. During the May 8, 2002, Senate Defense Appropriations Committee hearing on Medical Programs, Brigadier General William T. Bester, told Chairman Daniel K. Inouye that the Critical Retention Bonus is a priority issue to retain both CRNAs and Operating nurses in the Army Nurse Corps.

The AANA requests funding for the Critical Skills Retention Bonus for fiscal year 2003 to ensure the retention of CRNAs in the military services.

The Incentive Special Pay for Nurses

On May 8, 2002, Brigadier General William T. Bester, Chief Army Nurse Corps, testified before this Senate Committee:

"To adequately recruit and retain our force, we must demonstrate through our actions that we recognize the unparalleled contributions of

military nursing and that we show our commitment to these dedicated military officers and professional nurses via benefit packages such as educational dollars and accession and retention bonuses.”

According to a March 1994 study requested by the Health Policy Directorate of Health Affairs and conducted by DOD, a large pay gap existed between annual civilian and military pay in 1992. This study concluded, “this earnings gap is a major reason why the military has difficulty retaining CRNAs.” In order to address this pay gap, in the fiscal year 1995 Defense Authorization bill Congress authorized the implementation of an increase in the annual Incentive Special Pay (ISP) for nurse anesthetists from \$6,000 to \$15,000 for those CRNAs no longer under service obligation to pay back their anesthesia education. Those CRNAs who remain obligated receive the \$6,000 ISP.

There has been no change in the ISP since the increase was instituted in fiscal year 1995, while it is certain that civilian pay has continued to rise during this time. In addition, those CRNAs under obligation who are receiving only \$6,000 suffer from an even larger pay gap. It would seem that the basic principle uncovered by the 1994 DOD Health Affairs study would still hold true today—that a large earnings gap contributes greatly to difficulties in retaining CRNAs.

High demand and low supply of CRNAs in the health care community leads to higher incomes widening the gap in pay for CRNAs in the civilian sector compared to the military. The fiscal year 2001 AANA Membership survey measured income in the civilian sector by practice setting. The median income in a hospital setting is \$104,000, MDA group \$96,000, and self-employed CRNA \$110, 800 (includes Owner/Partner of a CRNA Group, CRNA Physician Group, or Locum Tenens Agency and or Independent Contractor). These median salaries include call pay, overtime pay, and bonus pay.

In civilian practice, all additional skills, experience, duties and responsibilities, and hours of work are compensated for monetarily. Additionally, training (tuition and continuing education), health care, retirement, recruitment and retention bonuses, and other benefits often equal or exceed those offered in the military. For example the AANA fiscal year 2001 membership survey reported, CRNA’s median annual vacation is 21 days, 6 days of holiday and 6 sick days.

Active duty CRNAs are subject to working 24 hours a day 7 days a week when deployed. In contrast, civilian contract CRNAs employed within MTFs work 35–40 hours a week and have higher pay. These contract CRNAs have higher salaries ranging from \$93,000–\$129,000. In 2002, the Army reported MTFs paying \$130,000–\$180,000 for CRNA contractors. Depending on the contract, these CRNAs typically work weekdays with no on-call duties, or other administrative, supervisory, or teaching responsibilities. AANA members have mentioned that this can create a morale issue amongst CRNAs working at MTFs. In addition, there are cases when active duty CRNAs have separated from the military to then contract with a TRICARE subcontractor and make a higher salary at the same MTF.

Rear Admiral Kathleen Martin, Director of the Navy Nurse Corps, stated for the record before this Senate Committee at the February 28, 2001 hearing:

Compensation is an issue for military staff as well. I clearly see this as an MTF commander. Military personnel work side by side with contract staffs who command salaries far exceeding those of their military counterpart. This creates additional dissatisfaction for our military members. Compensation is a powerful driver in the decision to remain on active duty or to leave the service.

Salaries in the civilian sector will continue to create incentives for CRNAs to separate from the military, especially at the lower grades without a competitive incentive from the military to retain CRNAs. Therefore, it is vitally important that the Incentive Special Pay for CRNAs be maintained and even increased as we enter this period of a severe nursing shortage.

AANA thanks this Committee for its support of the annual ISP for nurse anesthetists. AANA strongly recommends the continuation and an increase in the annual ISP for CRNAs from \$15,000 to \$30,000, which recognizes the special skills and advanced education that CRNAs bring to the DOD health care system.

Board Certification Pay for Nurses

Included in the fiscal year 1996 Defense Authorization bill was language authorizing the implementation of a board certification pay for certain non-MD health care professionals, including advanced practice nurses. AANA is highly supportive of board certification pay for all advanced practice nurses. The establishment of this type of pay for nurses recognizes that there are levels of excellence in the profession of nursing that should be recognized, just as in the medical profession. In addition,

this pay may assist in closing the earnings gap, which may help with retention of CRNAs.

While many CRNAs have received board certification pay, there are many that remain ineligible. Since certification to practice as a CRNA does not require a specific master's degree, many nurse anesthetists have chosen to diversify their education by pursuing an advanced degree in other related fields. But CRNAs with masters degrees in education, administration, or management are not eligible for board certification pay since their graduate degree is not in a clinical specialty. Many CRNAs who have non-clinical master's degrees either chose or were guided by their respective services to pursue a degree other than in a clinical specialty. Many feel that diversity in education equates to a stronger, more viable profession. CRNAs do utilize education and management principles in their everyday practice and these skills are vital to performance of their duties. To deny a bonus to these individuals is unfair, and will certainly affect their morale as they work side-by-side with their less-experienced colleagues, who will collect a bonus for which they are not eligible. In addition, in the future this bonus will act as a financial disincentive for nurse anesthetists to diversify and broaden their horizons.

AANA encourages DOD and the respective services to reexamine the issue of awarding board certification pay only to CRNAs who have clinical master's degrees.

EFFECTIVE UTILIZATION OF PROVIDERS IS CRUCIAL

In light of the fact that it costs less to educate CRNAs, that nurse anesthetists draw minimal bonuses compared to physician anesthesiologists, and that numerous studies show there is no significant differences in outcomes between anesthesia providers, it is clear that CRNAs are a cost-effective anesthesia provider for the military. From a budgetary standpoint, it is vitally important to utilize these high quality, cost-effective anesthesia providers in appropriate ratios with their physician anesthesiologist counterparts. "Over-supervision" is not only unproductive; it is financially wasteful and unnecessary.

The U.S. military services do not require anesthesiologist supervision of CRNAs. There are many military medical treatment facilities throughout the world which have military CRNAs as their sole anesthesia providers, and this practice arrangement has not had a negative impact on the quality of anesthesia care. Increasing numbers of anesthesiologists in the military has resulted in practice models with wasteful practice ratios. There continue to be proposals in various branches of the military for increased supervision of CRNAs, with attempts by physician anesthesiologists to place unnecessary supervision language into local military treatment facility policies which would require strict adherence to a practice model of one CRNA to every one anesthesiologist.

A practice model requiring one anesthesiologist for every nurse anesthetist would be financially wasteful. Even a requirement of having one anesthesiologist to every two or three CRNAs is also wasteful. But even more importantly, the Services would lose mobilization effectiveness by requiring multiple anesthesia providers where autonomous CRNAs have previously provided anesthesia safely and effectively for over 100 years. This military standard is based on the need of the Services to provide a wide range of health care with as few providers as necessary during mobilization to remote or isolated locations. Historically, CRNAs have always worked independently at such locations; therefore, there is no basis for requiring supervision of CRNAs when they then return to more urban facilities. A predetermined ratio of supervision should not become part of the practice environment. In March of 2000, Rear Admiral Kathleen Martin, Director of the Navy Nurse Corps, testified to this Senate Committee:

Our advanced practice nurses—all practice to the fullest extent of their competency and practice scope to ensure the right care provider delivers care to the right patient based on their health requirements. In this manner, we maximize our provider assets while allowing them to maintain those critical practice competencies needed for wartime roles.

The ability to function autonomously in remote locations is required of all military CRNAs. It is the promise of this independence that draws many to military anesthesia service. Therefore, any attempt to adopt an anesthesia practice standard that would require that an anesthesia care team consisting of a CRNA and a supervising anesthesiologist to deliver all anesthesia would not only undermine mobilization effectiveness, but it would also prove detrimental to the morale of military CRNAs and would undermine attempts by the Services to recruit highly motivated individuals.

AANA recommends that this Committee direct DOD to maintain the mobilization effectiveness of CRNAs by enforcement of the current practice standard of autonomous anesthesia care by CRNAs in all locations.

CONCLUSION

In conclusion, the AANA believes that the recruitment and retention of CRNAs in the Services is of critical concern. The efforts detailed above will assist the Services in maintaining the military's ability to meet its wartime and medical mobilization through the funding of the Critical Skills Retention Bonus and an increase in ISP. In addition we commend and thank this committee for their continued support for CRNAs in the military.

Senator INOUE. Our next witness is the legislative director of the Retired Enlisted Association, Deirdre Parke Holleman, Esq. Ms. Holleman.

STATEMENT OF DEIRDRE PARK HOLLEMAN, ESQUIRE, LEGISLATIVE DIRECTOR, THE RETIRED ENLISTED ASSOCIATION

Ms. HOLLEMAN. Good morning, Mr. Chairman. I am here representing the members of the Retired Enlisted Association, a Veteran Service Organization (VSO) made up of retired enlisted and present career enlisted personnel from all the uniformed services. Before speaking briefly on our concerns about fiscal year 2003, I want to thank the subcommittee on behalf of The Retired Enlisted Association (TREAs) members for the great improvements that have been implemented in the last 2 years in the area of military retiree benefits.

The TRICARE Senior Pharmacy and TRICARE for Life program have greatly improved the quality of life for our over-65 and medicare-eligible retiree members, and of course we know where the money that made these programs realities came from, so joining speakers who have already spoken, and those who will speak after me, TREA wishes to thank this committee and its staff once again.

Now onto this year. TREA is very hopeful that the improvements that have occurred in military health care will continue. Primarily, we hope that this subcommittee will see that there is full funding for the direct care system, the managed care support contract, and TRICARE standard. Many military retirees under 65 years of age are totally dependant upon one of these programs for their health care. After all, there are still military retirees who do live close to MTF's and are enrolled in TRICARE Prime.

Additionally, in the tradition of military families, many retirees' children are active duty personnel today, and are dependant on the direct care system and the managed care contracts for their own and their family's care. If these programs are not fully funded, readiness and the health of the entire military family suffers. TREA respectfully asks this subcommittee to make sure that the direct military health care system is fully funded.

Additionally, TRICARE Standard must be properly funded and its system simplified so we can see an increase in medical provider participation. With the providers' displeasure in both the level of payment that is controlled by medicare rates and the complications and administrative problems in filing a claim, providers have simply chosen to opt out. It is poison in such small portions. Unless these problems are solved, TRICARE Standard is simply a phantom benefit in many of the areas of the country. Happily, concurrent receipt is moving in this session of the Congress in both the

House and the Senate. While retired pay and survivor issues are not under the direct purview of this subcommittee, we know that you are well aware the veteran groups have made this cause one of their chief focuses for this session. TREA strongly believes that it is a great injustice to require an offset of military retired pay and veterans disability compensation. Both Senator Reid's S. 170 and Representative Bilirakis' H.R. 303 have overwhelming support in the chambers. In the Senate, there are 81 cosponsors to authorize concurrent receipt, including 15 members of this subcommittee. That is why, hopefully when it is authorized, we ask that you support it in this fiscal year 2003.

Additionally, there are numerous bills in both Houses aimed at improving the survivor benefits programs (SBP). These bills would move up the paid-up date for SBP, would end the reduction at age 62 of survivor's annuity, and would end the Survivor Benefits Program/Dependency Indemnification Compensation (SBP/DIC) offset. All these are sound and fair proposals, and should be supported.

Finally, numerous military families, whether retirees or active duty, are dependant on the commissaries for an important non-paid benefit. The present proposals to seriously cut back on the staffing and hours of commissaries will be damaging to the active duty, the retirees, and our members. The present plan to eliminate 2,650 commissary positions, which is over 12 percent of the workforce, by October 1 of this year, will seriously erode this benefit. TREA respectfully requests that you fully fund the commissaries for fiscal year 2003.

Thank you again for all the work and care you provide to all parts of the military, and thank you for listening to us.

Senator INOUE. Thank you very much for your kind compliments. May we assure you that all of us are well aware of your needs and quality of life has always been our top priority.

Ms. HOLLEMAN. Thank you.

[The statement follows:]

PREPARED STATEMENT OF DEIRDRE PARKE HOLLEMAN, ESQ.

DISCLOSURE OF FEDERAL GRANTS OR CONTRACTS

The Retired Enlisted Association does not currently receive, has not received during the current fiscal year or in either of the previous 2 years any Federal money for grants or contracts. All of the Association's activities are accomplished completely free of any Federal funding.

INTRODUCTION

The Retired Enlisted Association (TREA) wishes to thank the Chairman and the Distinguished Members of the Senate Defense Appropriations Subcommittee for the opportunity to come before you to testify about the funding issues that will have serious effects on our members in fiscal year 2003 and in the Future. But before we begin we wish to take the opportunity to thank this Subcommittee for the great improvements in military health benefits we have seen in the past year with the implementation of the Senior Pharmacy Benefit and TRICARE or Life (TFL).

HEALTH CARE

Full funding for health care

In the last 2 years we have seen great steps forward in the implementation of a host of improvements in the military health care programs for all Uniformed Services Beneficiaries. These included not only TRICARE for Life and the Senior Pharmacy Program but the lowering of the Catastrophic Cap on retired beneficiaries' out-of-pocket costs from \$7,500 to \$3,000 per family and numerous improvements

for active duty families' benefits. A historic accomplishment of this Subcommittee was full funding in fiscal year 2002 for the military health care budget for the first time in memory. This was a wonderful accomplishment that allowed those in positions of power to plan realistically for the following year rather than to wait for a necessary supplemental fund. A fully funded Defense Health Budget will both meet readiness needs of the Active Duty and the health needs of their families and the retirees and their families and survivors who are dependent on the system. It is crucial to all military retirees but especially those under 65 who are enrolled in TRICARE Prime Programs for there to be sufficient funding to maintain the MFTS' quality of care, staffs, equipments and plants. Additionally, it is essential to fully and realistically fund the managed care portion of the military health care plan so retirees throughout the country can have a plan that will protect their health while not destroying their finances. TREA is very pleased that the President's budgetary request for Military Health Care truly covers the costs of Military Health Care as planned by the Department of Defense (DOD) for the next fiscal year. This a great step forward. TREA respectfully requests that this Committee assure that full funding continue for fiscal year 2003 and into the future. However, those are not our only concerns.

TRICARE Standard improvements

TRICARE Standard (CHAMPUS) the fee for service option portion of Military Health Care for Active Duty Family Members and Retirees under the Age of 65 is falling farther and farther behind both the rest of Military Health Care and civilian health care plans. The reimbursement levels are much too low to attract quality health care providers. Additionally, the claims processing is so cumbersome and complicated that numerous health care providers are refusing to take any TRICARE Standard patients or refusing to take any more than they presently have. This is particularly true in both rural areas and in urban areas where there are few military patients and thus TRICARE is not crucial to a doctor's practice. It is TREA'S suggestion that either Medicare payments must be increased or TRICARE's CMAC (TRICARE Standard's CHAMPUS's maximum allowable charge) must de-linked. Either way the CMAC must authorize higher payments to providers. We are well aware that Congress has given the Secretary of Defense the authority to increase reimbursements and improving TRICARE's Business Practices. However very little has happened on that front. TRICARE Standard still is full of paper claims, baroque rules and slow as well as low payments. Until both payments are increased and bureaucratic hassles are lessened we see no reason to believe that more quality providers will join the program. This seems to be the only way that we will be able increase the number of health care providers to make TRICARE Standard a benefit for military retirees and active duty families in more than name only.

COMMISSARIES

Commissaries are an important benefit to numerous military retirees who still live near military bases. They can save close to 30 percent for high quality food as compared to commercial outlets. They also care about the commissaries around the world since so many of their children serve in the military in far-flung places. That is why TREA is concerned by DOD's proposal to cut the Commissaries funding in fiscal year 2003 and concerned about their long-term goal to privatize the entire program. We think the presently instituted employee cuts are already hurting the efficiency and quality of the commissaries and we ask this Subcommittee to stop the walk down this long road. We believe that the savings envisioned by DOD could only occur if the contract allowed the private company to close unprofitable stores. These are the Commissaries that are placed in out of the way places throughout the world and are the ones that are most crucial to the readiness mission. If the contract was drawn with care to require that these carried commissaries must remain open with proper hours we believe that DOD will find the expected savings illusory. TREA requests that this Subcommittee assures that the Commissary benefit is properly funded in fiscal year 2003 and beyond.

SURVIVORS BENEFITS

TREA members, as we are sure all military retirees, strongly hope that the offset presently in place in the Department of Defense's Survivor Benefit Program is eliminated in this session of Congress. At the present time when a survivor of a military retiree who paid for full SBP reaches 62 years old the payment drops from 55 percent to 35 percent. This is a precipitous drop that is particularly painful for the enlisted retiree's family. Since an enlisted retiree's average income being only \$16,000 a year this leaves his or her survivor with only \$6,600 a year from their spouses'

military service. This leaves numerous widows in real want. We are presently working with members of Congress and the Veterans groups to change this inequity. Both Senators Thurmond of South Carolina and Senator Smith of New Hampshire have bills in the Senate to change this. Until such an authorization bill is passed we are well aware that you can do nothing to fund it. However, we are hopeful that you can support your colleagues in implementing this change and if we are successful in passing it we hope you will fund it.

Another improvement that we hope to get authorized in this session is paid up SBP. Set to begin on October 1, 2008 the program would allow retirees who have paid into SBP for at least 30 years and have reached 70 years of age can stop making payments and still have their spouses covered. We are working to have the paid up program start as soon as possible. Retirees who enrolled in the SBP program when it began have already paid in more than 30 years and have certainly covered their spouse's possible future benefit. The extra retired pay would be a real boon in their older years. Again, this is a proposal that has yet to be authorized. If, as we hope it is, TREA would request that this Subcommittee appropriate the necessary funds to make it a reality.

CONCURRENT RECEIPT

TREA is very hopeful that there will be further substantial steps towards the goal of full concurrent receipt of retiree pay and VA disability pay. Yet again, we note that military retirees are the only class of Federal retirees who have their retirement pay reduced when they receive VA disability pay. The Veterans organizations have worked for years to correct this injustice. This year it seems very likely that we will move substantially closer to our goal. Both the House and the Senate have moved to authorize concurrent receipt for those with 60 percent and over disability and to provide the money to pay for this step in the next 5 years. Senator Reid's S. 170 which would provide concurrent receipt for all military retirees who have a VA disability presently has 81 co-sponsors including 23 members of the Senate Appropriations Committee and 15 members in this Subcommittee. It is clear that the time is right to start to right this wrong. TREA respectfully requests that this Subcommittee makes sure that the funding is provided if the authorization of this change is passed later this year.

CONCLUSION

The Retired Enlisted Association wishes to note publicly that the last 2 years have shown great gains for our members and all retired military personnel and their families and survivors. There have been great improvements in the health care benefit for those over 65 including TRICARE for Life and the Senior Pharmacy Benefit. These and many other benefits were funded through this Subcommittee. We are very grateful. Additionally, it finally looks hopeful that we will make a substantial step towards reaching our goal of full concurrent receipt. That, too, will have to go through this Subcommittee. We ask that that you continue your extremely important and impressive work. Thank you very much for the opportunity to present TREA'S views on a few important issues. We hope to discuss these matters in the future with you and your staffs. Thank you very much.

Senator INOUE. We are pleased to have Senator Domenici with us. Would you like to make a statement?

Senator DOMENICI. No, thank you. We are short of time, and I would rather hear from the witnesses. Thank you, Mr. Chairman.

Senator INOUE. Our next witness is the chair of the DOD Task Force of the American Society of Mechanical Engineers, Dr. John Leland. Dr. Leland, welcome, sir.

STATEMENT OF DR. JOHN LELAND, CHAIR, DOD TASK FORCE OF THE INTER-COUNCIL COMMITTEE ON FEDERAL RESEARCH AND DEVELOPMENT, THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS

Dr. LELAND. Thank you. Good morning again. My name is Dr. John Leland. I appear before you today as a representative of the Task Force of the American Society of Mechanical Engineers concerned with Federal funding of research and development.

The American Society of Mechanical Engineers (ASME) International, has 125,000 members, including over 20,000 students. Mechanical engineers are a major part of the Nation's technology base, a base that is essential for the Nation's defense. We appreciate the opportunity to appear before your subcommittee to present our views on the importance of the science and technology accounts at the Department of Defense.

We would like to express our deep appreciation to the members of this subcommittee for their past support, and for their fiscal year 2002 funding approved for the DOD S&T programs. In fiscal year 2002, DOD set an S&T funding bill of 3 percent of the Department's total obligational authority. That goal was achieved only after Congress added an additional \$1.1 billion to the President's request.

The DOD S&T programs make essential contributions to national defense by fueling innovation and training the scientists and engineers of tomorrow. Revolutions in defense S&T such as the global positioning system, self-propelled unmanned vehicles, and communications, date back to work initiated in the seventies and eighties. These revolutionary technologies are the valuable contributions of our Nation's engineers and scientists. Furthermore, they would not have been possible without the vision and support of Members of Congress like yourselves to promote the continued strengthening of this Nation's investment in DOD science and technology programs.

Federal funding for defense basic and applied research has provided the majority of financial support for graduate level education in defense-related fields. The defense industry has a workforce whose average age has been increasing at an alarming rate, and as a result of declining support for defense-related S&T over much of the past decade, defense laboratories and the defense industry have had great difficulty in attracting and retaining the best engineering and scientific talents of this Nation.

My own institution, the University of Dayton, has experienced this first-hand. The university conducts research in the areas of advanced materials, nondestructive evaluation, and aging aircraft systems for the U.S. Air Force. The university, which often acts as an employment source or agent for neighboring Wright-Patterson Air Force Base, has found that increasingly difficult to find qualified scientific and technical talent to fill jobs at both the university and the Air Force Base.

Hon. Ronald M. Sega, Director of Defense Research and Engineering at DOD, expressed concern about the downsizing of the S&T workforce during the last 12 years, stating, we are at a critical point that requires a focused effort to bring stability to the workforce that will attract and retain talent. For fiscal year 2003, the administration has proposed significant increases for the Department, yet funding for the DOD's science and technology programs will actually decline 3.7 percent. We urge this subcommittee to approve robust and stable funding for science and technology programs in fiscal year 2003.

Specifically, our task force urges this subcommittee to provide 3 percent of the total Defense Department budget, or \$11 billion, for the science and technology programs for 2003, a funding target con-

sistent with numerous program and Department reviews. In 1998, the Defense Science Board recommended that the Department's S&T budget be about 3.4 percent of the total budget.

The Department's own Quadrennial Defense Review, released in September 1999, stated, a robust research and development effort is imperative to achieving the Department's transformation objectives. DOD must maintain a strong S&T program that supports evolving military needs and ensures technological superiority over potential adversaries. The review further called for a significant increase in funding for S&T programs to a level of 3 percent of DOD funding per year.

The President's Commission on the Future of the United States Aerospace Industry released an interim report this year, stating, the United States is just now beginning to see the effects of the research and development (R&D) budget declines of the 1990's. The commission also stated their support for the DOD goal to increase S&T investment to 3 percent of the total budget.

With consideration of the fiscal year 2003 budget, it is important to recognize the critical role DOD science and technology plays in ensuring the future national security of the United States. These defense science programs simultaneously contribute to the research enterprise of this country and the education of tomorrow's scientists and engineers. Investment in DOD science and technology programs produces the scientific and engineering research underlying today's preeminent U.S. military forces. As increasingly varied and unpredictable threats to America develop in the coming years, this technological superiority will become an increasing national security imperative.

In conclusion, I want to again thank the subcommittee for its continued support of DOD science and technology, and for the opportunity to appear today on behalf of ASME International and its members. We look forward to assisting you in any way possible.

Thank you.

[The statement follows:]

PREPARED STATEMENT OF DR. JOHN LELAND

INTRODUCTION

The Department of Defense (DOD) Task Force of the Inter-Council Committee on Federal Research and Development (ICCFRD) of the American Society of Mechanical Engineers (ASME International) is pleased to provide the following comments on the fiscal year 2003 budget request for the Department of Defense.

FINDINGS

The Department of Defense (DOD) Basic Research (category 6.1), Applied Research (category 6.2) and Advanced Technical Development (category 6.3) accounts provide the fundamental building blocks for Defense Science and Technology (S&T) programs.

The President's proposed fiscal year 2003 budget request for the DOD S&T Program is \$9.670 billion, 2 percent lower than the fiscal year 2002 appropriated levels. Basic Research and Applied Research are down \$10 million (0.7 percent) and \$307 million (7.5 percent), respectively. Advanced Technology Development appears to have increased \$124 million (2.8 percent), but after accounting for new Air Force programs widely believed to be inappropriately categorized, Advanced Technology Development is actually down \$168 million or 3.8 percent. Science and Technology, as a whole, is \$168 million (3.8 percent). Individually, the Army and Navy are experiencing cuts of 20 percent to 30 percent in the Applied Research and Advanced Technology Development categories. Air Force Applied Research is down 9 percent

and Advanced Technology Development is up 30 percent (or down 21 percent if suspected non-S&T programs are accounted for.)

In fiscal year 2002, DOD set an S&T funding goal of 3 percent of the department's Total Obligational Authority (TOA). That goal was barely achieved after Congress added an additional \$1.1 billion to the President's request. After subtracting the newly created \$10 billion War Contingency Fund from DOD's fiscal year 2003 TOA, S&T funding is 2.6 percent. If suspected non-S&T 6.3 programs are accounted for, S&T funding drops to 2.5 percent.

Defense agencies have historically been the largest source of Federal funding for engineering research in our industry, as well as at the nation's universities. The universities are significant collaborators with industry and are the source for young engineering talent for the defense sector, both public and private. Federal funding for defense basic and applied research has also provided the majority of financial support for graduate level education in defense related fields. As a result of declining support for defense-related S&T research and development for much of the past decade, Federal defense laboratories and the defense industry have had great difficulty in attracting and retaining the best-of-the-best engineering and scientific talents of this nation.

The Department of Defense and defense industry now have a workforce whose average age is increasing at an alarming rate and will continue to do so until our intellectual resources are replenished. Just as our country's recent and prolonged economic expansion was largely the outcome of technological advances that were created by the world's premier group of talent—U.S. technologists—so has our recent and prolonged success in military engagements been the outcome of technological advances made by this national treasure. Strengthening defense-related engineering sciences is essential for meeting the future needs of the DOD.

Nearly a decade of funding declines accompanied by dramatic budget instability and a pattern in which advanced technology demonstration programs, designed to accelerate the insertion of research efforts, were stretched out, delayed and cancelled, resulted in a waste of valuable resources, and has been a deterrent to attracting a generation of highly skilled, highly motivated engineers and scientists, the people who transform ideas into reality. The decline in support has led to the loss of irreplaceable research facilities and infrastructure to reduce Federal and corporate overhead costs. In the academic institutions, many aerospace and other defense related programs of study were discontinued, thereby weakening the important contributions that these universities make to the U.S. defense technology base. As research and development budgets were reduced, the job market for engineers in the defense sector shrank, leaving little incentive for young engineers to seek defense-related career opportunities.

The President's Commission on the Future of the United States Aerospace Industry noted in its March 20, 2002 Interim Report that, "The United States is just now beginning to see the effects of the R&D budget declines of the 1990s." Revolutions in Defense Science and Technology such as the Global Positioning System (GPS), stealth, propulsion, unmanned vehicles and communications date back to work initiated in the 1970's and 1980s. These revolutionary technologies are the valuable contributions of our engineers and scientists and have promoted the continued strengthening of this nation's investment in DOD Science and Technology programs. While these revolutionary technologies have not yet been fully exploited by our military, we cannot postpone the creation of new revolutionary technologies because existing ones have not been fully exploited. Breakthroughs cannot be planned and revolutions in technology often take 20 years to be implemented.

In 1998, the Defense Science Board recommended that the department's science and technology budget be about 3.5 percent of the total budget. Last year's Quadrennial Defense Review stated that, "A robust research and development effort is imperative to achieving the Department's transformation objectives. DOD must maintain a strong science and technology (S&T) program that supports evolving military needs and ensures technological superiority over potential adversaries." The review further called "for a significant increase in funding for S&T programs to a level of three percent of DOD spending per year." The President's Commission on the Future of the United States Aerospace Industry also, "supports the DOD goal to increase science and technology investment to three percent of the overall budget, and encourages continued progress toward this goal in the fiscal year 2003 budget."

Unfortunately, the current year budget takes a step back from the progress made last year and the out-year budget projections of the department do not even keep pace with inflation after fiscal year 2004, much less make progress toward this noble goal.

RECOMMENDATIONS

DOD S&T programs provide critical investments in scientific disciplines vital to ensuring future security—including engineering, mathematics, and physical, computer, and behavioral sciences. We recommend a balanced portfolio of physical and life sciences accompanied by a healthy increase in these accounts for fiscal year 2003, and beyond. Supporting DOD S&T will ensure that the best engineering and scientific minds are once again available and willing to apply their talents to meet the future defense needs of this nation.

Therefore, the Task Force supports the findings and recommendations of the Quadrennial Defense Review and the Defense Science Board Task Force, and endorses the allocation of 3 percent of the total DOD budget to S&T funding. This would amount to approximately \$11 billion for fiscal year 2003 in the 6.1, 6.2 and 6.3 categories.

Senator INOUE. I thank you very much for your very timely testimony. As you know, we are in the process of working on our markup, and we will take your matters in very serious consideration.

Senator Domenici.

Senator DOMENICI. Mr. Chairman, I wonder if I could just give a brief statement. We have a witness here named Dr. Rogene Henderson from the Lovelace Respiratory Center. He is going to testify with reference to what this respiratory center might do in a partnership arrangement with the United States Government. They happen to have one of the most eloquent facilities for testing the air and they are proposing that an institute be created so that somebody can do a better job with dirty bomb assessments, which they are particularly expert at, and they are making a proposal. I am hopeful we will listen carefully. It may be a very good investment. I do not know. We will have to look at it.

I just wanted to welcome the doctor, and thank you for putting him on the list so we can hear from him.

Senator INOUE. This is on dirty bombs?

Senator DOMENICI. He is a very clean fellow.

Senator INOUE. Well, I thank you, and I will look forward to his testimony.

Senator DOMENICI. Thank you, Mr. Chairman.

[The statement follows:]

PREPARED STATEMENT OF SENATOR PETE V. DOMENICI

I would just like to briefly remind the Committee of the important work that the Lovelace Respiratory Research Institute is doing in the area of acute lung injury and respiratory disease. This institute is nationally renowned for its efforts in aerosol science, inhalation toxicology, and other lung diseases such as asthma and bronchitis. In collaborative efforts with universities and other laboratories, Lovelace has made significant headway in reducing the risks that our military personnel face from possible biological or chemical exposure on the battlefield.

The terrorist attacks on our country have ushered in new concerns about biological and chemical agents and how our civilian population might be subject to their harmful effects. Anthrax and radioactive aerosol from “dirty bombs” are two examples of airborne contaminants that have posed, and will continue to pose, serious danger to the homeland. Much has yet to be learned about how such agents can be detected, how they spread, and how their potential health risks should be treated.

I believe that the experience and technical capability that Lovelace Institute has developed in the past gives it a great opportunity to address the problems we face today in the form of terrorist attacks. Investing in activities that can give us a better understanding of how to detect, assess, and provide effective treatment for such threats makes eminent sense.

Senator INOUE. Now may I call on the former Director of Defense Research and Engineering and professor of engineering at the University of Virginia, Professor Anita Jones.

STATEMENT OF DR. ANITA JONES, FORMER DIRECTOR OF DEFENSE RESEARCH AND ENGINEERING AND QUARLES PROFESSOR OF ENGINEERING AT THE UNIVERSITY OF VIRGINIA

Dr. JONES. Thank you, Mr. Chairman. I appreciate the opportunity to speak to you today. My subject is also defense science and technology. I have one message to deliver, and that is that DOD science and technology programs should be focused today on creating breakthroughs that will enable entirely new military capabilities.

In this time of U.S. dominance, this is the critical time to deemphasize the incremental, whether it is research or advanced development, in order to seek breakthroughs that can lead to tomorrow's capabilities. I would submit to you that today's investment focus is on comfortably short-term. Even the Defense Advanced Research Projects Agency (DARPA), the agency whose *raison d'être* is to create technology breakthroughs, is investing most of its budget in activities that are planned around short-term returns.

I would like to give you an example of the kind of program that made sense 15 years ago, but does not today, and that is the specialized prototype science and technology information systems that the services and DARPA have built for many specific military missions. Command and control, transportation scheduling, air sortie planning, et cetera. They made sense a decade ago, but industry now knows how to build these systems. It is not necessary to do this kind of prototype building of system after system. We have reached the point of diminishing returns. This is just one candidate area where I think the committee can direct what is now near-term to be invested in more further-term activity.

I cochair the 2001 Defense Science Board (DSB) summer study on the subject of defense science and technology. The DSB would be glad to submit that report to this committee and to brief Members and staff on our recommendations. We make a number of recommendations that are consistent with my theme today of seeking more technology breakthroughs. Let me just offer three areas where there is clear potential, a potential for a technology breakthrough that could generate a new military capability.

The first one is cyber security. Essentially, all our information security technology is based on a perimeter defense model. Moats were a perimeter defense. They did not work in the Middle Ages. The Maginot Line was a perimeter defense. It did not work. We need a sustained, multidecade investment in research to find a new basis other than perimeter defense so that we can replace things like firewalls, intrusion detection systems. The DOD needs to step up to that.

A second area that I would suggest is some systems in which to explore military command. I mentioned before that the DOD has built a number of prototype S&T information systems, some to support command and control, but they focus on control, control of information collection, display, dissemination. We need to take a hard look at command. The way a commander might express com-

mander's intent to a large force, all of whom have suitable and maybe better than the commander's situational awareness.

There is a new technology that DOD has not really embraced and should, and that is the virtual presence entertainment-oriented computer game kind of technology. We need to explore its ladder command structures, and that is a technology that could help the military do it.

A third area that I would like to highlight is reducing the terror of bio warfare agents. Bio agents are a terror weapon in part because we lack an effective and immediate therapeutic response. It takes years, 10 to 15 years, typically, to develop a vaccine or a drug to make a specific intervention. The Defense Science Board believes there is a possibility that could be reduced not just to a shorter number of years but in fact to weeks or days. This is a DOD challenge. The pharmaceutical industry will not step up to it. Health and Human Services (HHS), which promulgates the Food and Drug Administration (FDA) processes, which takes so many years, will not step up to it. DOD does.

These are just three examples of research challenges that require new knowledge and the development of new technology, military technology. This is a time when we have no military peers that the DOD should reduce S&T investment in the incremental programs and invest in long term, high risk potential breakthroughs.

Thank you, Mr. Chairman.

Senator INOUE. I thank you very much, professor. As we are well aware, research gives us the edge, and we will try to be there. Thank you very much.

Dr. JONES. Thank you, Mr. Chairman.

[The statement follows:]

PREPARED STATEMENT OF ANITA JONES

Mr. Chairman, members of the Committee, and members of the Staff, I am pleased to be here today. I appreciate the opportunity to speak to you.

I have one message to deliver and that is: Redirect the DOD science and technology program to create breakthroughs that will enable entirely new military capabilities.

In the next several decades when the US has no military peers is the critical time to de-emphasize incremental research and incremental advanced development in order to seek breakthroughs that can lead to substantive new military capability.

Between the 1980s and today, the amount of the DOD S&T investment in programs that have any chance of generating a breakthrough has dwindled. The DOD S&T investment focus is uncomfortably short term focused.

The greatest responsibility for creating breakthroughs falls to the Defense Advanced Research Projects Agency (DARPA). Breakthroughs are the *raison d'etre* for DARPA's existence. Yet, the bulk of DARPA's budget is invested in incremental goals and in activities that are planned to show short-term return.

I want to offer one example of a class of programs that are most definitely short term focused. Information technology provides that example. For the past two decades and more, DARPA and the services have built S&T prototype information systems in order to experiment with information technology to support every conceivable military mission. To a great extent these prototypes use commodity workstations, networks and software. They do not stress the state of the art in information technology. Military mission software, however, may be unique.

S&T prototype information systems have been built for mission planning, command and control, training, materiel management, transportation scheduling, among many others. This has reached the point of diminishing returns. Some of these systems may have potential for transferring technology into service acquisition. But, they typically have no potential for breakthroughs either in technology, or in the exploration of a revolution in the conduct of military affairs.

Enough is enough! Information technology and its application is sufficiently advanced that most such efforts should move entirely out of the S&T arena. Any component exploration that is needed should be an orderly portion of service acquisition development. This change in determining what is appropriate for S&T and what is properly a limited development activity is overdue. Much more is known today about how to construct such information systems to support both military and civil business processes.

Today and in the future it should be rare that DARPA, in particular, engages in constructing such prototypes unless the main program focus is on the exploration some dramatically new technology for which the information system provides a context.

I co-chaired the 2001 Defense Science Board Summer Study on the subject of defense science and technology. The DSB would be glad to provide members of this Committee with that report, and to brief members and staff. We have a number of recommendations that are consistent with my theme today, which is “today, DOD S&T must seek more technology breakthroughs”.

I offer just three examples where a breakthrough is possible and needed. Two of them come directly from that DSB study:

Cyber-security.—Essentially all information security technology is built upon a perimeter defense model. Just like the kings who built moats around castles centuries ago, today current intrusion detection software is another. Like moats and the Maginot Line, information system perimeter defenses do not work. They cannot work—especially in a military context. The military and the intelligence community, as well as civil society, need a better solution. DOD/DARPA should field a major effort seeking a new breakthrough in cyber-security. There exist promising, but unexplored, new approaches. I anticipate a couple of decades of basic research work are required.

Military command of forces, when all forces have (what they need of) complete situational awareness.—There has been much discussion of a revolution in military affairs and network centric warfare. The S&T prototype information systems that relate to revolutionary command and control have stressed control, not command. Such systems collect, catalog, transmit, display, and process data; that is they offer new tools for control of information. But these prototypes do not offer many genuinely new approaches to command. The virtual presence, entertainment oriented, computer games, involving hundreds of thousands of players, offer a new venue for exploring genuinely new ideas about command, expressing commander intent, and operating with flatter command structures. Yet, the DOD is yet to create a truly future-focused research effort to explore command large numbers of forces that have situational awareness equal or better than that of the commander.

Reduce the terror of biowarfare agents.—Bioagents are a terror weapon in part because the nation lacks effective and immediate therapeutic responses. Let’s address this problem! Today, it takes roughly 10 to 15 years to develop a safe drug for a specific purpose. Modern genomics and proteomics provide new tools: rapid and high throughput empirical laboratory processes and computation-based drug design. When it can be used, computational analysis is much faster than laboratory experimentation. In both cases, more specific knowledge at the molecular level enables the discovery of drugs that are more specific. This makes possible the desired intervention with fewer negative side effects. Our Defense Science Board study recommends a high-risk research effort to reduce pathogen-targeted drug discovery from years to days! Is that reduction possible? Substantial reduction is clearly possible. A fresh, no-holds-barred approach that is focused specifically on biopathogens is needed to find out. Pharma industry will not see a market for biowarfare agent drugs and will not build the necessary pathogen databases. The Health and Human Services department, which asserts the Federal Drug Administration procedures, is unlikely to think in terms of reducing years long processes to days. Reducing pathogen drug discovery is a DOD challenge.

These are just three examples of research challenges that require knowledge and technology breakthroughs. Each could enable genuinely new military capability.

In this time when no military peer exists, the DOD should reduce investment in incremental programs in order to invest in leapfrog advances. In my view, fully half of the budget of DARPA, the defense agency whose goal is to make breakthroughs, should be invested in efforts that have some potential of producing breakthroughs. This would require a substantive reorientation of the DARPA investment portfolio.

Thank you, Mr. Chairman, for this opportunity to address this Committee.

Senator INOUE. Our next witness is director of Government relations of the National Military Family Association, Ms. Joyce Wessel Raezer. Ms. Raezer, welcome.

**STATEMENT OF JOYCE WESSEL RAEZER, DIRECTOR, GOVERNMENT
RELATIONS, NATIONAL MILITARY FAMILY ASSOCIATION, INC.**

Ms. RAEZER. Good morning, Mr. Chairman.

Mr. Chairman, the National Military Family Association (NMFA) thanks you for this opportunity to testify on behalf of military families and for your understanding of the link between quality of life and the retention of a quality force. NMFA's written statement provides greater detail on our perspective regarding the military's quality of life in these challenging times. As a member of the military coalition, we also endorse its testimony, which you will be hearing later this morning.

NMFA thanks you, Mr. Chairman and the subcommittee, for your leadership in providing the funding over the past several years to improve the personnel benefits and compensation package necessary to support a strong and ready force. We ask that you continue the support of our service members and ensure funds are available for all of our important components of the compensation and quality of life package, pay, housing allowances, commissaries, health care, dependent education, child care and permanent change of station moves.

Fiscal year 2002 brought good news and bad news to military families facing a mandated Permanent Change of Station (PCS) move. Congress did increase the reimbursement rates for many of the expenses borne by families when they move. Unfortunately, however, just as word was getting out about these improved reimbursements, some families began hearing from their service personnel branches that because of cuts in PCS funding their summer move might have to be delayed until fall, after school starts.

NMFA applauds congressional efforts to encourage the services to reduce the numbers of PCS moves service members make. We have unpacked enough boxes, enrolled our kids in enough new schools, and had to leave enough good jobs to know that families should not move just for the sake of moving. We believe, however, that an appropriate baseline must be established for all types of military moves and reduction targets set from that baseline before significant cuts are made.

NMFA thanks the Congress for the funding provided for the defense health system and for the continued direction to DOD to improve TRICARE operations in such areas as access and claims processing. Although the fiscal year 2003 budget request calls for what is believed to be a more accurate level of funding for the program, NMFA urges this subcommittee to continue its efforts to ensure full funding to meet the needs for military readiness of both the direct care and purchased care segments of TRICARE.

NMFA also thanks this subcommittee for its support of Department of Defense and civilian schools attended by large numbers of military children. Congressional authorization and appropriations for the DOD supplemental impact aid funding and additional funding for schools educating large numbers of military special needs children helps civilian districts most affected by the military presence in a community.

NMFA is pleased to note that your support for the education of military children is contagious. DOD has now established an educational opportunities directorate to help installations and school

districts reduce the transition problems military children face as they move. Increasing numbers of installations and commanders are promoting partnerships in local schools to support the education of all children. Among the most successful of these partnership activities is the joint venture education forum in Hawaii. By working together, military and education leaders in Hawaii have helped to allocate funding you have provided and raised both the level of military support for the State schools' and education leaders' understandings of the unique needs of military children.

As our military juggles existing deployments and missions with the war on terrorism and homeland defense, the military family and community feel the strain. Support services for families of deployed service members are wonderful, but they are expensive. NMFA urges the Congress to provide the same level of support for family readiness programs as other components of mission readiness. NMFA also urges the Congress to ensure that the families of all members of the total force have access to the training, information, and support needed to ensure family readiness while the service member is performing the mission.

While successful in military operations, the total force concept has not yet reached the family support arena. Our Guard and Reserve families tell us they need better information about benefits such as health care and sometimes education and assistance in dealing with changed financial circumstances. They tell us their family program coordinators are stretched too thin to provide all the assistance needed by geographically dispersed families. They also tell us they need the same kind of access to child care as their active duty peers, who can use installation child development centers and family care providers.

Mr. Chairman, we thank you again for your advocacy and pay and benefit improvements necessary to retain the quality force that now protects our homeland and wages war against terror. We ask you to remember that in time of war, mission readiness is tied to service member readiness, which is tied to family readiness. Military members and their families look to you for continued support for the compensation and benefit packages that enhance their readiness and quality of life. Please do not let them down.

Thank you.

[The statement follows:]

PREPARED STATEMENT OF JOYCE WESSEL RAEZER

Mister Chairman, the National Military Family Association (NMFA) thanks you for the opportunity to present this testimony on behalf of military families. We thank you and the Members of this Subcommittee for your attention to issues affecting the quality of life of servicemembers and their families and for your understanding of the link between quality of life and the retention of a quality force. We thank you, especially, for your efforts in the first session of the 107th Congress, which resulted in:

- A pay package that provided across-the-board and targeted increases, amounting to the largest pay increase since 1982
- Funding increases for the Basic Allowance for Housing (BAH) to decrease average out-of-pocket costs for the DOD standard for each grade to 11.3 percent
- Improvements and adequate funding for the Defense Health System
- Appropriation of \$30 million in DOD supplemental Impact Aid funding for civilian schools serving large numbers of military children, as well as additional funding to meet repair and maintenance needs in these districts and to help them serve military children with special education needs

NMFA believes that the most important message we can bring to you today is that the momentum begun to improve military pay, benefits, and quality of life during the 106th Congress and continued last year in the first session of the 107th Congress must intensify as our servicemembers and their families face the challenges of the war on terrorism. The critical issues facing military personnel and families prior to September 11—pay, housing, health care, family support, and education for their children—have not gone away. The families we represent, including our 120 installation NMFA Representatives who report to us regularly, say they recognize the support the Congress has given them over the past few years and see the very real benefits of your actions. They also tell us, however, that military families today face greater challenges because of the ongoing war on terrorism and the new mission of homeland defense. After a decade of military force downsizing, high optempo, and seemingly-ever-increasing deployments and family separations, many in the military community already felt stretched too thin before September 11. The open-ended nature of the war on terrorism and homeland defense, coupled with the fears of additional terrorist attacks at home and new security measures on installations, leave military families and the people who support them wondering how to define “normal” in June 2002.

In this statement, we will highlight just a few of the issues affecting the quality of life of military families today: Health Care, military spouse employment, Permanent Change of Station (PCS) funding, family readiness, family member education, and the special challenges facing families of mobilized National Guard and Reserve members.

HEALTH CARE GAINS FOR MILITARY FAMILIES

After a rocky start over several years, the TRICARE system is providing most of the promised benefit for most active duty military families. Recent legislative provisions have improved the benefit, especially by making the TRICARE Prime Remote Program available for active duty families living with their sponsor in locations outside the catchment area of a Military Treatment Facility (MTF). Although DOD anticipates that the full implementation of the program will occur this fall—1 year late—families have been able to take advantage of a waived charges provision, which enables them to have the same lower out-of-pocket costs for health care as other active duty families in TRICARE Prime living where a MTF or Prime network is available.

NMFA is also pleased to report that the partnership established between the DOD Office of Health Affairs, the TRICARE Management Activity (TMA), and the beneficiary associations continues, to the benefit of both beneficiaries and the Department. Although much of the focus of the frequent meetings of association representatives and DOD personnel over the past year was to work out implementation details of the TRICARE for Life benefit, other TRICARE benefits and programs were discussed and beneficiary input sought. NMFA appreciates the information received in these meetings and the opportunity for dialogue with the persons responsible for managing DOD health care policies and programs.

NMFA would like to congratulate DOD for the implementation of the TRICARE Senior Pharmacy program in April 2001 and TRICARE for Life in October 2001. By restoring the promise of lifetime health care to Medicare-eligible military beneficiaries, Congress and the Department of Defense also told current servicemembers and their families that their own service to the nation is appreciated and that the government will continue to show it values that service even after the member retires.

We also thank TMA for increasing access during the past year to a program important to many of our most vulnerable families: the Women, Infants, and Children Overseas (WIC-O) program. After years of hearing from military families who lost access to this Federally-funded, but State run, program because the military was sending them overseas, NMFA is gratified that this valuable nutrition program is available to a growing number of families. Last spring, we testified before this Subcommittee that five WIC-Overseas sites had opened. Although TMA did not meet its target of having all sites open by the end of 2001, it has steadily expanded the number of program sites and outreach to families and, at last report, expects to have a WIC-O Office at each overseas installation by the end of this year.

HEALTH CARE CHALLENGES REMAIN

However grateful we are for recent benefit improvements, program implementations, and for the increased opportunities for beneficiary input, NMFA remains apprehensive about several issues: funding, beneficiary access to health care, the development of a new generation of TRICARE contracts, and the ability of National

Guard and Reserve families to transition easily into TRICARE when the servicemember is called to active duty. Although the fiscal year 2003 budget request calls for what is believed to be a more accurate level of funding for the Defense Health Program, NMFA urges this Subcommittee to continue its efforts to ensure full funding of the entire Defense Health Program, to include meeting the needs for military readiness and of both the direct care and purchased care segments of TRICARE.

Although recent TRICARE surveys highlight continued improvements in beneficiary access to care, NMFA continues to hear of problem geographic locations and scenarios that point to unresolved access issues. Over the past year, an increasing number of TRICARE Prime beneficiaries, including active duty members, are telling NMFA they are unable to obtain an appointment at the MTF within the Prime access standards. At some locations, we suspect that the full range of resources needed for MTF optimization have not been provided. We are especially concerned about reports of staffing shortages within military Service health care specialties. At other locations, we suspect the problem is rooted in the alternative financing provisions in the TRICARE regional contracts. In TRICARE Regions 1, 2, and 5, the contract calls for the MTF rather than the managed care support contractor to pay for care received by a Prime beneficiary enrolled to the MTF who must be sent for care in the civilian sector. The TRICARE Prime access standard for a specialty appointment is thirty days. Beneficiaries tell us, however, they often are told by clinics and appointment clerks at the MTFs that appointments are not available and that they should "call back next month." They are not offered the option to schedule an appointment with a TRICARE network provider downtown. They report that when they use the magic words "access standard" or ask to be referred to a civilian provider, an appointment often becomes available. NMFA is concerned that the alternative financing contract provision creates a barrier to the cooperation needed between the MTF and the managed care support contractor to ensure beneficiaries receive care within TRICARE Prime access standards.

NMFA also continues to hear that beneficiaries in certain sections of the country face increasing difficulties in finding civilian providers willing to accept TRICARE rates as payments. Although the TRICARE contractors' lists of network providers in many communities seem adequate at first glance, beneficiaries who call these providers for an appointment are often told that they are taking no new TRICARE patients. This scarcity of providers is not just a problem for TRICARE Prime patients. Beneficiaries using TRICARE Standard also report that providers are unwilling to have too high a proportion of TRICARE patients in their caseloads. Providers cite problems with TRICARE claims processing, low reimbursement rates, and the hassles associated with becoming authorized as a TRICARE provider as reasons not to participate. Beneficiaries look both to DOD and the TRICARE contractors to ease the administrative burden on providers, fix the claims problems, and ensure that reimbursement rates are set at the proper level. On paper, TRICARE is a very robust health care program and benefit compared to many other insurance plans; however, a robust benefit is no benefit if the beneficiary cannot find a provider willing or able to provide the needed health care.

As we watch DOD prepare for competition on a new round of TRICARE contracts, NMFA is concerned that some of the issues that affect beneficiary access, provider satisfaction, and costs to the government may remain unresolved. A clear line of command and accountability must be established so that beneficiaries with problems accessing care or with concerns about the quality of their care can be assured their problem will be fixed. Beneficiary and provider education must be consistent across regions and must include information not just for Prime beneficiaries and network providers, but also for TRICARE Standard beneficiaries and non-network providers. Although DOD has made progress in improving portability and providing a uniform benefit across the regions, the elimination of regional differences and barriers to portability remains a challenge for the new round of contracts.

As the military Services continue their optimization efforts to provide care to more patients through the direct care system, resources must be available to ensure beneficiary access. Robust provider networks and adequate reimbursement levels to encourage providers to treat TRICARE Standard beneficiaries are needed in the purchased care segment of TRICARE to provide care to beneficiaries unable to obtain care within the MTFs. In the new TRICARE contracts, the rules governing beneficiaries' access to the TRICARE benefit, such as the list of procedures requiring preauthorization, must be standardized across all regions and communicated in multiple formats to beneficiaries and providers.

HEALTH CARE FOR GUARD AND RESERVE FAMILIES

Accessing providers willing to accept TRICARE patients and understanding the benefit and the rules inherent in the military medical system are especially worrisome issues for some of TRICARE's newest beneficiaries: the families of Guard and Reserve members called to active duty. The varieties of Guard or Reserve orders, the complexities of the TRICARE system, and the geographic dispersion of a unit's members and families combine to make communication about the benefit and access to assistance when there is a problem very difficult. TRICARE contractors and representatives of the TRICARE region Lead Agents routinely conduct TRICARE briefings for members of units about to mobilize; unfortunately, in most cases, family members—the people who will actually have to deal with the system once the servicemember deploys—are not in attendance. If the servicemember lives in a different TRICARE region from where his unit is located, he will receive the wrong region's information for his family at the briefing.

DOD has tried to ease Guard and Reserve families' transition into TRICARE by creating a demonstration project that waives the annual TRICARE deductible; eliminates the requirement for the beneficiary living within the catchment area of a military treatment facility to obtain a Non Availability Statement (NAS) before receiving inpatient care from a civilian hospital; and pays the charge of 115 percent over the TRICARE Maximum Allowable Charge (TMAC), rather than only the TMAC rate. This demonstration project should help patients maintain the continuity of care they need by increasing the likelihood that they can continue seeing the family's civilian doctor at minimal cost. NMFA has learned, however, that many families have not learned about the demonstration, and thus are unable to make an informed choice about whether to join TRICARE Prime if they are eligible. Families of Guard or Reserve members activated for over 179 days are eligible to join Prime, the lowest cost option in TRICARE. Because Prime is managed care, however, and Prime patients must go to a provider in the Prime network, the patient may not be able to continue to see their current doctor. The pregnant spouse of a Guard or Reserve member activated for over 179 days should be offered the option of remaining in TRICARE Standard (with no deductible and higher reimbursements under the demonstration) so that she could stay with her civilian doctor even if the doctor is not part of the TRICARE network. Unfortunately, because all families are not being told about this option, some women are signing up for Prime, and then told in the middle of their pregnancy that they must switch providers.

NMFA believes that Guard and Reserve members and their families deserve access to accurate information tailored for their needs. We applaud the Region 2 TRICARE Lead Agent who has established a Reserve Liaison position within the Lead Agent's office. This person directs the region's information efforts to the Guard and Reserve population and also answers questions from beneficiary. A Reserve member himself, the liaison understands the issues affecting this group of new TRICARE beneficiaries.

Every TRICARE region's Lead Agent should have such a liaison to improve the flow of accurate information to beneficiaries and provide a reliable source of assistance should beneficiaries experience difficulties.

PERMANENT CHANGE OF STATION IMPROVEMENTS

NMFA is grateful to the Congress for helping to remedy one of the greatest financial stressors on the military family: the out-of-pocket costs associated with Permanent Change of Station (PCS) moves. Increases in PCS reimbursements and allowances included in the fiscal year 2002 NDAA and effective over the next 2 years will ease the financial burden for many servicemembers and their families when the government orders them to move. Increases in military pay and Basic Allowance for Housing (BAH) received the most attention from servicemembers and families after enacted in the last session of Congress; however, NMFA anticipated that the PCS reimbursements would be equally appreciated as the summer move season kicked off and as more families learned of these changes. Word was beginning to filter out about these changes when, unfortunately, some families began hearing from their military Service personnel branches that the Service would not have enough money to move them on schedule this summer. The Navy, for example announced in early March that the \$30 million cut it received in PCS funding would result in the delay of some moves until the next fiscal year. For families with school-age children, delaying until October a planned summer move that would have enabled their children to begin the school year at their new school is not an option.

Military families understand the mission requirements that occasionally force them to remain at a duty station longer than anticipated or even force them to make that mid-school year move. However, they want to know that, when the

servicemember needs a move to advance his or her career or when they have finished their time in an overseas or remote tour, they will be able to make the move as planned and not be told there is no money available to move them. Families do not understand how Congress could both increase reimbursement amounts and decrease the appropriation used to pay for PCS moves.

NMFA applauds Congressional efforts to encourage the Services to reduce PCS moves that neither enhance a servicemember's career nor meet mission requirements. Many moves, however, are non-discretionary—including accession moves, separation moves, and moves associated with shifts in unit basing. NMFA believes that the types of discretionary moves and their frequency should be calculated first and then annual targets established from this baseline.

NMFA also encourages the Congress to continue pressing DOD for improvements in the move process. Although the series of pilots established by DOD at the direction of Congress have been allowed to expire, the data from those pilots must be collected, reported, and analyzed. The best practices identified from the pilots must be put in place whenever possible to bring needed improvements. Military families should have realistic expectations about the quality of their military move; movers and the military Services must ensure that the customer service associated with the move meets the expectations of family members.

NMFA urges the Congress to ensure that adequate funding is provided to move the military members and their families due for PCS moves this summer and to continue its direction to the Services to reduce total PCS moves, but only after an appropriate baseline has been established. PCS improvements identified through an evaluation of data collected from the move pilot projects must be made for all moves, and not just for another round of pilots.

MILITARY SPOUSE EMPLOYMENT

NMFA appreciates Congressional efforts to improve the education and job opportunities of military spouses. Sixty-three percent of military spouses are in the labor force, including 87 percent of junior enlisted spouses (E-1 to E-5). The loss of the spouse's income at exactly the time when the family is facing the costs of a PCS move is further exacerbated when a spouse is unable to collect unemployment compensation due to provisions of State laws. In many States, the military spouse is not eligible to collect unemployment compensation when the spouse's unemployment is due to the servicemember's change of duty location. States frequently determine that the decision of a military spouse to move with the servicemember is a "voluntary quit" and the benefit is denied. Spouses need the assistance of the military leadership and possibly friends in Congress to help raise the level of awareness about the inequities of these determinations so that more States will approve unemployment compensation for military spouses.

FAMILY READINESS IN TIME OF WAR

The all-volunteer military today is predominantly a young, married force with children. Currently, 55 percent of the military is married; 56 percent of the married population is between the ages of 22 and 29. Studies show that military members tend to marry younger, begin to have children at a younger age, and have larger families than their civilian peers. Nearly one million children, or 73 percent of all military children, are under age 11; 40 percent are 5 years of age or younger. Approximately 6 percent of military members are single parents, ranging from a low of 3 percent of Marines to a high of almost 8 percent of Army members.

As our military juggles existing deployments and missions with the war on terrorism and homeland defense mission, the military family's lifeline—its community—feels the strain. Family services are important even to an installation not pressured by high perstempo or war-related deployments. Family centers, military chaplains, and installation mental health professionals help ease the transition to the military environment for newly-arrived families. They provide financial counseling, information on accessing local social services, parenting classes, opportunities to learn about the community, as well as opportunities to volunteer to help others. Military youth programs offered by installation youth services and chaplains provide meaningful activities for many military youth, especially in the vulnerable preadolescent years. Additional services set up to support families when units deploy include counseling services, e-mail and video teleconferencing centers, and special family activities. These services ease the strain of deployment for families left behind and reassure the servicemember that the family is being looked after.

Because of the events of September 11, the deployments associated with the war on terrorism and homeland defense are different for families than the previous decade's regular deployments to Bosnia, Kosovo, and other areas. Many deployment lo-

cations are secret and the servicemembers' return dates are often unknown. And because they are being told to prepare for the long-term, and that they must live not only with the fact of deployments, but also the threat of more domestic terrorism, families know that the support services needed will be different from both the Gulf War and the deployments of the past decade. The e-mail services, dedicated support personnel, and unit support centers are wonderful, but expensive. Too often, the funding provided for contingency operations does not include enough for the support services needed at home. Installations must find the money out of their own operations and maintenance accounts to set up the family programs needed when units deploy.

NMFA is grateful to the Congress for including in this year's NDAA the provision in Sec. 652 granting DOD authority to provide additional assistance in fiscal year 2002 to families of members of the Armed Forces serving on active duty "to ensure that the children of such members obtain needed child care, education, and other youth services." This assistance is to be directed primarily to providing family support and child care for children of servicemembers deployed or ordered to active duty in connection with Operation Enduring Freedom. Report language states that the intent of this section is to ensure that the Secretary of Defense has the authority to provide the types of family support services provided during the Persian Gulf War. NMFA is concerned, however, that resources are not yet available to enable the Services to provide all of the support services needed by the families, unit family volunteers, and Service support personnel trying to cope with the current situation.

The Congressional direction to provide support services at least at the baseline level of what was provided in the Gulf War is appropriate. Some resources for information and support are more accessible now thanks to the internet and e-mail than they were in Desert Storm; more units have family readiness groups with a network of better-trained volunteers than those who rallied to support the troops and each other in Desert Storm. Desert Shield and Desert Storm came at the end of a decade of military build-up and increased resourcing, but by the end of the war, most observers noted that the family support structure was stretched to the end of its limits. The current combined war on terrorism and homeland defense mission come at the end of a decade of military downsizing and increased missions. Many volunteers and installation support staff were already strained before September 11—NMFA wonders where the back-up is for these dedicated front-line family support workers when we will need to rely on them for a long term measured in years rather than months.

NMFA applauds the DOD Office of Military Community and Family Policy, whose staff, assisted by chaplains, MWR, and family support staff from the Services and by staff from other organizations and agencies, quickly set up the support center for family members of the victims of the terrorist attack on the Pentagon. The center, located in a nearby hotel, was accessible to the families and provided counseling, benefit information, financial assistance, and other help all in one location. The lessons learned from the operation of this center should assist installation family support staff in providing the services needed by families facing the high stress of wartime deployments. One of the key lessons is the importance of the accessibility of the services to families who need them. The kind of incident that could cause an installation to increase security and lock-out everyone who does not live on the base or work in certain critical jobs would also be the kind of incident that would increase the demand for family support services. By locating the Pentagon assistance center outside of any military installation, DOD provided easy access for those needing the assistance. Most military families live off-base. NMFA has long promoted more outreach by family centers and installation support personnel into the civilian communities where many military families live so that family members unable to get to the installation for these programs can still receive the assistance they provide. The possibility of further incidents that could heighten the demand for support programs while, at the same time, causing installations to restrict access makes this outreach even more imperative.

Since quality family support contributes to the readiness of the mission, NMFA believes that the cost of family support must be factored into the cost of the contingency and appropriate funding budgeted and provided upfront.

SUPPORTING THE SCHOOLS THAT SUPPORT OUR CHILDREN

NMFA thanks this Subcommittee for its support of schools operated by the Department of Defense Education Activity (DODEA). DOD schools have received a wealth of favorable publicity during the past year on its test scores, minority student achievement, parent involvement programs, and partnership activities with the military community. The quality of these schools is a testament not only to the gen-

erous support provided by the government, but also to the commitment of military families to quality education. Although they appreciate the long history of Congressional support for these schools, parents of military children in the DOD Domestic Schools are concerned about an upcoming study on whether some or all of these schools should be turned over to local civilian public school districts. NMFA is grateful that the Congress wants to gather as many facts as possible before deciding the future of these schools and anticipates that families, commanders, and communities will have the opportunity to provide input into this study.

Because approximately 80 percent of military children attend civilian public schools, NMFA is also grateful for Congressional support of quality education for these children and their civilian classmates. Congressional authorization and appropriations for the DOD Impact Aid supplemental funding, and the additional funding for schools educating large numbers of military special needs children, helps those districts most affected by the military presence. This Subcommittee's additional appropriations to help schools educating military children in Hawaii and Alaska have also had a positive effect on the quality of education provided in these States. NMFA is also pleased to note the increased involvement by military leaders in activities designed to promote quality education. In Hawaii, the Joint Venture Education Forum (JVEF), with equal members from the Pacific Command and Hawaii's State education office, has raised the level of military involvement in the local schools. It helped allocate the funding provided by the Congress to fix facilities and purchase needed school materials. The JVEF is currently sponsoring a survey to gauge military parents' concerns about the schools so that future projects will target efforts where most needed. By working together, the military and education leaders in Hawaii have created a partnership model that will result in improved educational quality for all children.

Your assistance for all schools—DOD and civilian—that educate military children will be even more important this year. Many schools educating military children, because they are located on or near military installations, have identified additional security concerns in the wake of the September 11 attacks. Schools' mission to ensure military children are focused on learning became more complicated with the terrorist attacks and the subsequent deployments. Children are affected by the absence of a parent, even when the parent is just on a civilian business trip. Knowing that parent is away on a military mission that is featured on the nightly news adds tremendously to the stress for the child. Children under stress may "act out" in class or may not be able to concentrate on school work. The uncertainty of deployment length and, in some cases, the uncertainty about the whereabouts of the deployed member raises the stress level even further. Fears about possible further terrorist acts in the United States make things worse as children ask: "Why did Mom or Dad have to leave when we might be in danger here?"

Schools near military installations that educate many military children understand what happens in a deployment situation, but need to ensure that additional counseling and other resources are available to help. They often have access to family support personnel at the installation for assistance. On the other hand, schools with children of now-activated Guard and Reserve members are often dealing with "military children" for the first time and are doing it without that safety net of the installation family center, chaplains, health professionals, and counselors. They are calling NMFA, looking for resources on how to set up support groups for children and families or on how to be aware of problems associated with a parent's deployment. Usually, the stresses facing families did not originate with the schools; however a school's inability to support a child through the stresses will affect that child's ability to learn. School can become the one stable element in a family's life during a deployment.

NMFA also urges the Congress to be aware that several school districts—both DOD and civilian—are also facing a challenge caused by the DOD initiative to privatize military family housing. As more housing for military families is built either on a military installation or in a part of the civilian community, the school district serving that committee may see shifts in enrollment and be called upon to provide more school facilities. NMFA believes that DOD and the Services must share in the solution to the school facility problem caused by the privatization initiative. Many schools will not have the resources to provide adequate school facilities or even buses to move children from the new housing to existing schools within the shortened construction timeline under the privatization ventures. NMFA believes that an increase in the supplemental Impact Aid appropriations, with an amount fenced to help school districts deal with facility or transportation needs caused by housing privatization, may be necessary in future years. Additional funding may also be needed for DOD schools at CONUS installations undergoing privatization. NMFA urges the Congress to ensure that the schools educating military children have the resources

they need to provide security for the building, students, and staff, and also the resources to provide counseling and other assistance to families and training to teachers on the issues facing families of deployed servicemembers. In providing oversight and resources to support military family housing privatization projects, the Congress should also consider the needs of school districts charged with educating the military children living in the housing.

NATIONAL GUARD AND RESERVE FAMILIES

As of May 29, 83,746 National Guard and Reserve members were on active duty in support of Operations Noble Eagle and Enduring Freedom. Most of the issues facing the families of these members are similar to those facing families of active duty members who are deployed, but with a different spin and often a different intensity. The Guard or Reserve family may be living the life of a military family for the first time and most are dealing with the deployment-associated stresses without the backup of military installation family support resources. Although there is much talk within DOD and the Services about the "total force" comprised of active and reserve component melded together to accomplish the mission, what NMFA hears from Guard and Reserve families tells us that the "total force" concept has not yet fully reached the family support arena.

NMFA has been in regular contact with Guard and Reserve family support personnel and with families over the past few months. We have heard wonderful stories of families caring for each other, of the leadership attempting to ease the problems servicemembers and families face, and of employers showing their commitment to their employees by paying their health care premiums or the differential between their military and civilian pay. We have also heard many of the frustrations faced by these families, frustrations that often begin even before the servicemember receives orders. National Guard and Reserve members are proud of the contribution they make to the nation's defense and their families are proud of them. Families are frustrated, however, at the many difficulties they encounter in accessing information, understanding their benefits, adjusting to a new family income level that is often smaller than before the member mobilized, and finding themselves the only military family in the neighborhood. Because they are often the only military family in the neighborhood, they feel they are being ignored and that the family's contributions toward the war effort are unnoticed and unappreciated.

Since Desert Storm, the Guard and Reserve, like the active component, have devoted more resources toward building family readiness groups and ensuring that family members are registered in the Defense Enrollment Eligibility Reporting System (DEERS) and have military ID cards. Thanks to National Guard State and Reserve regional family readiness coordinators and unit volunteers, more families have learned about their benefits and how to deal with issues that arise when the member is activated. Unfortunately, the offices of these family coordinators and unit volunteers are often one-deep, leaving them with neither the time nor stamina to address all the issues facing the families of deployed members. Basic support services, such as communication, continue to be a problem in many Guard and Reserve units. Communication and family support are more difficult in the Guard and Reserve than in the active force because of the geographic dispersion of the members and their families. Unlike the active units located on one installation with the families all within reasonable proximity to the installation, members of Guard and Reserve units are scattered, often in several States. When the units hold family readiness meetings or pre-deployment briefings, only the families closest to the unit headquarters can come to the briefings. Units must ask families to pay their own way to family meetings, often to include overnight accommodations. Therefore, many cannot come and miss out on important information and the opportunity to get to know other families.

The lack of benefit information and persistent communication difficulties are common themes in comments to NMFA from Guard and Reserve families. The Office of DOD Reserve Affairs has posted a great deal of information on its website. Its Family Readiness Toolkit, for example, contains useful information; however, many families report difficulties in accessing the tool kit without causing computer problems. Guard and Reserve families ask for standardized materials that are appropriate to all services, so that if an Army Reserve member happened to live close to a Navy installation, he or she would understand how to access services there. They also ask for better information about how to access benefit information or financial assistance. Resources are available to help provide emergency financial assistance to Guard or Reserve members. The military service relief societies and the Red Cross's National Guard Assistance Fund are among the options; however, many members and leaders at the unit level do not know these services are available.

NMFA suggests that DOD strengthen and perhaps formalize partnerships with national organizations such as the American Red Cross and U.S. Chamber of Commerce to enlist their assistance through their local chapters in setting up community-based support groups for military family members. The groups could include not only spouses and significant others of deployed members, but also the parents of servicemembers. Involving the local community leaders in setting up these support groups would address two of the common concerns expressed by some of these isolated families: the feeling that they are the only families in town going through the strain of deployment and the sentiment that people not associated with the military do not appreciate their sacrifice.

Compensation issues are also of concern among Guard and Reserve members. Many have taken cuts in pay, without their employer volunteering to pay the difference between their civilian pay and the Guard or Reserve salary. In addition to earning less, some Guard and Reserve members were also caught in some problems with pay processing. For some families, the lack of payment has led to overdue payments on bills, and occasional threats to foreclose on their mortgage or turn them over to collection. Pay and personnel systems for activated Guard and Reserve members must work in coordination so families do not have to deal with bill collectors.

The cost of meeting unique family readiness needs for National Guard and Reserve families must be calculated in Guard and Reserve operational budgets and additional resources provided. DOD must partner with other organizations and explore new means of communication to provide information and support to geographically dispersed Guard and Reserve families.

MILITARY CHILD CARE

Since September 11, both active and reserve component families' need for child care and youth services from families has increased with the operational demands connected with the war on terrorism and homeland defense activities. Some installations have responded with extended duty child care, at Child Development Centers and in Family Child Care homes and are even waiving families' copayments for these extended hours. Child Development Centers and Family Child Care homes, however, cannot meet all of the need, especially for the families of the National Guard and Reserve members called to active duty. Most Guard and Reserve families do not live near a military installation where they could access a military Child Development Center, even if it had space. Approximately 53 percent of Selected Reserve members are married with children; 5.4 percent of reserve component members are single parents, compared with 6.2 percent of the active force. When the servicemember is not home to help care for children, the family will need more child care. In some cases, military spouses are quitting their jobs or dropping out of school because they cannot find the child care they need at an affordable rate.

In the fiscal year 2000 NDAA, Congress provided DOD with the flexibility to increase the availability of child care and youth programs through partnerships with civilian agencies and other organizations. The Services set up several pilot programs to take advantage of this flexibility and obtain more care off the installation. Under the provisions of the law, DOD is to submit a report this year to the Congress outlining what it had done. NMFA is looking forward to hearing of these initiatives and hopes that some of them have been directed at servicemembers, including Guard and Reserve members called to active duty, who cannot access installation Child Development Centers. In 2000, only 2.8 percent of DOD child care was provided by Family Child Care homes located off-base; 5.3 percent was provided through resource and referral services. Guard and Reserve families, as well as active duty families living and/or working longer distances from an installation need assistance not just with finding quality child care near their homes, but also in paying for that care. When a military family enrolls their child in a military Child Development Center or Family Child Care home, the cost of that child's care is shared between the government through appropriated funds and the servicemember. When a military family who cannot access child care through the military places their child in a civilian child care facility, that family bears the entire cost.

National Guard and Reserve members are essential to today's military mission. Concerns about finding and affording quality child care when called to active duty affect their mission readiness, just as they affect the ability of other active duty members. The child care needs of activated Guard and Reserve members must be calculated in DOD and Service estimates of demand for child care services, and assistance must be given to these families in accessing child care. This assistance should start with referral services, but will probably also need to include subsidies for certain members.

NMFA encourages DOD and the Services to make better use of the flexibility given them by Congress and to partner with community-based child care companies, agencies, and local school districts to assist members of the Guard and Reserve called to active duty in meeting their child care needs.

MILITARY FAMILIES AND COMMUNITIES—READY TO MEET THE MISSION

Members of the Uniformed Services—active and reserve component—are doing the nation's work today all over the world. They ask the nation to give them the tools they need to do that job: equipment, training, and leadership. They also look to the nation for recognition that their job is not nine to five and that it involves their families in ways few other jobs demand. Military members and their families want the nation to understand that the military family drives retention decisions, that the family's quality of life is a readiness requirement, and that even a community as strong as the military community will fall apart if it is asked to do too much with too little for too long. They also look to the nation to understand that quality of life is not just about pay. It is about having a safe, well-maintained place to live. It is about access to quality health care without bureaucratic complexities. It is about a quality education for children. It is about meeting the aspirations of a spouse for a career and a couple for a secure retirement. It is about respect for a job well done.

We thank this Subcommittee and the Congress for your advocacy for pay and benefit improvements necessary to retain the quality force that now protects our homeland and wages war against terror. Your actions have helped to rebuild military members' trust and to ease the crisis in recruiting and retention. We ask you to remember that in time of war, even more than during peacetime deployments, mission readiness is tied to servicemember readiness, which is tied to family readiness. The stability of the military family and community and their support for the force rests on the nation's continued focus on the entire package of quality of life components. Military members and their families look to you for continued support for that quality of life. Please don't let them down.

Senator INOUE. Thank you very much. Most Americans are not aware that the situation has changed in our military. I participated in the ancient World War II, and at that time 96 percent of the men in my regiment had no dependents. Only four had dependents, 4 percent. They were married, and a few had children. Today the average is about 70 percent with families, and so our military is now a family affair, and we are well aware of that.

For example, we know that at Walter Reed, for example, there are more—well, pediatricians than orthopedic surgeons. We have more gynecologists than orthopedic surgeons. Those are the realities of this day, and we will do our best to make certain that the families maintain a high quality of life.

Ms. RAEZER. Thank you very much.

Senator INOUE. Thank you. Our next witness is a member of the Public Policy Committee of the Lymphoma Research Foundation, Ms. Alayna Kassan.

STATEMENT OF ALAYNA KASSAN, MEMBER, PUBLIC POLICY COMMITTEE, LYMPHOMA RESEARCH FOUNDATION

Ms. KASSAN. Good morning, Mr. Chairman. My name is Alayna Kassan, and I am here today to represent the Lymphoma Research Foundation (LRF) and the thousands of people who are living with a blood cancer, either lymphoma, leukemia, or multiple myeloma. LRF and its partners in the Blood Cancer Coalition believe that this is a time of great opportunity for blood cancer research, and that a corresponding program would be a logical and wise addition to the congressionally directed medical research program (CDMRP). I am here today to respectfully request that \$16 million be provided for blood cancer research in the CDMRP.

Four years ago, at the age of 27, I was diagnosed with Hodgkin's disease, a form of disease that typically strikes teenagers and young adults between the ages of 16 and 34. For over a year, prior to my diagnosis, my immune system was so compromised that I constantly battled flu-like symptoms, lost more than 20 pounds, had trouble functioning both inside and outside of work, and often could not even get out of bed. Though I was diligent about seeking medical attention, my doctors were wrongly convinced I was depressed or had an eating disorder and my cancer went undiagnosed.

Unfortunately, my story is not unique. Unlike some other forms of cancer, there are no means of prevention, screening, or early detection for the blood cancers. They are difficult to diagnose because their symptoms are often confused with those of other illnesses. As such, patients are often misdiagnosed or diagnosed late in the course of their disease.

Thanks to advances in research, more than 80 percent of patients diagnosed with Hodgkin's disease today will be cured. Happily, I have been cancer-free since completing chemotherapy and radiation treatments, and I am expected to live a long and healthy life. However, the treatment I received does put me at an increased risk for other health problems, including secondary cancers in the radiation field. Notwithstanding, my family and I are extraordinarily grateful for the recent medical breakthroughs that made it possible for me to stand here before you today as a lymphoma survivor. Had I been diagnosed 20 years earlier, I might not have been lucky enough to be with you today.

While my story is ultimately one of success, the statistics in hematological cancers overall are quite grim. Today, there are approximately 700,000 people living with one of the three blood cancers, with lymphoma being the most common. This year, approximately 100,000 Americans will be diagnosed with this cancer, and almost 60,000 of them will die. While the overall rate of all types of cancers is on the decline, that trend is not seen in the non-Hodgkin's lymphoma and myeloma. The incidence of non-Hodgkin's lymphoma has nearly doubled since the 1970's, and the mortality rate is increasing at a faster rate than other cancers.

The blood-related cancers know no barriers in terms of age, race, or gender. Although leukemia strikes 10 times as many adults as children, it is still the leading cause of death among children under age 15. All three diseases have a particularly high incidence among men of middle age, and leukemia and lymphoma are the leading fatal diseases of men under age 35.

Additionally, the causes of the blood cancers are not clear, although exposure to certain chemicals appears to increase the risk of lymphoma and is the subject of much research. Furthermore, research has suggested links between exposures to certain viruses and the risk of developing lymphoma.

Recently, I was invited to take part in the assembly of a blue ribbon panel to evaluate the National Cancer Institute's blood cancer research portfolio. The results of the deliberations of this leukemia, lymphoma, and myeloma progress review group (PRG) is a 5-year research plan that has been published and widely circulated among specialists in the field, patients, and policymakers. The PRG report

recommended a number of actions, including develop innovative strategies to reduce the time for new blood cancer therapies to 2 years, implement strategies to improve the clinical trial system, and enhance investment in research to understand the causes of the blood cancers.

As you may know, the Department of Defense currently funds breast, prostate, and ovarian cancer research programs through the CDMRP. The DOD research initiatives are complementary to the cancer research program at the MCI, and have been widely praised for their planning and oversight systems that involve both researchers and patient advocates.

I would like to share with you some of the many compelling reasons for establishing a blood cancer program at the DOD, including the service connection between Agent Orange exposure and blood cancers, the unexplained increasing incidence of blood cancers in the general population, and the influence of blood cancer research on the development of treatments for other nonblood cancers. In fact, the combination chemotherapy and radiation treatment that I received for Hodgkin's disease is now being used in other cancers, and yielding promising results.

Last year, this subcommittee included in its bill a new research initiative directed at chronic myelogenous leukemia (CML). It is certainly understandable to focus on CML as a first step because of the exciting research that yielded the treatment. We would recommend, however, that a broader approach to blood cancer research is warranted, and again respectfully request that \$60 million be provided for blood cancer research in the CDMRP.

It is my sincere hope and belief that your investment in blood cancer research will result in a greater understanding of these devastating diseases, and ultimately many more happy endings such as mine.

I thank you for the opportunity to appear before this subcommittee today.

[The statement follows:]

PREPARED STATEMENT OF LEONARD M. ROSEN, MEMBER, BOARD OF DIRECTORS; AND
CHAIR, PUBLIC POLICY COMMITTEE, LYMPHOMA RESEARCH FOUNDATION

Mr. Chairman and distinguished Members of the Subcommittee, it is a great pleasure to appear before you today on behalf of the Lymphoma Research Foundation (LRF). LRF, the result of a recent merger of the two leading lymphoma research and education organizations, is a national organization dedicated to eradicate lymphoma and serve those touched by this disease. We are pleased to announce our merger because we believe it represents an important step forward in our ability to address the challenge of lymphoma. We believe this is a particularly promising time for new approaches to research on lymphoma and the other blood-related cancers, and we appreciate the opportunity to present some ideas to you.

Although the mission, expertise, and special knowledge of LRF relates to lymphoma, the most commonly occurring hematological cancer, including both Hodgkin's disease and non-Hodgkin's lymphoma, in this testimony I will address all of the blood cancers. LRF has joined its colleagues from other blood cancer research, education, and advocacy organizations to advance a responsible public policy agenda that relates to all of the blood cancers. We believe that recommendations related to research initiatives at the Department of Defense (DOD) should pertain to all of the blood cancers rather than to only one of these cancers.

THE BURDEN OF THE BLOOD-RELATED CANCERS

There are approximately 700,000 people living with one of the three hematological cancers—lymphoma, leukemia, and multiple myeloma. This year, approximately

100,000 Americans will be diagnosed with one of these cancers, and almost 60,000 will die from one of them. Unfortunately, the good news regarding declines in incidence for most cancers does not hold true for the blood-related cancers. NCI has reported that the rate of new cases and deaths for all cancers combined has declined between 1990 and 1997, but that trend is not seen in non-Hodgkin's lymphoma and myeloma. The incidence of non-Hodgkin's lymphoma has nearly doubled since the 1970's. In addition, the mortality rate from non-Hodgkin's lymphoma is increasing at a faster rate than other cancers.

The blood-related cancers know no barriers in terms of age, race, or gender. Young children through the elderly are diagnosed with the blood-related cancers. Although leukemia strikes ten times as many adults as children, it is still the leading cause of death among children under age 15. All three diseases have a particularly high incidence among men in middle age, and leukemia and lymphoma are the leading fatal diseases in men under age 35.

Unlike some other forms of cancer, there are no means of prevention, screening, or early detection for the blood cancers. They are difficult to diagnose because their symptoms—fatigue, weight loss, and symptoms related to a compromised immune system—are often confused with those of other illnesses. As a result, patients are often misdiagnosed or are diagnosed late in the course of their disease.

The causes of the blood cancers are not clear, although exposure to certain chemicals appears to increase the risk of lymphoma and is the subject of much research. In addition, research has suggested links between exposures to certain viruses and the risk of developing lymphoma.

THE STATE OF BLOOD CANCER RESEARCH

The National Cancer Institute (NCI), at the urging of patient advocates and researchers, recently convened a blue ribbon panel of scientists, physicians, industry, and patient advocates to evaluate the NCI blood cancer research portfolio, identify opportunities and challenges in blood cancer research, and make recommendations for research in the field. The result of the deliberations of this group, called the Leukemia, Lymphoma, and Myeloma Progress Review Group (PRG), is a 5-year research plan that has been published and widely circulated among specialists in the field, patients, and policymakers.

The PRG report acknowledged the tremendous advances that have been made in blood cancer research. These include:

- Research that is providing information about ways to use the body's immune system to fight disease.*—The first monoclonal antibody was developed and approved for the treatment of indolent B-cell non-Hodgkin's lymphoma. This is the first in a series of monoclonal antibodies that will use the body's immune system to fight cancer. Another form of targeted therapy is radioimmunotherapy, in which an antibody carries a radioactive particle to the tumor to enhance the antibody's ability to attack and kill its target. A new radioimmunotherapy was approved for use at the end of 2001, representing an important new treatment option for individuals who may have failed other treatments. Cancer vaccines, which work to establish an immune response against cancer cells, are currently being tested in lymphoma patients. These trials are still underway and therefore the results are not in.
- The development of less toxic and more targeted therapies than traditional chemotherapy.*—Many of you are probably familiar with the development of the new drug called Gleevec, which was originally approved for the treatment of chronic myelogenous leukemia (CML), and has also been approved for treatment of a solid tumor, gastrointestinal stromal tumor. This drug is based on an understanding of a genetic flaw that causes CML and on a strategy to correct that "flaw." This drug has been heralded as the first of the so-called targeted cancer therapies which have limited side effects, and some have described it as a "cure" for CML, although it is certainly too early to make that determination.
- Research that will help physicians diagnose the specific type and subtype of blood cancers.*—Important work at NCI has led to a greater understanding of the subtypes of lymphoma and which subtypes are most likely to respond to treatment. As this basic science finding is translated into new diagnostic tools, physicians will be able to offer individuals a more precise diagnosis and help patients make more informed treatment decisionmaking.

RECOMMENDATIONS FOR THE FUTURE

The PRG report recommended a number of actions that should be taken to improve blood cancer research and enhance treatments for these diseases. Among the recommendations were the following:

- Develop innovative strategies and structures to reduce the time for development of new blood cancer therapies from a period of 5–10 years to 2 years.*—The report proposed that funding be made available for new consortia models that bring together academic researchers, government, industry, and patient advocates. These multi-institutional research centers would facilitate the translation of basic research findings into new therapies.
- Implement strategies to improve the clinical trials system.*—Advances in blood cancer drug treatment depend on a well-functioning clinical trials system, and the PRG report recommended that efforts be made to increase the rate of participation of blood cancer patients in clinical trials. If trials must be constructed to enroll patients according to their disease subtype, there will be special challenges to prompt and full accrual to these trials, and new trial designs may be necessary.
- Enhance the investment in research to understand the causes of the blood cancers.*—Research suggests that exposure to certain chemicals and to certain viruses may increase the risk of lymphoma, and a greater investment in this inquiry is necessary.

RECOMMENDATIONS OF LRF AND BLOOD CANCER COALITION

LRF and its partners in the Blood Cancer Coalition, The Leukemia & Lymphoma Society and the Multiple Myeloma Research Foundation, believe that this is a time of great opportunity for blood cancer research and that a blood cancer research program would be a logical and wise addition to the Congressionally Directed Medical Research Program (CDMRP). The Blood Cancer Coalition applauds the Subcommittee for its longstanding support for the breast and prostate cancer research programs and its more recent support for the ovarian cancer research program. These programs have been hailed by researchers and patient advocates as model research initiatives, and the Subcommittee is to be congratulated for its commitment to them.

Last year, this Subcommittee included in its bill a new research initiative directed at CML. It is certainly understandable to focus on CML as a first step, because of the exciting recent CML research that yielded the treatment Gleevec. We would recommend, however, that a broader approach to blood cancer research is warranted and respectfully request that \$16 million be provided for blood-cancer research in the CDMRP.

There are compelling reasons for inclusion of all of the blood cancers, including CML, in the CDMRP.

Link of Agent Orange to Blood Cancers

Agent Orange is a toxic chemical that was used to defoliate jungle terrain and clear vegetation around enemy military installations. Recent studies prove that individual exposure to Agent Orange causes an increased risk of developing lymphoid malignancies. The Department of Veterans Affairs recognizes hematological diseases such as non-Hodgkin's lymphoma, Hodgkin's disease, and multiple myeloma as service-connected for Vietnam Veterans, based on exposure to Agent Orange or other herbicides. In 2000, the National Academy of Sciences predicted that lymphoma, leukemia, and myeloma would account for the second largest number of cancer cases diagnosed among Vietnam Veterans.

LRF believes that the connection between Agent Orange exposure and blood cancers, as well as their increasing incidence in the general population and the serious treatment challenges associated with these diseases, make the blood-related cancers a logical investment for the Committee.

Impact of Blood Cancer Research on Other Cancers

In addition to the service links to the blood cancers, there are other powerful reasons to invest in blood cancer research. Key advances in blood cancer research have contributed to significant improvements in the treatment of other, non-blood cancers. Researchers believe that understanding the blood cancers helps us identify new treatments for these cancers and also for solid tumors.

Curing cancer with drugs began with breakthroughs in the 1950s in the treatment and cure of blood cancers. Many chemotherapy agents that are now used in the treatment of a wide range of solid tumors evaluated from agents that were originally used in treatment of blood cancers. The concept of cancer staging to accurately define disease severity and target appropriate therapy began in lymphoma and is now used in all cancers. The strategy of combining chemotherapy with radiation therapy began in the treatment of Hodgkin's disease and is now widely used in the treatment of many solid tumors. Many modern day therapeutic interventions like monoclonal antibodies that target and disable antigens on the cell surface thought

to be responsible for cell proliferation began in the blood cancers but hold promise for breast, prostate, ovarian, and other forms of cancer. Work on vaccines for lymphoma has been in the forefront of vaccine research. As you can see, research on the blood cancers has had many positive benefits for cancer research overall.

A strong cancer research effort, like that included in the CDMRP, would profit from a focus on blood cancer research. LRF and the Blood Cancer Coalition are convinced that an investment in blood cancer research through the CDMRP would benefit not only blood cancer patients but also patients with other cancers.

As is true in many areas, the research potential in blood cancers far outstrips available resources. Additional resources would enable the many outstanding researchers in the field to build on their sophisticated understanding of normal and malignant cell biology to develop new treatments, and we urge you to accelerate that research process by including a blood cancer research initiative in the CDMRP.

We appreciate the opportunity to appear before the Subcommittee today.

Senator INOUE. I can assure you that we will very carefully study this, because blood cancer is a curse that we would like to help you wipe out if that is at all possible. As you know, we are working assiduously on breast cancer, on prostate cancer, and maybe this should be our next area. We will do our best.

Ms. KASSAN. Thank you, Mr. Chairman.

Senator INOUE. Our next witness is from the Children's Hospital of Pittsburgh and the Joslin Diabetes Center, Mr. Ron Violi and Dr. Sven Bursell.

STATEMENT OF RONALD L. VIOLI, CHILDREN'S HOSPITAL OF PITTSBURGH

ACCOMPANIED BY DR. SVEN BURSELL, DIRECTOR, JOSLIN VISION NETWORK, JOSLIN DIABETES CENTER

Mr. VIOLI. Thank you, Mr. Chairman. Thank you for the opportunity to be here today. At Children's Hospital of Pittsburgh we are focused on improving, predicting, and preventing and finding the cure for juvenile diabetes.

We have talked to you in the past about the work of our principal investigator, Dr. Massimo Trucco, who we have here with us today, and his work on defining the genetic susceptibilities of resistance to type I diabetes. The focus remains and has been broadened to include advances in islet transportation and cell regeneration research.

In recent years, we have seen islet transplantation used in the treatment of patients with type 1 diabetes. However, these patients face rejection and must be treated with a lifetime regime of immunosuppressants.

For fiscal year 2003, Dr. Trucco will concentrate on methods of care for young diabetics who cannot tolerate the toxic drugs that are used to fight rejection. He has been successful in developing protocols that preserve the transplantation in islets without the need for immunosuppressants. In fact, his methods have proven to be effective in laboratory mice, and have enabled the regeneration of pancreatic endocrine cells.

Another strategy effective in the lab involves the isolation of bone marrow stem cells from the bone marrow of diabetic patients. Once these cells are isolated, they are trained to produce insulin and are reinfused into the patients, who will be able to accept them without the need for immunosuppressants. These protocols have shown promising results, and will next need to be tested in primates before going to human trials.

The diabetic research program at Children's Hospital of Pittsburgh is regarded as a world-class, state-of-the-art research center that is having a tremendous impact on diabetes research both nationally and internationally. For us to continue this groundbreaking work, we respectfully request \$7.6 million in Federal funding for fiscal year 2003 so that we may expand our efforts on this important work that we have done so far. Please know that we are grateful for the support you have shown us in the past, and for the support we have received from the Department of Defense and especially our colleagues at Fort Detrick. We are hopeful you will be able to support this request, and we will answer any questions. Thank you.

Dr. BURSELL. Mr. Chairman, I also thank you for your support of the joint diabetic project in the past and the opportunity to testify here today. I am Dr. Sven Bursell, the director of the Joslin Vision Network, and the Joslin Diabetes Center portion of this request is for \$7.6 million. The Joslin Vision Network (JVN) is based on remote sight retinal imaging, which is the core of this project. It is on display today in the Dirksen Senate ground floor room 50, where we will be demonstrating real time retinal imaging.

By December of 2002, we will have deployed a total of 20 independent JVN imaging sites and seven centralized reading centers operating off their own servers in the Department of Defense infrastructure, concentrating on sites in Hawaii, the Walter Reed Army Medical Center, in Alaska at the Elmendorf Air Force Base, Clearwater, Florida, and San Diego, the Navy. We are also focusing on other sites such as the Arweda Clinic in Northern New Mexico.

The JVN validation studies have shown that JVN eye care program is equivalent to current clinical gold standards of dilated eye photography and dilated ophthalmologist eye examination. The results have been published in the Journals of Ophthalmology and Retina. The next generation JVN application has been developed, and now uses totally nonproprietary hardware and software.

We anticipate that the current level of funding for 2003 will allow us to provide support for existing JVN systems and to target new deployments for 15 additional JVN systems at 10 additional sites that will be identified in collaboration with participating agencies. This will make a total of 35 sites deployed through the DOD and VA that we will be operating.

Work on the development of an interactive comprehensive diabetes management program was initiated in 2001, and involved leaders in diabetes clinical management, education, lifestyle modification, and medical informatics from the Joslin Diabetes Center, Department of Defense, Veterans Health Affairs and Indian Services. The data indicate that a three to sevenfold health care cost reduction can be realized while still maintaining quality of care excellence using this disease management system. Production of this system will go into place at the end of the summer, and the prototype is also on display in the Dirksen Building today.

We will incorporate image enhancement and retinopathy feature detection algorithms and full automation into our newly developed retinal imaging system. This will further facilitate the imaging of different fields required for diabetic retinopathy diagnosis, reduce the time for retinal imaging and assessment, increase cost effi-

ciency, and significantly increase patient throughput and satisfaction.

We are also initiating a collaborative program with Children's Hospital of Pittsburgh, focusing on the identification of genes associated with increased risk for diabetic complications. This is important, as we know that some of the diabetic patients will develop complications much more rapidly than others.

Thank you again, sir.

[The statement follows:]

PREPARED STATEMENT OF RONALD L. VIOLI

INTRODUCTION

Mr. Chairman and members of the Committee, we would like to thank you for the opportunity to submit written testimony on behalf of Children's Hospital of Pittsburgh and the Joslin Diabetes Center regarding their collaborative initiative, the Joint Diabetes Project.

As you are aware, 3 years ago, you provided us with the opportunity to combine our resources to offer the most advanced detection, treatment, prevention and basic and applied research approaches to managing diabetes and its resulting complications. We have made important progress since the program's inception and remain enthusiastic and optimistic about our work together in the future.

SUMMARY

This request of \$15,200,000 represents the collective costs of both institutions, to be divided equally between our respective endeavors with The Department of the Army, RDT&E.

Children's Hospital of Pittsburgh: Plan for Fiscal Year 2003

Children's Hospital of Pittsburgh is nationally and internationally recognized for its diabetes research program, led by our principal investigator, Dr. Massimo Trucco. Dr. Trucco directs the activities of the Pediatric Research Section of the Diabetes Institute of the University of Pittsburgh at Children's Hospital, where new and promising programs have been initiated with the very specific goal of improving the prediction, prevention and possibly, the cure of Type 1 (juvenile) diabetes.

As we have mentioned in the past, Dr. Trucco conducted groundbreaking research in 1998 in which he identified a common childhood virus as being one of the possible triggers for diabetes in those who are genetically predisposed. Since undertaking the Joint Diabetes Project, he has employed state-of-the art technology (i.e., microarray in suspension and pyrosequencing) to better define genetic susceptibility and resistance markers of Type 1 diabetes.

These new technical approaches have allowed us to develop screening protocols that are reliable, less time consuming (they can be performed in under 30 minutes), are less costly and more importantly, can be applied to entire populations.

FISCAL YEAR 2003 PROGRAM OVERVIEW

For fiscal year 2003, we look to expand upon the Joint Diabetes Project funded by Congress through the Department of Defense by pursuing a program that will allow us to screen Army personnel, and later other military personnel and their dependents for genetic susceptibility to diabetes. By using the above-referenced advanced testing technology, individuals who are identified as being genetically and immunologically at-risk for developing Type 1 diabetes will be selected to be enrolled in new promising human diabetes prevention trials that are presently undergoing the close monitoring of an NIH-supported scientific committee of which Dr. Trucco is a selected member.

The clinical practicality of treating Type 1 diabetics with islet transplants obviating the need for exogenous insulin replacement, became evident once the first 7 successful transplants were officially announced by the Edmonton group in Canada. This study proved two major points: the technical feasibility of improved islet isolation procedures and transplantation modalities and second, that more than one donor is required to obtain an appropriate beta cell mass to treat one recipient. However, even with an appropriate beta cell mass, islet transplants are still susceptible to immune rejection. To protect the graft against the negative consequences of this process, the Edmonton team used a cocktail of potent immunosuppressive

drugs. The recipients are required to maintain this regimen of immunosuppression for their entire lifetime

Complementary efforts will be promoted to provide care for young diabetic patients who cannot be treated with the conventional protocols for islet transplantation because of the toxicity of the necessary immunosuppressive regimen. To this aim, Dr. Trucco will be testing tolerization protocols that are designed to preserve transplanted islets without the need of immunosuppression. These protocols have been proven to be very effective in laboratory mice in promoting the regeneration of the endocrine cells of the pancreas that had been damaged by immunocompetent cells present in the recipient.

An alternative strategy, also proven to be successful in the animal model, involves the isolation of bone marrow stem cells from the bone marrow of diabetic patients. Once these cells are isolated, they will be “educated,” using in vitro methods, to produce insulin and will be re-infused into the recipient, who will then be able to accept the newly trained cells without the need of immunosuppression.

These protocols have produced very promising results in the rodent animal model of the disease, but need to next be tested in non-human primates before they can be safely transferred to human trials. We have already begun to undertake this work in collaboration with primate experts who were recently recruited from Oregon. The preliminary results of these studies will soon be submitted for publication.

In addition, we will continue to work closely with our colleagues at Joslin by utilizing their telemedicine network to allow us to centralize the data that is stored from our studies. This will enable us to develop a large shared database of generic information from which we can perform the required analysis to establish any association that may exist between genetic risk and a more rapid development and/or progression of diabetic complications, such as retinopathy, cardiovascular disease and kidney disease. Through these efforts, we can provide early detection of those who are at increased risk of developing complications and can manage their care through the use of telemedicine, thus improving patient care, reducing complications and lowering the associated cost of care.

Fiscal Year 2003 Children’s Hospital of Pittsburgh Funding Request—\$7,600,000

The diabetes research program at Children’s Hospital of Pittsburgh is regarded as a world-class, state of the art research center that is having a tremendous impact on diabetes research, both nationally and internationally.

While we recognize the constraints under which the Committee is working this year, we are respectfully requesting \$7.6 million in Federal funding for fiscal year 2003 so that we may continue our efforts and expand upon the important work that has already been done. The proposed budget will consider expenditures associated with:

<i>Medical Technology to Improve the Predication and Prevention of Type 1 Diabetes</i>	
Salary Support	\$500,000
Equipment	2,500,000
Supplies/Reagents	1,500,000
Management Cost (mailing, receiving, bar-coding, and storing blood samples)	1,500,000
CHP & Joslin Joint Program (mapping of genes predisposed to diabetes complications)	500,000
Department of Defense Administrative Fee	1,100,000
Total CHP/Diabetes Project Costs	7,600,000

JOSLIN DIABETES CENTER

Fiscal Year 2002 Status Report

JVN Deployment.—By December 2002 we will have deployed a total of 11 independent remote JVN imaging sites and 5 centralized reading center sites operating off 2 independent servers in the Department of Defense Infrastructure concentrating on sites in Hawaii, Walter Reed Army Medical Center and Alaska at Elmendorf Air Force Base. In the VA system we will have deployed a total of 8 remote imaging sites, 4 reading center sites operating off 2 independent servers and at the Joslin Diabetes Center we will have 7 imaging sites and 4 reading center sites operating of the Joslin JVN server for a total of 39 separate sites operating the JVN system. Additionally, a total of 21 JVN imagers, 16 JVN readers and 3 senior JVN adjudicators have been trained and certified throughout the participating organizations.

JVN Validation.—The JVN validation study has been completed and the results published in the March 2001 issue of Ophthalmology. The results demonstrated the equivalence, with respect to level of diabetic retinopathy assessment, between JVN

digital video imaging through a non-dilated pupil to the current clinical gold standard of the Early Treatment Diabetic Retinopathy Study protocol of dilated 7 stereo standard field 35-mm photography. In addition the above prestigious peer reviewed publication the JVN studies have resulted in a further 5 peer reviewed publications and a total of 10 abstracts accepted for presentation at the Association for Research in Vision and Ophthalmology, American Diabetes Association, and American Telemedicine Association national meetings.

JVN Application Enhancement.—The next generation JVN application is developed using totally non-proprietary hardware and software. Workstations are now standard PCs with MicroSoft 2000 operating systems interfaced to the Agfa PACS environment. The system is fully DICOM and HL7 compliant as well as being compliant to emerging HIPAA security standards. The development off the Agfa PACS environment facilitates direct interfaces to the DOD CHS and VA VISTA medical record systems. Thus the JVN system becomes an integrated component of the DOD and VA patient medical record system. Additionally, the JVN system is operational over the internet with the appropriate securities implemented.

Deployment of the Advanced System.—The initial prototypes of the system have been tested, issues identified and optical designs modified during 2002. The final optical design for the new non-mydratic retinal imaging system has been completed and a patent is being sought for the optical design of the illumination component of the retinal imaging system. The prototype is currently under production and it will be tested on the JVN system at the Joslin Diabetes Center from April through June of 2002. By October or November of 2002 we anticipate producing a number of production units to be deployed in existing JVN sites for further testing in the clinical environment. The rationale for this development effort was to enable a portable and significantly less expensive retinal imaging system that would overcome the current limitations of the commercially available models.

The portability is a critical requirement for mobile operations to remote communities as well as in the DOD. The automated reading center application is also being readied for deployment. The first phase of the application was developed using the existing JVN database of 48,000 retinal images that have already undergone manual grading for diabetic retinopathy. The validation testing provided a sensitivity that indicated the need for improvement of the algorithm before implementation in the reading center. The application is currently designed to automatically detect any abnormalities in the retinal images. It is anticipated that the implementation of this application will reduce the reading center workload by at least 75 percent. Collaborative Program with Children's Hospital of Pittsburgh An initial symposium that includes investigators from the JVN and Children's Hospital of Pittsburgh was hosted by the VA as part of their National Diabetes meeting on March 28, 2001. The deliverable for this meeting is consensus agreement on a formalized collaborative program that leverages the telemedicine experience of the JVN and the immunogenetics expertise of Children's Hospital of Pittsburgh in the development of a program that can significantly impact on the care of diabetic patients.

Fiscal Year 2003 Objectives

Deployment.—We anticipate that the current level of funding for 2002 will allow us provide support for existing JVN systems and to target new deployments for 15 additional JVN systems at 10 different sites that will be identified in collaboration with the participating agencies. This will make a total of 28 sites deployed through the DOD and VA that will be operating the JVN system.

JVN Application Enhancements.—There will be ongoing development work to continue enhancements to the JVN platform. These enhancements will include incorporation of a module to facilitate rigorous clinical research studies in diabetic eye disease, to validate JVN imaging for the detection of other eye diseases such as glaucoma and age related macula degeneration, and to incorporate application enhancements based on user feedback.

Comprehensive Diabetes Management Program.—Work on the development of an interactive comprehensive diabetes management program was initiated in 2001 and involved leaders in diabetes clinical management, education, lifestyle modification and medical informatics from the Joslin Diabetes Center, the Department of Defense, the Veteran Health Affairs and the Indian Health Services. The rationale for this effort was the recognized need to be able to provide a continuum of care for diabetic patients in contrast to the current more disjointed care that is provided. This need was further highlighted by recent results from the Diabetes Prevention Program (DPP). The patients were randomized to either intensive life style modification, metformin or placebo treatment. After follow up of 4.6 years, life style reduced the progression to diabetes by 58 percent. Moreover, the development of diabetes was reduced by 31 percent. The results indicated that one of the primary rea-

sons for the success of this study was the implementation of a case management program. This is exactly what we are developing for the CDMP, namely a care manager centric interactive application that provides more continuous and immediate contact between patients, care managers and physicians over secure websites. Work will be continuing for the development of the appropriate modules that will be deployed and implemented in the web-based comprehensive diabetes management program. It is anticipated that the development of the interactive web-based education and behavior modules will provide the largest potential benefit with respect to motivating patients to set reasonable goals for their management of diabetes and thus maximize the clinical benefit.

Deployment of the Advanced System.—We will incorporate full automation into the new retinal imaging system. This will facilitate the imaging of the different fields required for assessment of level of diabetic retinopathy. This will reduce the time for retinal imaging and significantly increase patient throughput. We will also continue our development efforts to enhance the capability of the automated retinal reading application to detection of specific types of retinal lesions. This will further enhance the efficiency and reduce the resource load that would be needed to staff a JVN reading center.

Collaborative Program with Children's Hospital of Pittsburgh

The main area of potential collaboration would be in the identification of genes associated with the risk for diabetic complications. This is important as we know that some diabetic patients will develop complications much more rapidly than other diabetic patients who are comparably aged with comparable glycemic control. This fact would implicate a genetic component associated with a risk for developing diabetic complications. Thus it becomes logical to leverage the expertise at Pittsburgh with respect to immunogenetics and genechip technologies and Joslin's expertise with gene analysis and JVN technology to undertake a study involving gene expression associated with an increased risk for development of diabetic complications such as diabetic retinopathy with a primary focus on type 2 diabetic patients.

Joslin Diabetes Center

DOD Admin & Mgmt Costs (@ 12 percent)	\$1,012,000
DOD-JVN Expenses	1,932,000
Joslin-JVN Expenses	1,932,000
Shared CDMP Costs	1,824,000
Cost Benefit Analysis	400,000
Collaborative Project with CHP	500,000
TOTAL, Joslin Diabetes Center	7,600,000

SUMMARY

For fiscal year 2003, Federal funding for the Joint Diabetes Project will allow both Children's Hospital of Pittsburgh and the Joslin Diabetes Center to continue their work to improve the diagnosis and treatment of enlisted personnel and their dependents with diabetes. Through the concentration of efforts and resources, it is our intent to work collaboratively to find a cure for diabetes.

Joint Diabetes Project, Fiscal Year 2003 Funding

Children's Hospital of Pittsburgh	\$7,600,000
Joslin Diabetes Center	7,600,000
Total Program Costs	15,200,000

Mr. Chairman, we are pleased to be a part of this project with the Department of Defense and we are grateful for the support that you and your colleagues have provided to us. Please know that we would be grateful for your continued support again this year.

Senator INOUE. What sort of arrangement do you have with the Indian Health Service?

Dr. BURSELL. Currently we are using the technology and infrastructure that was developed through the DOD program to supply clinical services and systems for the Indian Health Services.

Senator INOUE. As you know, the Native Americans have a higher incidence of diabetes than any other group. Can you provide

this committee with a little memo on your activities with the Indian Health Service?

Dr. BURSELL. I would be very happy to do so, sir.

Senator INOUE. I appreciate that. Thank you very much.

Our next witness is from the Naval Reserve Association, Captain Marshall Hanson, and the National Association of Uniform Services, National Military Veterans Alliance, Colonel Charles C. Partridge.

STATEMENT OF CAPTAIN MARSHALL HANSON, CO-CHAIR, NAVAL RESERVE ASSOCIATION, ON BEHALF OF THE NATIONAL MILITARY VETERANS ASSOCIATION

ACCOMPANIED BY COLONEL CHARLES C. PARTRIDGE, CO-CHAIR, NATIONAL ASSOCIATION FOR UNIFORMED SERVICES, ON BEHALF OF THE NATIONAL MILITARY VETERANS ALLIANCE

Captain HANSON. Mr. Chairman, I am Marshall Hanson. I would like to thank you for the opportunity to testify. The overall goal of the National Military and Veterans Alliance is a strong defense.

We acknowledge the support that your committee has been providing to the young men and women who are deployed overseas and stationed at home, but we also believe the comprehensive care of the dependents of these young warriors allow the members of our Armed Services to better concentrate on their jobs. We believe that funding lifelong medical and dental care for all of the uniformed service beneficiaries, regardless of age, active or reserve status or location support this goal.

Details are provided in our submitted testimony, but we would like to call attention to the need of funding TRICARE providers and in turn supporting the troubled TRICARE network. This is especially hard on the families of reservists who do not relocate when their warriors are mobilized. We hope the committee will support money for military treatment subvention and utilization of veterans affairs hospitals as TRICARE providers.

Lastly, we should not forget the needs of our soldiers, sailors, marines, and airmen in the field. Quality of life includes quality on the job. The National Military Veterans Alliance feels it is important to invest defense dollars for equipment procurement beyond the administration's budget. The service chiefs have provided non-funded requirements for both the active and reserve components that will be needed by our people in the near future.

I will be followed by my codirector.

Colonel PARTRIDGE. Good morning, Mr. Chairman. I am Chuck Partridge with the National Association of Uniformed Services and the National Military Veterans Alliance. We want to thank you and this committee for the strong support you gave in enacting TRICARE for Life and the Senior Pharmacy benefit. That has made a tremendous difference in the lives of our members. We have some more work to do on the TRICARE Standard benefit for those under 65, and we will be getting some proposals over here within the next few months, but we really want to thank you. It would not have happened without this committee.

I would also like to mention one other point that is off the point of medical. It is the Defense Commissary Agency. The plan is to cut, and the cuts have begun, 2,650 spaces out of the Defense Com-

missary Agency and to cut funding for the next year by \$137 million, and this is being done based on some very limited studies and incomplete analysis. We are concerned that as this proceeds, the service and the hours, we are going to lose some smaller commissaries, so we are asking this committee to leave flexibility in the appropriations process for restoring these funds next year if it does prove this is a problem.

The authorizing committees have directed that the General Accounting Office (GAO) look at it, and that will be done, as well as other studies, and I think they will be prepared to act once the results are in, but of course they will need funding if they need to restore it.

Once again, Mr. Chairman, thank you for your support for the men and women of our Armed Forces, and we will be glad to answer any questions.

[The statement follows:]

PREPARED STATEMENT OF MARSHALL HANSON

INTRODUCTION

Mister Chairman and distinguished members of the Committee the National Military and Veterans Alliance (NMVA) is very grateful for the invitation to testify before you about our views and suggestions concerning defense funding issues.

The Alliance was founded in 1996 as an umbrella organization to be utilized by the various military and veteran associations as a means to work together towards their common goals. The Alliance's organizations are:

- American Military Retirees Association
- American Military Society
- American Retiree Association
- American World War II Orphans Network
- AMVETS National Headquarters
- Catholic War Veterans
- Class Act Group
- Gold Star Wives of America
- Korean War Veterans Foundation
- Legion of Valor
- Military Order of the Purple Heart
- National Association for Uniformed Services
- National Gulf War Resource Center
- Naval Enlisted Reserve Association
- Naval Reserve Association
- Non Commissioned Officers Association
- Society of Medical Consultants to the Armed Forces
- Society of Military Widows
- The Retired Enlisted Association
- TREA Senior Citizens League
- Tragedy Assistance Program for Survivors
- Uniformed Services Disabled Retirees
- Veterans of Foreign Wars
- Vietnam Veterans of America

The preceding organizations have almost five million members who are serving our nation, or who have done so in the past and their families.

DEFENSE COMMISSARY AGENCY FUNDING AND STAFFING

Commissaries are arguably the number one benefit of the non-pay portion of the military pay and compensation package. Now the benefit is under attack!

While our highly trained and motivated military force is proving the force and might of the world's only superpower, their families convenient access to high quality food at savings that approach 30 percent from military commissaries is in serious jeopardy.

Why is this happening? Why would the Department of Defense want to reduce the commissary benefit? The answer is money. DOD wants to reduce the subsidy for the commissary system that provides food and other essentials to troops and

families around the world, which will end up in the military community losing the benefit.

We understand that the Defense Commissary Agency is in the process of eliminating 2,650 personnel positions (from a total of less than 20,000) by 1 October 2002 and reducing funding by \$137,000,000 for fiscal year 2003. We believe that a reduction of this size will degrade the quality of the benefit by eliminating smaller commissaries and reducing days and hours of operation.

These cuts are not Congressionally mandated but were proposed by the Administration and approved by the Authorizing Committees with language expressing concern. We believe that as the effects of these cuts are felt in fiscal year 2003, additional funding will be needed to restore the health of the commissary system.

We all understand the importance of saving scarce taxpayer's dollars. Every taxpayer dollar collected must be used wisely to keep down the amount of taxes the government collects; this is only common sense. Therefore, every government agency, department or system must be as efficient as possible. In that regard, the leaders of the commissary system have been and are continuing to make internal changes to improve efficiencies and reduce overhead operating costs. However, streamlining, improving internal operations and implementation of cost saving measures must not reduce the value of the benefit.

Commissaries are a key component of the military pay and compensation package. Any action that reduces the benefit means a diminished quality of life and more out of pocket costs.

ACTIVE AND RESERVE FORCES

We understand that DOD plans budget cuts, with the services again looking at end strength reductions especially in the Reserve Components at a time that we fight a War against undefined terrorist factions.

The Secretary of Defense's office is conducting a series of studies emphasizing transformation, relying on costly, undeveloped technologies, seeking dollar savings by reducing end strength in a flexible, adaptive fighting force.

We request that you consider language in the appropriations bill to direct DOD to cease further reductions in both Active and Reserve components until the threats to our Nation are properly determined and a National Defense Strategy is clearly defined.

In addition, we ask that funds be provided utilizing the National Guard and Reserve Equipment Account. While the Senate has wanted to reduce the NGREA, the services have failed in their responsibility to budget for Reserve equipment; until this is resolved we believe the NGREA should be used for this purpose.

Reserve members were quick to step forward, some have already sacrificed their lives during this war as part of this nation's total force. In recognition, we ask for parity between active and reserve components when it comes to pay and compensation and retirement. We encourage this committee to support future hearings dealing with pay and compensation as these proposals are developed.

CURRENT AND FUTURE ISSUES FACING UNIFORMED SERVICES HEALTH CARE

The National Military and Veteran's Alliance would like to thank the Sub-Committee and the Full Appropriations Committee for its leadership in passing landmark legislation last year extending the Pharmacy benefit and TRICARE system to Medicare eligible military retirees, their families and survivors, making the lifetime benefit permanent, establishing the DOD Medicare Eligible Retiree Health Care Fund, reducing the catastrophic cap and making other TRICARE improvements.

Mr. Chairman, the overall goal of the National Military and Veteran's Alliance is a strong National Defense. We believe that comprehensive, lifelong medical and dental care for all Uniformed Service beneficiaries regardless of age, status or location supports this goal. In light of these overall objectives, we would request that the committee examine the following proposals.

UNIFORM CLAIMS AND BILLING

It has been the long term hope that part of the growing costs of medical treatment in both the Department of Defense and the Department of Veteran Affairs could be paid by billing private insurance companies and Medicare/Medicaid systems (DOD and VA Subvention). Numerous attempts to improve these financial streams have failed. In part this failure has been caused we believe because the various systems do not share the same system for claims and billing. Since the dominant system of all medical claims in the country is clearly Medicare if DOD and the DVA adopted the Medicare claims system ALL parties—Private Insurance Companies, DOD, the DVA and Medicare/Medicaid would know what medical services, pharmaceuticals,

laboratory services and the like have been provided. Such a uniform billing plan could also lead to improvements in allowing the VA to be a fully participating TRICARE network provider. This does not solve the other billing problems but at least it would put all the parties on the same sheet of music.

DOD AND VA SUBVENTION

The attempt of Medicare subvention (having Medicare pay for treatment of its beneficiaries at MTFs) with the DOD has been a huge disappointment. The Department of Defense has received no stream of payments. Medicare's required "level of effort" has never been reached by an MTF. But this goal should not be abandoned. The active duty member, his or her working spouse, the Veteran and the Military Retiree have all spent their working careers paying money into the Medicare system. The taxes have been paid but if they receive treatment in a MTF or a DVA hospital or clinic the facility receives nothing from Medicare to help pay for that beneficiary. Of course, the people sworn to protect the Medicare trust fund like the situation as it is. And who can blame them? However the financially strained medical systems of the VA and DOD should receive some of the support their patients have paid. Again, if DOD and the VA adopted Medicare's billing system it could support an effective attempt at subvention.

THE DEPARTMENT OF VETERANS AFFAIRS AS A TRICARE PROVIDER

At this time 80 percent of Veteran Affairs installations are nominally TRICARE providers in the TRICARE Networks. However, last year TRICARE paid only \$3.7 million to VA facilities for care provided to TRICARE beneficiaries. Part of the problem is clearly the previously discussed failure to have one system of Medical Record keeping and one method of claims and billing. Therefore, the change suggested above to follow Medicare's claims and billing system could alleviate some of the problems. It is also crucial to solve this problem so that the VA can qualify to be a TRICARE for Life provider. It could be a way to help improve coordination and predictability as well as a cost saving for both the DVA and DOD if the VA became a qualified Medicare provider. If this was accomplished then Medicare Part A or Part B would be first payer and TFL would pay the rest. This could be a serious stream of money (primarily from Medicare) to the VA for non-service connected treatment that the VA provides to military retirees. But unless and until the VA qualifies as a MEDICARE provider, this is not possible. Since the door has been opened to coordinate Medicare payments and TRICARE by the coordination of their benefits in TRICARE for Life this would be a coordination that should make sense for all three Departments and would most importantly, improve the treatment of many beneficiaries.

JOINT MTF/VISN/TRICARE CONTRACTOR PROJECTS

When looking far into the future we can see coordinated networks for a region's Military Treatment Facility (MTF), its Veterans Integrated Service Network (VISN) and the civilian TRICARE contractor. This would actively use the VA as a provider of specialty health care, save money for DOD and plan a core of coordinated services. A test program in the Central TRICARE region called the Central Regional Federal Health Care Alliance has just been rolled out to look at, and coordinate areas of practice including possibly: "catastrophic case management, telemedicine, radiology, mental health, data and information systems, prime vendor contracting, joint provider contracting, joint administration processes and services and education and training." The governing board's members of this experiment include DOD's Lead Agent for the Region, VA's VISN Director and the president and CEO of the Region's TRICARE Contractor. If this plan succeeds in improving the health care of the beneficiaries and, hopefully, saving money for the taxpayers perhaps its form can be transported or modified for other regions.

MEDICARE PART B ENROLLMENT

The law enacting the TRICARE for Life program requires Medicare Part B enrollment for participation in the TRICARE for Life program. In addition, Part B is required for all retirees reaching age 65 on or after 1 April 2001, for them to participate in the new pharmacy program. Although we believe in the principle that the military benefit should stand-alone and not require Part B participation, the Part B will save the TFL program funds. However, we believe requiring Part B for participation in the pharmacy program does not result in significant savings and creates a hardship for some beneficiaries, and it should be eliminated. In addition, some 12,000 retirees residing overseas are required to participate in Part B Medi-

care in order to enroll in TRICARE for Life. Since they cannot use the Medicare benefits overseas, we recommend that this requirement be eliminated for all retirees residing overseas.

Some retirees who lived near military installations did not enroll in Part B because they believed they would receive care at the hospitals and clinics located on the military bases, which subsequently closed. Many are in their 70's and 80's now and to enroll would require them to pay huge penalties.

We recommend that those who relied on these hospitals and were 65 on or before 6 October 2000, the date TFL was enacted by NDAA for fiscal year 2001, be allowed to participate in TFL without enrolling in Part B Medicare.

MILITARY HEALTH CARE IN PUERTO RICO AND VIRGIN ISLANDS

The TRICARE benefit in Puerto Rico and the Virgin Islands is different than that provided in the United States. NMVA believes that the TRICARE triple option benefit should be implemented in Puerto Rico and the Virgin Islands in the same manner that it is being offered in the United States. Further, the FEHBP Demonstration program has been highly successful in Puerto Rico and is due to end on 1 January 2003. NMVA strongly recommends that the FEHBP demonstration in Puerto Rico be extended and made a permanent program.

INCLUDE PHYSICIAN AND NURSE SPECIALTY PAY IN RETIREMENT PAY COMPUTATIONS

The military services continue to lose top quality medical professionals (doctors and nurses) at mid-career. A major reason is the difference between compensation levels for military physicians and nurses and those in the private sector.

Results of a recent survey of military urologists show that pay and benefits are the most important factors impacting retention. Improving specialty pay/bonuses and including specialty pay/bonuses in retired pay calculations would aid retention. More than half of mid-level military urologists (5-15 years of service) have not made their future career decisions. The survey also showed that 83 percent of senior military urologists, those with over 15 years of service, plan to retire at the earliest opportunity. Therefore, prompt action to retain these and other highly skilled medical professionals is needed.

NMVA recommends that prompt action be taken to improve these special pays and to include them in the retired pay calculations.

END PREAUTHORIZATION REQUIREMENTS/NON-AVAILABILITY STATEMENTS FOR TRICARE STANDARD

When the TRICARE program was begun, beneficiaries understood that options would include a fee-for-service plan (TRICARE Standard), a preferred-provider plan (TRICARE Extra) and an HMO (TRICARE Prime). However, TRICARE standard is not a fee-for-service plan. Beneficiaries who use the TRICARE Standard plan must obtain pre-authorizations to obtain care out of the Military Treatment Facilities or the networks. TRICARE Standard should be a true fee-for-service plan and no preauthorization or non-availability statement should be required.

FEHBP

The NMVA has been a long time supporter of legislation that would provide military personnel the option of participating in the Federal Employees Health Benefit Program. Currently, a bill introduced in the 107th Congress, H.R. 179, would provide that option. NMVA believes that FEHBP should be an option for all uniformed service beneficiaries. We are confident that the TRICARE program and the TRICARE for Life program will be successful. Further, because they are an outstanding value for most beneficiaries, they will be the health plans of choice. However, in a few cases, the TRICARE/TRICARE for Life options may not be the best choice, or may not be available; and for that reason, we believe the FEHBP option should be enacted. Providing the FEHBP as an option would help stabilize the TRICARE program, provide a market based benchmark for cost comparison and be available to those for whom TRICARE/TRICARE for Life is not an adequate solution.

SUMMARY

Mr. Chairman and distinguished members of the Sub-Committee, we want to thank you for your leadership and for holding these hearings this year. You have made it clear that the military continues to be a high priority and you have our continuing support.

Senator INOUE. I can assure you, Mr. Partridge, we will do our best to resist closing the commissaries, and at the least slow down the process. Many Americans feel that commissaries are not necessary because you have all these shopping malls and Wal-Mart and K Mart and what-have-you, but we do have commissaries because they provide better bargains than most of these organizations, and with the limited pay we provide our military personnel the least we can do is provide them with adequate and reasonable shopping. We will do our best.

Colonel PARTRIDGE. Thank you, Mr. Chairman.

Captain HANSON. Thank you, Mr. Chairman.

Senator INOUE. Our next witness is the associate professor of electrical engineering at the University of Nevada, Dr. James Henson. Welcome, Dr. Henson.

STATEMENT OF DR. JAMES HENSON, ASSOCIATE PROFESSOR OF ELECTRICAL ENGINEERING AT THE UNIVERSITY OF NEVADA, ON BEHALF OF THE COALITION OF EPSCoR STATES

Dr. HENSON. Good morning, Mr. Chairman. My name is Jim Henson. I am associate professor of electrical engineering at the University of Nevada. Thank you for the opportunity to testify on behalf of the coalition of the 21 States and Puerto Rico that participate in the experimental program to stimulate competitive research (EPSCoR).

I am here today to speak in support of both the Defense Department's science and engineering research program and an important component of that research, the Defense Department's experimental program to stimulate competitive research at EPSCoR. The coalition wishes to be associated with the statement of the Coalition for National Security Research in support of additional funding for defense research and development. I wish to commend the subcommittee for its strong support for funding DOD S&T programs, and urge you to maintain a stable investment in the Department's S&T efforts.

The coalition of EPSCoR States strongly supports the Department's budget request. The Defense EPSCoR program is a small but significant part of the larger program, and therefore the coalition recommends that Congress appropriate \$25 million to the Defense EPSCoR (DEPSCoR) program. DEPSCoR is a research and development program that was initiated by the National Science Foundation through a merit review process.

DEPSCoR is improving our Nation's science and technology capability by funding research activities at universities and nonprofit organizations and States that historically have not received significant Federal R&D funding. Research is funded only if it is in areas that are important to national defense.

My own experience with the DEPSCoR program is a good example of how it works. Since joining the university in 1991, I have been continuously involved in defense sponsored research efforts funded separately by the U.S. Army Waterways Experiment Station, the U.S. Army Research and Engineering Laboratory of the U.S. Air Force Office of Scientific Research, and most recently the U.S. Army Research Office through the DEPSCoR program.

My own research involves a simulation analysis of high resolution radar imaging systems and systems imagery. Potential appli-

cations include high-speed generation of radar imaging for interactive war game simulation, preparation of pilot briefing material, automatic target detection and recognition algorithm development, automatic terrain interrogation and assessment, and the evaluation of sensor performance for next generation radar systems.

The objective of our current Army research-sponsored DEPSCoR research program is to provide a fundamental understanding of radar texture through the development of techniques through the analysis of high-speed synthesis radar imagery for naturally occurring distributed targets as a function of radar sensor parameters such as frequency, depression angle resolution, and imaging modes.

This project, funded through the DEPSCoR program in April 2001, is already providing results that will more accurately allow us to model naturally occurring terrains and enhance our image analysis products. The funds associated with the project are supporting master's level graduate students with salary and tuition in the University of Nevada's electrical engineering department. The education, training, and technical preparation of these engineers for potential careers in Government laboratories and intelligence agencies is just as important as the research itself.

As a group, these students must be considered a national asset which must be encouraged and mentored to ensure the continued superiority of our military and intelligence services. I would like to note the coalition believes the Department should reevaluate the current one to two matching requirement for DEPSCoR, since it is significantly higher than other defense research programs.

Once again, Mr. Chairman, the Coalition of EPSCoR States supports funding the Defense Department's research programs, particularly budget function 6.1 and 6.2. With the beginning of the war against global terrorism, the technological demands facing our military have increased. New research must be pursued to meet new challenges in the field of information warfare, high technology terrorism, proliferation of weapons of mass destruction, and threats into other parts of the world.

It is essential Congress assure that scientific research and technological advances in support of our military are not eroded because of the lack of adequate funding for DOD's basic and applied research. It is important that this committee ensure that the fiscal year 2003 budget request keeps pace with the needs of science and technology.

Finally, the Coalition of EPSCoR States believes a \$25 million Defense EPSCoR program will ensure that Federal funding dollars are being used in a cost-effective way, and that the EPSCoR States are contributing to the Nation's defense efforts.

Thank you for your consideration of this request.

[The statement follows:]

PREPARED STATEMENT OF DR. JAMES HENSON

Mr. Chairman and members of the Subcommittee, I thank you for the opportunity to submit this testimony regarding the Defense Department's basic scientific research program and the Defense Experimental Program to Stimulate Competitive Research (DEPSCoR).

My name is Jim Henson. I am an Associate Professor of Electrical Engineering at the University of Nevada. I am here today to speak in support of both the Defense Department's science and engineering research program and an important component of that research, the Defense Department's Experimental Program to

Stimulate Competitive Research (EPSCoR). This statement is submitted on behalf of the Coalition of EPSCoR States and the twenty-one States and Puerto Rico that participate in EPSCoR.¹

The Coalition wishes to be associated with the statement of the Coalition for National Security Research in support of additional funding for Defense research and development. This Subcommittee has long demonstrated its strong support for the Department's science and technology research, which have produced the innovations, and technological breakthroughs that have contributed to ensuring that our fighting men and women have the best available systems and weapons to support them in executing their national defense missions. The bench science the Subcommittee has wisely supported in our Nation's universities and laboratories has produced significant benefits for the people in the field and on the front lines. The Coalition of EPSCoR States strongly urges you to maintain a stable investment in the Department's science and technology (S&T) efforts.

The Coalition of EPSCoR States strongly supports the Department's budget request for basic research. The Defense EPSCoR program is a small, but significant, part of this larger program. The Coalition recommends that Congress appropriate \$25 million to the Defense Department's budget for the Defense Experimental Program to Stimulate Competitive Research (Program Element PE 61114D).

EPSCoR is a research and development program that was initiated by the National Science Foundation. Through a merit review process, EPSCoR is improving our Nation's science and technology capability by funding research activities of talented researchers at universities and non-profit organizations in States that historically have not received significant Federal research and development funding. EPSCoR helps researchers, institutions, and States improve the quality of their research capabilities in order to compete more effectively for non-EPSCoR research funds. EPSCoR is a catalyst for change and is widely viewed as a "model" Federal-State partnership. EPSCoR seeks to advance and support the goals of the program through investments in four major areas: research infrastructure improvement; research cluster development and investigator-initiated research; education, career development and workforce training; and outreach and technology transfer.

With the movement of the Nation toward an S&T policy increasingly aimed at global competitiveness and economic well-being, it is imperative that all States have a sufficient S&T base. Science and technology capability, like education in general, cannot be limited to a select few States and institutions for our Nation to progress and maintain world leadership.

The Defense Experimental Program to Stimulate Experimental Research (DEPSCoR) was authorized by Section 257 of the Fiscal Year 1995 National Defense Authorization Act (Public Law 103-337). The Defense Department's EPSCoR helps build national infrastructure for research and education by funding research activities in science and engineering fields important to national defense. DEPSCoR's objectives are to:

- Enhance the capabilities of institutions of higher education in eligible States to develop, plan, and execute science and engineering research that is competitive under the peer-review systems used for awarding Federal research assistance; and
- Increase the probability of long-term growth in the competitively awarded financial assistance that universities in eligible States receive from the Federal Government for science and engineering research.

The Defense EPSCoR program contributes to the States' goals of developing and enhancing their research capabilities, while simultaneously supporting the research goals of the Department of Defense. DEPSCoR grants are based on recommendations from the EPSCoR state committees and the Department's own evaluation and ranking. Research proposals are only funded if they provide the Defense Department with research in areas important to national defense.

My own experience with the DEPSCoR program is a good example of how it works. Since joining the University in 1991, I have been continuously involved in Defense-sponsored research efforts funded separately by the U.S. Army Waterways Experiment Station, the U.S. Army Cold Regions Research and Engineering Laboratory, the U.S. Air Force Office of Scientific Research, and most recently, the U.S. Army Research Office through the DEPSCoR program.

Access to common view battlefield conditions from a variety of airborne and land-based sensors is a critical element that permeates all U.S. Army battle dynamics and that represents a key technology in the planning and conduct of future mis-

¹Alabama, Alaska, Arkansas, Hawaii, Idaho, Kansas, Kentucky, Louisiana, Maine, Mississippi, Montana, Nebraska, Nevada, New Mexico, North Dakota, Oklahoma, Puerto Rico, South Carolina, South Dakota, Vermont, West Virginia, and Wyoming.

sions. This common view must be accurate and of high fidelity in order to achieve the commander's objectives and aid a common, collaborative, real-time picture of the battlespace including weather, terrain, environment and their combined effects on reconnaissance, surveillance, and targeting systems.

To support this mission, my own research involves the simulation and analysis of high-resolution radar imaging systems and system imagery. Potential applications include high speed generation of radar imagery for interactive war game simulations, preparation of pilot briefing materials, automatic target detection and recognition algorithm development, automatic terrain interrogation and assessment, evaluation of sensor performance for next generation radar systems, and tactical decision aid development.

The objective of our current Army Research Office-sponsored DEPSCoR research effort is to improve our fundamental understanding of radar texture through the development of techniques for the analysis and high speed synthesis of radar imagery for naturally occurring distributed targets as a function of radar sensor parameters such as frequency, depression angle, resolution, detector type, and imaging mode.

This project, funded through the DEPSCoR program in April 2001, is already producing results that will allow us to more accurately model naturally occurring terrains and enhance our simulation and image analysis products.

At this time the funds associated with the project are supporting five Masters-level graduate students with salary and tuition in the University of Nevada's Electrical Engineering Department. The education, training, and technical preparation of these engineers for potential careers in government laboratories and intelligence agencies is just as important as the research itself. As a group, these students must be considered a national asset which must be encouraged and mentored to insure the continued superiority of our military and intelligence services.

Last year the Defense Department issued an announcement of a competition under the aegis of the fiscal year 2002 Defense EPSCoR program. A total of 244 projects were received from the 19 States eligible to participate in DEPSCoR. Following review of the individual projects by the appropriate research office (the Army Research Office, the Ballistic Missile Defense Organization, the Office of Naval Research, or the Air Force Office of Scientific Research), 54 projects were selected this Spring for funding with \$15.7 million appropriated for fiscal year 2002. The average award was \$291,000.

The partnership concept also extends to our interactions with the Federal agencies. Joint development of the Defense EPSCoR and other EPSCoR program goals and objectives will ensure that the program achieves its mission of stimulating competitive research. Indeed, given the buy-in and participation by so many constituencies, EPSCoR is a good example and model for Federal-State partnerships in science and technology.

It is important that the DEPSCoR program continues this very important role of bringing new researchers into productive relationships with DOD, and avoids the ever-present danger of using DEPSCoR funds to replace existing DOD funding of already-established researchers.

The EPSCoR program yields a return far beyond the original investment. EPSCoR allows the States to accomplish more than is possible through the regular research programs. It has helped Nevada attract and retain young researchers who are able to demonstrate through EPSCoR support of their research, that they have bright futures in fields of research that are of interest to the Defense Department.

The Coalition appreciates this Subcommittee's long-standing support for Defense EPSCoR and we urge you to continue that support. The Coalition recognizes the very tight fiscal constraints this Subcommittee faces, but we respectfully request that you provide \$25 million for the Defense EPSCoR program for fiscal year 2003.

In addition, the Coalition recommends that the Defense Department develop a statewide infrastructure development program in eligible States. Currently, the DEPSCoR program provides only for individual investigator grant support. A statewide infrastructure development program similar to the infrastructure development program managed by the National Science Foundation will enable eligible States to strengthen their defense research capabilities.

Finally, the DEPSCoR program requires a one-to-two matching requirement, a match that is significantly higher than many other Defense research programs. This requirement places a burden on the individual participating States. The Coalition believes the Department should re-evaluate the value of the current matching requirement.

The Defense Department's Experimental Program to Stimulate Competitive Research is a wise and worthwhile investment of scarce public resources. It will continue to contribute significantly to efforts to build scientific and engineering research efforts in support of national defense needs.

Mr. Chairman, the Coalition of EPSCoR States, supports funding for the Defense Department's research programs, particularly Budget Functions 6.1 and 6.2. With the beginning of the war against global terrorism, the technological demands facing our military have increased. New research must be pursued to meet new challenges in the fields of information warfare, high technology terrorism, the proliferation of weapons of mass destruction and threats in diverse parts of the world.

It is essential that Congress ensure that scientific research and technological advances in support of our military are not eroded because of the lack of adequate funding for DOD's basic and applied research. It is important that this Committee ensure that the fiscal year 2003 budget request keeps pace with the needs of science and technology. The Coalition of EPSCoR States supports realistic funding levels that help sustain vigorous science and engineering research programs at the Defense Department.

Finally, the Coalition of EPSCoR States believes a \$25 million Defense EPSCoR program with the modifications suggested will ensure that Federal dollars are being used in a cost-effective way and that the EPSCoR States are contributing to the Nation's defense efforts. Thank you for your consideration of this request.

Senator INOUE. I am looking over your testimony and listening to you. Does the University of Nevada carry out all of this, such as, radar imaging systems potential application include radar imagery, interactive war games simulation?

Dr. HENSON. Mr. Chairman, that is my own research area, and I do considerable software development for the DOD agencies that I indicated, and they apply those products in various ways, some of which—

Senator INOUE. What do your five graduate students do?

Dr. HENSON. Pardon me?

Senator INOUE. The graduate students.

Dr. HENSON. They are supported under this research funding as research assistants for me.

Senator INOUE. So you have had good results?

Dr. HENSON. Indeed.

Senator INOUE. Well, we will try to keep that up.

Dr. HENSON. Thank you, Mr. Chairman.

Senator INOUE. Thank you very much.

Our next witness is the Department of Pharmacology, Howard University College of Medicine, Research Society on Alcoholism, Dr. Robert Taylor.

STATEMENT OF DR. ROBERT TAYLOR, CHAIRMAN, DEPARTMENT OF PHARMACOLOGY, HOWARD UNIVERSITY COLLEGE OF MEDICINE, ON BEHALF OF THE RESEARCH SOCIETY ON ALCOHOLISM

Dr. TAYLOR. Good morning, Mr. Chairman. I am Dr. Robert Taylor. I am a medical doctor, a professor in the medical school, and researcher on alcoholism, a disease that devastates our society. Today I am presenting testimony on behalf of the Research Society on Alcoholism that I will call the RSA.

The RSA is a professional research society. Its 1,400 members conduct basic clinical psychosocial research on alcoholism and alcohol abuse. The society's mission is to promote research that can lead the way toward prevention and treatment of alcoholism, a disease that has probably affected everyone in this room in some way.

In recent years the RSA has presented testimony to this committee about alcoholism and alcohol problems in the military, a serious problem that compromises military readiness and the health and safety of our military personnel. The society has appreciated the past support of the subcommittee and the Congress in listing alcoholism among the eligible research areas for which applications

may be submitted for peer review and potential funding under the Department of Defense peer-reviewed medical research program.

Although this program is relatively new, being created by Congress in 1999, the DOD reports that alcohol-related research projects funded from 1999 to 2000 produced interesting research outcomes ranging in areas from basic research biology of alcoholism to clinically applicable findings, stating that alcohol abuse prevention is another topic area of interest due to the impact it can have on the readiness of the military personnel.

Now, Mr. Chairman, the problem is that the RSA is disappointed that in the fiscal year 2002 Defense Department conference agreement alcoholism was dropped from the research projects to be funded by the DOD peer-reviewed research program. This is especially disheartening, after the subcommittee listed alcoholism in the Senate fiscal year 2000 Defense Appropriations Committee report. That is Senate Report 107-109.

Our request from the RSA is quite simple. We request this subcommittee make sure that alcoholism is included among the research topics listed under the DOD peer-reviewed medical research program for fiscal year 2003. According to the 1998 defense survey of health-related behaviors among military personnel, the most recent survey the Department has conducted on health-related matters in the Armed Services, heavy drinking among military men is over 40 percent more prevalent than in the civilian sector, and among young men 18 to 25 the rate of alcohol use is about twice that for the military than for civilians.

Among military personnel on the lowest pay grades, about 1 in 5 experience productivity loss due to drinking, 1 in 6 report serious consequences of drinking, and 1 in 10 report symptoms of alcohol dependence. Finally, heavy drinkers are more likely to report a higher number of days each month with mental health problems and the need for evaluation of depression.

While alcohol research is funded by the National Institute on Alcohol Abuse and Alcoholism at National Institute on Health (NIH) and the Department of Veterans Affairs, few studies funded by these organizations focus on prevention and treatment approaches that are specific to the needs of the military. Little is known about how prevention measures should be implemented in the unique social context of military work and life. Thus, the RSA urges the DOD to fund research into the causes, consequences, prevention and treatment of alcohol abuse and alcoholism among our military personnel who choose to serve their country in an environment quite different from civilian life.

Now, Alcohol research has reached a critical juncture, and the scientific opportunities are numerous. We have great advances over the last 2 or 3 years in terms of where we are going with our research in genetics, prevention, and in treatment as well.

In conclusion, the RSA urges the subcommittee to include alcoholism among the research topics listed under the DOD peer-reviewed medical research program for fiscal year 2003, and the RSA respectfully suggests to the subcommittee that the magnitude and consequence of alcohol misuse in the military calls for a dedicated, continuous, and focused alcohol research effort supported by the DOD.

Thank you, Mr. Chairman. I will answer any questions if you have them.

[The statement follows:]

PREPARED STATEMENT OF ROBERT TAYLOR

The Research Society on Alcoholism (RSA) appreciates the opportunity to present its views to the Defense Appropriations Subcommittee. RSA is a professional research society whose 1,400 members conduct basic, clinical, and psychosocial research on alcoholism and alcohol abuse. The Society's mission is to promote research that can lead the way toward prevention and treatment of alcoholism.

In recent years, our organization has submitted testimony to this subcommittee about alcoholism and alcohol problems in the military, a serious problem that compromises national preparedness and the health and safety of our military personnel. We have appreciated past support from the Congress by including alcoholism research among the recommended research areas for funding under the Department of Defense (DOD) Peer Reviewed Medical Research Program.

RSA was disappointed, however, that the fiscal year 2002 Defense Department Conference Agreement dropped alcoholism from the research projects to be funded under the Peer Review Program, especially after this Subcommittee listed alcoholism in the Senate fiscal year 2002 Defense Appropriations Committee Report (Senate Report 107-109).

The RSA respectfully requests that the Subcommittee include alcoholism under the research topics recommended for funding under the DOD Peer Review Medical Research Program in fiscal year 2003. Statistics continue to show that alcohol abuse remains a significant problem in the military and is an issue of considerable relevance to troop performance and the safety of our service personnel.

Although the Peer Reviewed Medical Research Program created by Congress in fiscal year 1999 is still relatively new, the DOD reported that projects funded in fiscal year 1999 and fiscal year 2000 produced interesting research outcomes, ranging in areas from the basic research biology of alcoholism to clinically applicable findings research. For instance, in the topic area of alcohol abuse, a research team at Tripler Army Medical Center showed that even short-term alcohol abuse, equivalent to 3 days of binge drinking, can alter the hydration status of the individual 18 hours after the last drink of alcohol.

In the military, the costs of alcoholism and alcohol abuse are likely to be enormous. Heavy drinking among military men is over 40 percent more prevalent than in the civilian sector. Among young men aged 18 to 25, the rate of heavy alcohol use is about 1.8 times higher for the military than for civilians. According to the 1998 Department of Defense Survey of Health Related Behaviors Among Military Personnel, the most recent survey the Department has conducted on health related behaviors in the armed services, one in four young military men engages in heavy drinking, defined as having five or more drinks at least once a week.

The prevalence of heavy drinking is particularly high among service men that are not married (23.9 percent), those in the Army (17.2 percent) and Marine Corps (23.0 percent), and for personnel in the E1-E3 pay grades (25.9 percent). Further, among personnel in the lowest pay grades (i.e., E1 to E3), about 1 in 5 experiences productivity loss due to drinking (20.7 percent), 1 in 6 reports serious consequences of drinking (15.2 percent), and 1 in 10 reports symptoms of alcohol dependence (10.2 percent). Because these negative effects are most prominent among the junior enlisted personnel, the absolute numbers of personnel experiencing drinking problems are quite large. Finally, heavy drinkers are more likely to report a higher number of days each month with mental health problems and the need for evaluation of depression.

A research team at a national research center in Berkeley, California found that drinking rates of young adults prior to entering the military are about the same as their age cohorts in the general population. This year, this longitudinal study is seeking to explain how and why the drinking rates of military youth are higher after 2 years in service.

Importantly, although heavy alcohol use and associated negative effects have declined significantly since 1980 when the first DOD Health Survey was conducted, rates have been relatively stable over the past decade and there was no decline from 1995 to 1998. These findings stand in striking contrast to dramatic declines in rates of illicit drug use among military personnel over the same period, with a decrease from 37 percent in 1980 to 6 percent in 1998. The unchanging, high levels of heavy drinking and negative alcohol-related consequences highlight the critical need for more programmatic effort and resources directly targeting alcohol use in the mili-

tary. In the 1998 DOD survey, a substantial proportion of current heavy alcohol drinkers had a history of alcohol treatment since entering the military, indicating that they are at high risk for future alcohol-related problems and additional treatment episodes.

Research holds the promise of developing a better understanding of the etiology of alcoholism, more effective prevention programs and new and better methods for the treatment of alcoholism. While alcohol research is funded primarily at the National Institute on Alcohol Abuse and Alcoholism (NIAAA) at the National Institutes of Health and at the Department of Veterans Affairs (VA), few studies funded by the NIAAA and the VA focus on prevention and treatment approaches that are specific to the needs of the military. Little is known about how prevention measures should be implemented in the unique social context of military work and life. The Research Society on Alcoholism urges the DOD to fund research into the causes, consequences, prevention, and treatment of alcohol abuse and alcoholism among our military men and women who choose to serve their country in an environment quite different from civilian life.

We are poised at a time of unprecedented opportunities in alcohol research. Scientists are exploring new ways to prevent alcohol-associated accidents and violence, and prevention trials are developing methods to address problem use.

For the first time scientists have identified discrete regions of the human genome that contribute to the inheritance of alcoholism. Genetic research will accelerate the rational design of drugs to treat alcoholism and improve our understanding of the interaction between heredity and environment in the development of alcoholism. The field of neuroscience is another promising area of alcohol research. The development of more effective drug therapies for alcoholism requires an improved understanding of how alcohol changes brain function to produce craving, loss of control, tolerance, and the alcohol withdrawal syndrome. This knowledge is starting to bear fruit. Naltrexone, a drug that blocks the brain's natural opiates, reduces craving for alcohol and helps maintain abstinence. Ongoing clinical trials will help determine which patients benefit most from Naltrexone and how the drug can best be used. Naltrexone works best in conjunction with psychotherapeutic interventions. It is not known what adjunctive therapies would be most appropriate for the military population. Other promising treatment agents, such as acamprosate, are currently undergoing evaluation in the United States. The military needs to be part of this effort.

Alcohol abuse and alcoholism are devastating problems of national importance. The high rates of heavy drinking and associated problems among military personnel demand immediate and increased attention. Rates of alcohol use have remained unacceptably high for the last decade while most other health indicators in the military have shown substantial and clinically significant improvements.

Alcohol research has now reached a critical juncture, and the scientific opportunities are numerous. With the support of this subcommittee and the Congress, we believe that we can produce significant advances in alcohol research and aid in understanding and reducing the problem of alcoholism and alcohol abuse in the military.

Request.—The Research Society on Alcoholism urges the Subcommittee to support the following two initiatives:

(1) Include alcoholism among the research topics listed under the DOD Peer Reviewed Medical Research Program.

(2) Provide a \$10 million targeted allocation to a focused alcohol research effort that balances the increased morbidity, mortality, lost productivity, accidents, and an overall reduction in readiness caused by the high rate of alcohol abuse and alcoholism in the military with the abundance of research opportunities to more effectively prevent and treat alcohol dependence and alcoholism among the men and women serving in our armed forces.

Thank you for your consideration of these requests.

Senator INOUE. Dr. Taylor, I will take it upon myself to urge my colleagues to make certain that alcoholism is among the research topics listed under the peer-reviewed medical research program.

Dr. TAYLOR. Thank you, Mr. Chairman.

Senator INOUE. I thank you, sir. Our next witness is from the Lovelace Respiratory Research Institute, Edmundo Gonzales.

**STATEMENT OF DR. EDMUNDO GONZALES, ON BEHALF OF THE
LOVELACE RESPIRATORY RESEARCH INSTITUTE**

Dr. GONZALES. Thank you, Mr. Chairman. I am testifying on behalf of Dr. Rogene Henderson, who because of a flight that was canceled cannot be here, so she asked me to read her statement, with your indulgence.

Senator INOUE. Please do.

Dr. GONZALES. We thank the senior Senator from New Mexico, Senator Domenici, for introducing us. We in fact have a long past history in the area of respiratory research.

Chairman Inouye and members of the subcommittee, thank you for the opportunity to speak to you on this important matter. It is clear from the recent history that our Nation faces the risk of terrorist acts at home. The Lovelace Respiratory Research Institute (LRRI), because of its past Federal investments, has unique facilities and equipment that can be used to address the key questions related to the DOD mission and to the homeland security.

From its studies under the aegis of the Atomic Energy Commission on the health effects of inhaled fission products to the more recent studies on complex airborne pollutant mixtures, the LRRI has served the Nation's needs by providing information on how best to protect the public health from airborne noxious agents. Now the country faces threats from terrorism, and LRRI stands ready to again meet this country's needs.

The LRRI's ability to monitor, to characterize, and to define the health effects of chemical, biological, and radioactive agents can be marshalled to help diminish risk from scenarios of terrorist attack. Therefore, we propose the establishment of a national respiratory research initiative project at Lovelace.

The Lovelace program will include three major components. One is the establishment of the National Atmospheric Exposure and Decontamination Simulation Laboratory. This laboratory will allow simulation for combustion and explosion processes that study the dispersal, exposure, and cleanup scenarios for chemical, biological, and radioactive materials. The facility would be open to collaborative use by national laboratories, universities, and private companies engaged in federally funded R&D work of critical national importance.

The second component of the program will be the establishment of the Lovelace Institute Air Assault Science Center. This center will allow Lovelace scientists and collaborators to focus on issues directly related to these terrorist attacks. These will include studies in the dispersal of spores of biological agents, development of new detectors for identifying airborne biological agents, development of sampling strategies suitable for radioactive aerosols released from dirty bombs, development of protective technology for biological, chemical, or radiological active aerosols, and assessment of inhaled dose from various types of terrorist attacks.

The third component of the Lovelace program will be to provide scientific support for the DOD Center for Terrorism and Manpower Readiness efforts regarding health effects. These studies will include characterization of acute lung injury due to trauma and smoke inhalation. Continuation of our studies on the effect of low levels of chemical warfare agents on the immune system, studies

on protecting troops against adenovirus infectious agents, novel methods of health surveillance or early detection of bioterrorist attacks, study of lung disease risk from dirty bomb explosions, and development of models to predict toxicity of low doses of threat agents.

The Lovelace Institute has a longstanding record of focusing aerosol exposure and health research on important national issues related to inhaled toxic agents. Much of the fundamental facilities and equipment and expertise required to address these homeland security issues are already in place, but are engaged on other issues, but what we need is core funding to marshal these resources to meet specific homeland security research needs and to complement the existing physical and human resources necessary.

We wish to create a focused rapid response capability for working with the Department of Defense on their mission and other key agencies to provide real time information to military, law enforcement, and public health authorities when the threat is first identified.

[The statement follows:]

PREPARED STATEMENT OF DR. ROGENE HENDERSON, SENIOR SCIENTIST, LOVELACE
RESPIRATORY RESEARCH INSTITUTE

The Lovelace Respiratory Research Institute (LRRI) has an established national and international reputation for its ability to handle critical questions regarding the generation, monitoring and study of the toxic effects of airborne noxious agents. From its early studies of the health effects of fission products to its more recent studies on complex airborne pollutant mixtures, the LRRI has served the nation's needs to know how best to protect the public health from noxious agents. Now, as the country faces threats from terrorism, the LRRI stands ready once again to meet the country's needs. The LRRI's ability to characterize and define the health effects of chemical, biological, and radioactive agents, along with the history of delivering scientific answers, uniquely qualifies us to help diminish risk from scenarios of terrorist attack. Because of past investment, the Lovelace Institute has the facilities and equipment that allow our scientists to test exposure models for biological clues that lead to cures and preventives.

THE DEPARTMENT OF DEFENSE PARTNERSHIP WITH THE NATIONAL RESPIRATORY
RESEARCH INITIATIVE PROJECT

This Lovelace Initiative proposes the formation of a partnership with the DOD to address the national needs that now face our country. These proposed projects include: The National Atmospheric Simulation Laboratory, The Lovelace Institute Aerosol Science Center, and Projects Supporting Counter Terrorism and Manpower Readiness.

Accordingly, the Lovelace Institute is requesting \$10 million to advance this partnership with DOD with the following component projects:

The National Atmospheric Simulation Laboratory

The DOD faces serious challenges in developing force protection measures against chemical, biological, and nuclear (CBN) agents for personnel, facilities, supplies, and equipment in vulnerable off-battlefield locations such as supply, training, and staging areas (i.e., fixed and temporary bases), office buildings, housing and schools (including dependents and civilian personnel), supply depots, and transport (air, sea, and land operations). Actions against both DOD and civilian targets on 9-11 demonstrated the vulnerability to disruption of operations from fire and exposure to airborne combustion products and dusts from structural materials. The subsequent anthrax attacks demonstrated how easily small amounts of CBN materials, and the difficulty of implementing isolation and clean-up operations and determining readiness for return to normal service could disrupt operations. The "war on terrorism" is very likely to involve sporadic and poorly-anticipated enemy actions against personnel, facilities, and resources (e.g., water and food supplies) dispersed among civilian populations.

DOD requires an improved ability to predict, assess, and overcome off-battlefield threats to extremely diverse targets of CBN agents. DOD requires an improved knowledge of: (1) the dispersion of hazardous materials in physically-complex off-battlefield environments; (2) the rapid but thorough assessment of airborne and surface-deposited CBN agents in workplaces and residences (including contamination of personnel), storage areas, supplies and equipment; (3) the efficacy of alternate containment and clean-up strategies; and (4) the criteria for determining when safe operations can be resumed.

A laboratory for simulating combustion and CBN contamination, dispersal, exposure, and clean-up scenarios in off-battlefield DOD operations is necessarily a critical component of the strategy to improve off-battlefield force protection. Scenarios involving various "real-world" combinations of rooms, wall and floor coverings, furniture, ductwork, supplies, storage areas, equipment, and vehicles need to be duplicated for tests using real and simulated CBN agents under controlled conditions.

The capabilities of the government-owned Inhalation Toxicology Facility located on Kirtland AFB in Albuquerque, NM and leased to the Lovelace Respiratory Research Institute (recently renewed for 25-years) will be extended as a national resource for the conduct of research requiring simulation of human exposure atmospheres. This world-renowned facility is currently used by LRRI for its research requiring atmospheres of airborne materials for studies of environmental air pollutants, new aerosolized therapeutic agents, and hazards from specific chemicals.

This initiative will create a resource broader in capability than required by LRRI for its existing studies by: (1) enhancing portions of the facility to create additional capability to work with highly-hazardous chemical and biological agents and to simulate indoor contamination scenarios; and (2) actively opening the facility to collaborative use by national laboratories and universities, or private companies engaged in Federally-funded R&D work of critical national importance.

The Development of the Lovelace Institute Aerosol Science Center

A major threat of terrorist attack is in the form of exposure to the biological agents or radioactive aerosols from explosion of dirty bombs. In these scenarios, lethal or harmful aerosols of biological or radioactive materials are released and inhaled by people. The victims of the "anthrax attacks" were subjected to inhaling anthrax spores dispersed by opening mail and suspended in the air. Anthrax spores were used to kill persons who were exposed to the spores. Other biological agents are capable of a similar outcome. Explosion of a dirty bomb containing radioactive material could contaminate a wide area and cause acute and chronic effects in victims inhaling the radioactive aerosol.

As in the proposal submitted for the Exposure and Decontamination Simulation Laboratory, Lovelace has the specialized scientific ability needed to study aerosolized agents. These attacks demonstrated the ability to select victims (members of the U.S. Congress), use common ordinary delivery systems, and trigger the attack in a strategic and directed manner. Material for making dirty bombs is easy to obtain and could easily be used for terrorist attack. We do not know how much radioactive aerosol could be produced in such a scenario.

We also need to develop new detection instruments and evaluate the efficacy of control technology to minimize inhalation exposure. The proposed Lovelace Institute Aerosol Science Center will allow aerosol scientists at Lovelace to focus on issues directly related to terrorist attacks. Lovelace has acquired aerosol expertise relevant to bioterrorism and radioactive aerosol through collaborative works with Sandia National Laboratories for developing a detector of biological agents and by working with the Department of the Army to study radioactive aerosols from explosive environments. We propose to investigate the following issues:

- Mechanisms to disperse spores by opening envelop and contents leaking in mailrooms. We propose to study these phenomena in the Exposure and Simulation facility.
- Development and evaluation of new detectors for rapidly identifying airborne biological agents.
- Developing sampling strategy and air sampling instruments that are suitable for studying radioactive aerosol from dirty bombs.
- Development and evaluation of control and protection technology that is suitable to minimize exposure of biological or radioactive aerosols.
- Assessment of an inhaled dose of aerosol from a terrorist attack and determination of the potential health risks.

The Lovelace Institute has over 55 years of experience in aerosol science and represents a huge national resource in combating today's chemical, nuclear and biological threats through the air that we breathe. Already in place are the scientists, equipment, and laboratories to accomplish the technical goals listed above. What is

not in place is an infrastructure to accomplish these tasks rapidly in the face of a new real world threat such as occurred in the recent anthrax attack. Re-stated, what we propose to create is a rapid response team with the appropriate new equipment, operating procedures, pre-constructed protocols, pre-approved animal model studies and simulation laboratories to be able to immediately provide real-time information to military, law enforcement and public health authorities when a threat is first identified.

Specifically, expanding on the above list, we will create the systems to duplicate particular aerosol dispersal situations in the laboratory in such a way as to predict the area and rate of dispersal of a given aerosol, the magnitude of expected penetration into the airways and lungs, the most effective method of protection for individuals who must work in the presence of the aerosol and provide real time suggestions of technical solutions for mitigating the spread and cleansing the affected areas.

Along with the development of these rapid response capabilities, we will develop new technologies for on-site evaluation of the nature of the suspected or known aerosol including the ability to determine the size, density, porosity and "stickiness" of the suspect agent. Thus, a rapid response simulation laboratory plus the development of new on-site mobile technologies will be created to meet the current and expected future threats of dispersal of toxic or biologically active agents through an aerosol. Added to these capabilities will be expanded nuclear aerosol experience gathered over 50 years of work for the DOE in the study of the health effects of aerosolized radio nuclides.

Providing Scientific Support for DOD Counter Terrorism and Manpower Readiness

The Lovelace Institute is prepared to address major areas of concern in regard to the health effects of terrorist attacks, including, the effects of low-level exposure to nerve agents, the appropriate treatment of trauma-induced lung injury, and the protection of military personnel from opportunistic lung infections. The LRRRI proposes the following studies to address these and other concerns, to help improve the nation's homeland defense.

Characterization of Acute Lung Injury Due to Trauma or Smoke Inhalation

Bio-terrorism attacks often result in lung injury either from trauma due to explosions or from inhalation of smoke due to fires. Trauma-induced lung injury can lead to a condition known as acute respiratory distress syndrome (ARDS) in which the lung fills with protein-rich infiltrates and large numbers of neutrophils, leading to respiratory insufficiency. Another common lung injury in bio-terrorist attacks is due to smoke inhalation. This project will address the mechanisms involved in both types of injury using animal models of trauma- and smoke-induced lung injury. New proteomic approaches will characterize the lung response to such injuries and will point to new therapeutic approaches for the care of the affected individuals.

Effect of Chemical Warfare Agents on the Immune System

Although the nerve gas, sarin, has rarely been used in warfare, because of the ease and low cost of production, it is a tool of mass destruction in the hands of terrorist groups and rogue nations. The threat of nerve gas-related terrorism has become a major concern after the September 11th terrorist attack. While the people in the immediate vicinity of a nerve gas attack would be exposed to clinical/lethal doses, the majority of people surrounding the area are likely to be exposed to sub-clinical doses of the agent. In the 1994-95 Japanese subway sarin attacks, 19 people died and more than 6,000 people exhibited some degree of sarin toxicity, in spite of rapid medical attention. Many of the surviving victims have shown signs of immunodeficiency. Our preliminary results suggest that subclinical doses of sarin impairs T cell function, and the effects of sarin on the immune system are mediated through the central nervous system. Moreover, sarin-exposed animals have dramatically reduced serum glucocorticoid levels. To understand the cellular and molecular bases of sarin-induced immunosuppression, we propose to expose rats to subclinical doses of sarin by daily inhalation for 5 days. We hypothesize that the effects of sarin on T cell function are relayed through the sympathetic pathway of the autonomic nervous system, and might be reversed by treatment with ganglionic blockers. Moreover, changes in serum glucocorticoid levels might serve as a biomarker for cholinergic toxicity.

Protecting Against Adenovirus Infectious Agents

Adenoviruses of Subgenus B and E, including serotypes 3, 4, and 7, have been shown to be important causative agents of lower acute respiratory infections especially children and military training personnel. While much is known regarding the pathogenesis of adenovirus subgenus C viruses, these viruses are in general associated with very mild respiratory disease. Currently, no animal models of patho-

genesis of subgenus B and E adenovirus-induced pneumonia been reported. The proposed studies will provide new information regarding adenoviral-induced pneumonias that significantly impact and hinder the mobilization of new military training personnel.

This laboratory is currently investigating the pathogenesis of adenoviruses Ad 3, Ad 4 and Ad 7h, which have been isolated from patients. In a mouse model of pathogenesis, Ad 3 and Ad 7 cause significantly more lung inflammation as compared to Ad 5. Importantly, peribronchiolar and alveolar inflammation are markedly increased by subgenus B adenoviruses. Coinciding with increased lung inflammation, lung remodeling and epithelial cell injury are present during acute infection of Subgenus B adenoviruses. In addition, important lung homeostatic functions, such as fluid balance, host defense, and surfactant regulation are altered during acute infection. Current projects are elucidating the molecular mechanisms of altered lung function and increased pathogenesis in these novel animal models. Delineating the critical function of viral genes in the mechanisms of lung pathogenesis during acute subgenus B infections of the lung is also under investigation.

Host defense against adenoviral infections, particularly subgenus B adenoviruses has not been investigated. Previous work from this investigator has shown that the normal lung microenvironment contains proteins that modulate adenovirus infections in vivo. Future work from this laboratory will use a proteomics strategy to elucidate novel antiviral factors that mitigate adenoviral pathogenesis in the lungs of established animal models. Collectively, further understanding of the natural host defense mechanisms against adenovirus will provide important insight into therapeutic strategies against adenoviral-mediated lung disease.

The development of animal models to understand adenoviral pathogenesis, particularly to infection by adenovirus serotypes associated with severe disease in immunocompetent hosts, will be essential for the testing of antiviral and vaccine therapies. This laboratory is focused toward understanding molecular mechanisms of lung pathogenesis and altered lung function during acute adenoviral infection. Genomic and proteomic strategies will allow rapid assessment of important mediators in both effector functions of pathogenesis, as well as viral host defense of the healthy lung. Likewise, elucidation of important viral-host interactions will provide novel information regarding adenoviral-mediated lung disease in human populations and suggest potential targets for intervention.

Mechanisms of Dispersion of Biological Agents

After the September 11th terrorist attack, Americans have also been the victims of bioterrorism. Anthrax spores were used to kill selected persons. These biological agents were in powder form inside the mail. Some of the spores were dispersed by opening the mail and some just leaked out of the envelope. The dispersed spores were suspended in the air and caused respiratory symptoms by inhalation. There is no systematic study of the mechanisms of dispersion of biological agents and therefore, it is difficult to adopt an effective preventive method for this type of bioterrorist act. The objectives of the proposed study are (1) to understand the mechanisms of dispersion of biological agents during mail opening and leaking, (2) to investigate inhalation of the dispersed spores, (3) to assess the risk of the inhaled biological agent, and (4) to develop preventive methods for minimizing dispersion of biological agents. These studies will improve understanding of how the biological agents are dispersed and inhaled by exposed persons as well as help to develop preventive measures.

Novel Methods of Health Surveillance for Early Detection of Bio-terrorist Attacks

Problems in detecting a bioterrorist attack are similar to problems encountered in detecting other disease outbreaks. Often small outbreaks are missed because of limitations in the diagnosis and reporting of diseases. Even large outbreaks can be missed when people do not seek health care, when laboratory tests are not performed or when the information is not relayed to public health officials. Detection can also be delayed until people are ill enough to justify seeking medical treatment. This occurred in several recent anthrax infections.

A series of studies were conducted at the Lovelace Respiratory Research Institute to evaluate novel methods to enhance disease surveillance. A study of nurse hot line data from Milwaukee, Wisconsin, showed more than a 17-fold increase in calls for diarrhea during the 1993 Milwaukee cryptosporidiosis outbreak. Moreover, consistent patterns of seasonal variation in diarrhea- and vomiting-related calls were detected from the Baltimore, Maryland and Albuquerque, New Mexico, hot lines. The study concluded that nurse hot line calls may provide an inexpensive and time-

ly method for improving disease surveillance and, as a result, would rapidly evaluate the potential effects of bioterrorist attacks.

We propose to modify nurse hot line information systems to add triage for specific bioterrorist events, test these modified systems and implement the systems in nurse hot line call centers. Lovelace Health Systems (LHS) is a supplier of nurse hotline protocols. In addition, LHS operates a nurse telephone triage service as does the University of New Mexico Medical Center. These are the only two call centers in Albuquerque. LHS is also part of a nationwide nurse hotline system operated by CIGNA Healthcare Systems. We propose to field test the modified nurse hotlines

Lung Cancer Risk Estimates for Aerosolized Materials (Beta-Emitting Radionuclides) from "Dirty Bombs"

Dirty bombs are low technology weapons containing radioactive materials that could potentially be used by terrorist groups. Radioactive materials (beta-emitting radionuclides) released into the air could be inhaled and cause early or late health effects in bystanders. Understanding the risk for health effects is necessary for managing such events. A U.S. Nuclear Regulatory Commission document (NUREG/CR-4214), completed in 1989, provides methods for estimating the radiological health risks of nuclear power plant accidents that can be used for evaluating nuclear terrorism related scenarios, including those involving dirty bombs. Since the publication of NUREG/CR-4214, data has become available that would significantly improve risk estimates for both early effects (pulmonary fibrosis) and late effects (lung cancer). Recent study of workers in the Russian nuclear weapons production has shown that early effects occurred at doses lower than expected based on the NUREG/CR-4214 models. In addition, lifespan studies in dogs have been completed at Lovelace Respiratory Research Institute that provide cancer data that is unavailable from studies of human populations. This experimental data will be used to refine the risks for health effects from inhaled radioactive materials that might be released from a dirty bomb. Improved risk estimates will assure that best information is being used to protect the health of the American public.

Development of a Model to Assess the Toxicity of Low Doses of Anthrax or Radiation

Dr. Scott's career has largely focused on developing models for predicting risk to humans from exposure to low doses of radiation. Risk models have been developed for stochastic effects of low-dose radiation (e.g. cancer induction) as well as for health effects (lethality and morbidity) that arise in humans after exposure to moderate and high doses. His risk models are used in the MACCS/MACCS2 codes developed at Sandia National Laboratories for the U.S. Nuclear Regulator Commission for nuclear accident risk assessment and in the corresponding European code COSYMA. The risk models have also been used by the National Radiological Protection Board in the UK for assessing consequences of nuclear incidents and have impacted on decision making for the U.S. Department of Defense related to exposure of military personnel resulting from a nuclear detonation. The risk models allow for evaluating risks for specific health effects of exposure to single radiations, combinations of different radiations (including from internal and external sources as may arise from a terrorist act) and for brief or chronic exposure. In addition to risk modeling, Dr. Scott has also been involved in respiratory tract dosimetry modeling for inhaled toxicants such as high-specific-activity plutonium oxide particles. He has introduced novel approaches to characterizing risk from inhaled toxicants when small numbers of highly toxic particles are airborne. For such scenarios, probabilistic descriptions of intake and risk are used. The Crystal-Ball-based computer program his research group developed assigns a probability for intake (via inhalation) of highly toxic airborne material (e.g. plutonium oxide) for exposure scenarios of interest and accounts for inter-individual variability in respiratory function characteristics as well as for variability in aerodynamic characteristics of the airborne toxicant. The dosimetry model can be applied to males and females and for different ages. The risk and dosimetry models used by his research group could be adapted for application to a variety of terrorist-related exposure scenarios for U.S. citizens (e.g. inhalation exposure to anthrax).

Senator INOUE. Do your studies and research suggest that your programs have potential for great success?

Dr. GONZALES. I am not a scientist, Mr. Chairman, but the success is the fact that we had completed our work on the studies of inhalation of fission radioactive products to the point that the Department of Energy felt that it was no longer necessary to com-

plete. We have done most of the work. Our scientists participated with the Russian incident in Chernobyl, and we are the experts in the area. We are used to accomplishing what we set out to do.

Senator INOUE. I thank you very much, Mr. Gonzales.
[The information follows:]

QUESTIONS SUBMITTED BY SENATOR PETE V. DOMENICI

Question. I understand that the \$10 million that Lovelace Respiratory Research Institute is requesting for partnership with the Department of Defense will be divided among three component projects. However, would you please provide us with a full accounting of how you expect these resources to be allocated between the proposed Simulation Laboratory, the Aerosol Science Center, and the Counter-terrorism support?

Answer. The projects will be conducted over a three-year period with the \$10 million allocated in the following manner:

	[In millions]	
Simulation Laboratory		\$3.6
Aerosol Science Laboratory		3.6
Counter-terrorism Support Activities		2.8
Total		10

More specifically:

Simulation Laboratory

A facility for simulating contamination/exposure environments is necessary to conduct research to improve detection, characterization, and mitigation of Nuclear, Chemical, and Biological (NBC) terrorism threats. The simple containment chambers used in past studies of aerosol dispersion and animal exposures to NBC agents do not adequately simulate the contents and complexity of real-world office, school/daycare, housing, workplace, vehicle, or outdoor public environments. Laboratories especially modified to simulate dispersion-contamination-clean-up scenarios and to conduct studies of biological agents are not only necessary for the aerosol dispersion and health research to be conducted by Lovelace, but are also necessary for validating detection and mitigation technologies developed elsewhere. The latter need is evident from agency contacts (DARPA, EPA) Lovelace has already received.

Existing government-owned facilities at the inhalation toxicology laboratory on KAFB will be modified using the requested funds to provide: (a) multiple (2–3) rooms capable of being configured to simulate different (e.g., the above) environments and having room-scale containment controls suitable for contamination with NBC agents followed by clean-up and re-use; (b) laboratories for secure storage of limited amounts of NBC agents and preparation of experimental set-ups; (c) laboratories for precisely-controlled exposures of animals to NBC agents other than in the simulation rooms; and (d) units for safely disposing of contaminated materials while maintaining complete separation of NBC hazardous materials from off-site public waste streams (sewage, landfill). The majority of the laboratories will be capable of operation at the biosafety P–3 level, with a small area capable of operation at the biosafety P–4 level. The requested funding will also allow conduct of initial “proof of concept” studies linking the Lovelace aerosol dispersion and health outcomes studies (described in accompanying sections) under realistic environmental conditions.

Although the simulation laboratory will be primarily used for studies funded wholly at Lovelace by DOD and other agencies, the facility will also be used by agencies to validate detection and mitigation technologies developed by other organizations (especially LANL and SNL). Agencies soliciting development of improved technologies through other funding mechanisms will require “test beds” in which alternate technologies can be compared under identical conditions. Moreover, the basic operations (safety, security, etc.) of the simulation laboratory will be continually staffed by Lovelace to facilitate its use as a “user facility” by other organizations (e.g., UNM) requiring P–3 or modest P–4 biosafety capability.

Aerosol Science Laboratory

The Aerosol Science Center will be devoted to the study of the release and dispersions of NBC agents under conditions of a terrorist attack. A major threat of terrorist attack is exposure to the NBC agents in the form of airborne particulates or aerosols. Biological aerosols such as anthrax spores and chemical agents can be

readily released into a room or other public areas. An explosion of a dirty bomb containing radioactive material could contaminate a wide area. The Aerosol Science Center will allow Lovelace scientists and collaborators to focus on issues directly related to terrorist attacks. These include:

- Studies of the dispersal of spores of biological agents,
- Development of new detectors for airborne biological and radioactive agents,
- Development of sampling strategies suitable for radioactive aerosols released from dirty bombs,
- Development of protective technology for NBC aerosols, and
- Assessment of inhaled dose from various types of terrorist attacks.

There is a need for additional and upgraded facility alternations and equipment that are more directly related to the completion of the studies envisioned for the Aerosol Center. These include upgrading: The aerosol generation and sampling equipment; the aerosol wind tunnels; and the testing facilities for nuclear and biological aerosols, and state-of-art aerosol instrumentation.

In the initial studies, we propose to examine the release of biological aerosols from envelopes and packages. This study will provide insights into the limitations and capabilities of bioterrorism. We will also study personal protection equipment for their efficiency in reducing exposure to biological agents. In addition to the DOD studies, the Aerosol Center in conjunction with the Simulation Laboratory, will serve as a validation laboratory for other agencies such as DOE, CDC and EPA to evaluate detectors, sampling strategies, and protection technology developed through other funding mechanisms.

Counter-terrorism Support Activities

The counter-terrorism support activities will address health effect issues related to the major types of agents that terrorists might use in attacks on U.S. citizens.

Nuclear Agents—\$1.8 million

Dirty bombs are low technology weapons containing radioactive materials that could potentially be used by terrorist groups to contaminate large areas with radionuclides. If such occurs, it will be essential to quickly evaluate the degree of contamination of individuals, so that appropriate triage measures can be taken.

The Lovelace studies will directly address this problem in a multifaceted approach. Animal studies will be conducted to determine the association between the degree of contamination and the presence of sensitive, easily available biomarkers of genotoxicity that can be measured in circulating blood lymphocytes. The animals will be exposed to simulated atmospheres from dirty bomb explosions, using information from our national laboratories on the appropriate source terms. The animal studies will provide data for use in mathematical modeling the dosimetry and the health risks from the exposures to allow quantitative health risk assessments for exposed individuals. Finally, we will develop a health surveillance strategy for rapid detection of bioterrorist attacks.

Biological Agents (Program and Costs for these studies are included in item II above.)

Biological weaponry, particularly microbes (anthrax) and viruses (smallpox), continue to possess substantial risk from bioterrorism. The contribution of Lovelace in this area will be in addressing the gap in our knowledge of how these agents are dispersed. These studies are described in the proposals for the aerosol science laboratory described above. No health studies are planned at Lovelace.

Chemical Agents—\$1.0 million

Nerve gases are chemical agents of terrorism that have already been used, for example, in the subways of Tokyo. While we know the effects of high levels of nerve agents, there is little information on the effects of the low levels of exposure that would be experienced by the vast majority of people involved in a terrorist attack. The LRR, through studies funded under the DOD Gulf War initiative, has already conducted studies on the effects of low-level exposure of animals to the nerve gas, sarin. The findings indicate that low-level exposures suppress the immune system and alter the density of muscarinic acetylcholine receptor sites in the brain. These initial findings must be followed up to determine the exact nature of the immune suppression and the effect of the altered receptor sites on behavior. These studies are essential to understand the appropriate treatment of persons exposed to low levels of nerve gas following a terrorist attack.

Question. After initial establishment of this partnership, what level of continued support would be required to sustain your research operations?

Answer. We anticipate two components to the funding of our proposed partnership with DOD: Alternation and Upgrade costs for the current facilities and equipment

mostly driven by items I and II; and multi-year funding for ongoing maintenance of these alterations, and for research programs in all three items I, II and III.

We foresee that the funding requested will cover a three-year period. In that time we anticipate completion of the setup of the simulation laboratory and the aerosol science facility. These facilities, once established, will be available for use by other institutions for facilitation of federally funded research related to homeland defense and for validation of tools developed by others for use in protection against terrorist attacks. Funding from these external agencies is expected to help support the maintenance of the facility. Therefore we estimate that funding required for maintenance of the facilities will be no more than \$0.5 million/yr.

To continue the health effects research described under the counter-terrorism support activities will require a collaborative agreement with the DOD to continue those parts of the research most pertinent to DOD needs. Good progress on the projects is expected to occur within the three-year period of support, but the projects are multifaceted, and will undoubtedly require additional support for follow-up on some key initial findings. The funding required would also depend, in part, on other research needs of the DOD that may arise. One might estimate that a continued support of \$3 million/yr would allow Lovelace to follow-up the earlier work and to respond quickly to new, urgent needs that may arise as the result of a terrorist attack.

Senator INOUE. Now may I call upon representatives of the Department of Software and Electrical Engineering, Mr. Frank Lutz and Dr. Frank Tepfenhart, and the dean of the School of Science, Technology and Engineering of Monmouth University. Dean Francis Lutz.

**STATEMENT OF DR. WILLIAM TEPFENHART, DEPARTMENT OF SOFTWARE AND ELECTRICAL ENGINEERING, SCHOOL OF SCIENCE, TECHNOLOGY AND ENGINEERING OF MONMOUTH UNIVERSITY
ACCOMPANIED BY DR. FRANCIS LUTZ, DEAN, SCHOOL OF SCIENCE, TECHNOLOGY AND ENGINEERING, MONMOUTH UNIVERSITY**

Dr. LUTZ. Mr. Chairman, we thank you for the opportunity to speak with you this morning about the increased threat of bioterrorist attacks we are facing and the important role defense funding should play in developing homeland security countermeasures that could reduce human suffering and the loss of life.

We recognize the important role the Centers for Disease Control and the Department of Health and Human Services play in the development of the biological and chemical countermeasures needed in an attack, but we believe strongly that the Department of Defense should take a lead in developing the logistics software information and engineering systems capability that will be needed to recognize and respond rapidly to a bioterrorist attack.

The science and technology programs within defense have always been important to the conduct of basic and applied research by the engineering and science education communities. These programs enable new initiatives that sustain the technological currency of our defenses. Now they can and should also enhance our capacity to respond more rapidly to the consequences of covert bioterrorist attacks. Monmouth University wants to meet the need to develop a coordinated information system that can quickly identify patterns of research resulting from such attacks.

We have natural sources of disease that can escalate into a problem of frightening proportions. Now we also have enemies of the State that would celebrate the spread of a deadly disease throughout the American populace. A major health threat can arise anywhere and spread like wildfire. Responses to health threats are for the most part local. It is at a local doctor's office or a local hospital

that a patient will be diagnosed and treated. The county health department likely will be the first line of defense in containing a disease. A failure at the local level to respond rapidly and appropriately could escalate a problem into a catastrophe.

We want to provide information systems that allow local, county, and State health departments to be a coordinated first line of defense. Our first effort toward this goal is a rapid response system. It is intended to provide early warnings of health threats, identify correct responses, task appropriate resources, and track the evolution of the problem. By providing the ability to more rapidly identify and correctly respond to a health threat, we hope to limit the number of illnesses and fatalities associated with a given outbreak.

The rapid response system will contain a database that captures the current and past state of health within the community. This data can be processed using epidemiological models to predict the future. Variations from those expectations indicate possible problems and alert the county that actions are necessary.

Once an alert has been triggered, the correct procedure for responding to the problem can be identified. Responses must take into account requirements for isolating infected individuals for distribution of medications, maintaining public order, and so on. Appropriate response is built upon knowledge about roads, waterways, population distributions, and structures for use as emergency shelters.

As we have seen with our national intelligence agencies, it is necessary to share information among all affected agencies in order to prevent catastrophic events. The same is true within the health services community. The rapid response system will utilize and exploit data bases located at hospitals, veterinary hospitals, schools, nursing homes, and other local sources that contain data about the state of health at the county level. It will provide data to State and national systems. This kind of information-sharing enables a coordinated State and/or national response to a health threat.

As of today, the number of victims of the attack on the World Trade Center who are Monmouth County, New Jersey residents totals 147. Too many of us know a victim or a victim's family member.

Mr. Chairman, we appreciate the opportunity that you have given us to present our efforts, and we add our thanks to those of others to you and the committee for your continued support of the science and technology programs within Defense.

Thank you.

[The statement follows:]

PREPARED STATEMENT OF DR. WILLIAM TEPFENHART

Mr. Chairman, members of the committee, I thank you for the honor to speak with you this morning about the increased threat of bio-terrorist attacks we are facing and the important role defense funding should play in developing homeland security counter measures that could reduce human suffering and loss of life. We recognize the important roles that CDC and HHS play in the development of the biological and chemical counter measures encountered in an attack. But we believe strongly that DOD should take a lead in developing the logistics, software engineering and information systems capability we will need to recognize and respond rapidly to a bio-terrorist attack.

We know how important the Science and Technology Programs within Defense have always been to the conduct of basic and applied research by the engineering

and science education communities. These programs enable new initiatives that sustain the technological currency of our defenses. Now they can, and should, also enhance our capacity to respond more rapidly to the consequences of covert bio-terrorist attacks.

Monmouth University wants to meet the need to develop a coordinated information system that can quickly identify patterns of disease resulting from a covert bio-terrorist attack. We believe that it is not so much a matter of if a health threat of major proportions arises, but when. We have natural sources of disease that can escalate into a problem of frightening proportions. We have enemies of the state that would celebrate the spread of a deadly disease through the American populace. Already, anthrax has been delivered through our mail as a weapon of terror.

A major health threat can arise anywhere and at anytime. It can spread like wildfire through the population. Responses to health threats are, for the most part, local. It is at a local doctor's office or hospital that a patient will be diagnosed and treated. The county health department shall be the first line of defense in containing a disease. A failure at the local level to respond rapidly and appropriately will enable a problem to escalate into a catastrophe.

At Monmouth University, we want to provide information systems that allow local, county and State health departments to be a coordinated first line of defense. Our first effort towards this goal is the Rapid Response System. It shall provide early warnings of health threats, identify correct responses, task appropriate resources, and track the evolution of the problem. By providing the ability to rapidly identify and correctly respond to a health threat, we hope to limit the number of illnesses and fatalities associated with a given outbreak.

The Rapid Response System shall contain a database that captures the current and past state of health within the community. This data shall be processed utilizing epidemiological models to predict the future. Variations from expectations shall indicate possible problems and alert the county that actions are necessary. The introduction of a new disease into the region will also trigger alerts.

Once an alert has been triggered, the correct procedure for responding to the problem shall be identified. Responses are all encompassing. It is necessary to take into account requirements for isolating infected individuals, distribution of medication, maintaining public order, and other social factors. Appropriate responses shall build upon knowledge about roads, waterways, population distributions, and structures for use as emergency shelters. A response must be thorough to be effective.

As we have seen with our national intelligence agencies, it is necessary to share information among all affected agencies in order to prevent catastrophic events. The same is true within the health services community. The Rapid Response System shall utilize and exploit data bases located at hospitals, veterinary offices, schools, nursing homes, and other local sources that contain data about the state of health at the county level. It shall provide data to State and national systems. This kind of information sharing enables a coordinated State and/or national response to a health threat. It is only by taking such a broad view to the problem that we can limit the consequences of major health threats.

As of today, the number of victims of the attack on the World Trade Center who were Monmouth County, New Jersey residents totals 147. Many of us know a victim or a victim's family member.

Monmouth University is committed to making America a safer place to live. We appreciate the opportunity that you have given us to present our efforts. We look forward to the collaboration needed to develop this rapid response capability.

Thank you.

Senator INOUE. Has your university started any program to develop this rapid research response center?

Dr. LUTZ. We are in the process of trying to form coalitions locally so we could have the capability to develop the center as soon as we can.

Senator INOUE. And you feel you do have the capability?

Dr. LUTZ. Yes, sir.

Senator INOUE. Dr. Tepfenhart.

Dr. Tepfenhart: We have given our statement together. I am here to answer any technical questions you may have. Thank you.

Senator INOUE. Thank you, and we will study your proposal.

Dr. LUTZ. Thank you very much.

Senator INOUE. Our next witness is from the University of Tulsa, Oklahoma. Dr. Tom Landers.

**STATEMENT OF DR. THOMAS L. LANDERS, EXECUTIVE DIRECTOR,
CENTER FOR AIRCRAFT AND SYSTEMS/SUPPORT INFRASTRUC-
TURE, ON BEHALF OF THE COALITION OF OKLAHOMA INSTITU-
TIONS OF HIGHER EDUCATION**

Dr. LANDERS. Good morning, Mr. Chairman. I am statewide executive director of the CASI Center, which is the Center for Aircraft and Systems Support Infrastructure, which is a coalition of Oklahoma universities, including Tulsa University of Oklahoma and Oklahoma State University. We appreciate the opportunity to present testimony about the motivating national interest for CASI and our approach to serve those needs.

Modern aircraft fleets, both military and civilian, have become increasingly expensive to develop, maintain, and operate, yet the DOD mission requires the fighting force capable of high readiness and mobility, so we continue to rely on our existing inventory of aircraft, many of which are aging systems, as referred to earlier this morning in the testimony by the American Society of Mechanical Engineers. An example is the KC-135, our primary air-to-air refueling platform, used heavily in Operation Enduring Freedom.

The fleet has an estimated replacement cost of \$40 billion. Every effort must be made to promote fleet readiness in this time of mobilization and to prolong the fleet life ultimately to as much as 80 years. Thus, the maintenance, repair, and overall capabilities of the Air Force's logistics centers are vital to force readiness in support of the war-fighter. The engineering and management challenges in this arena are not less than those for new weapons systems, and thus require the best of Government, industry, and university partnership. We gratefully acknowledge Congress' incremental funding to DOD for the CASI program in the past 2 years, and I might add that we appreciate the support of the Oklahoma Regions for Higher Education and the universities, which have invested about \$1 million in center infrastructure and project cost-sharing in the center's start-up phase.

Since Oklahoma is an EPSCoR State, and you have heard testimony earlier this morning about EPSCoR, I might add that the vision for this center emerged from the Oklahoma EPSCoR process.

One of the many successful CASI projects last year illustrates our potential impact on force readiness. It involved technology for maintenance of the B-1 bomber Pitotstatic Probe Interface, which is essential for aircraft flight control of the B-1 and other weapons systems employed during Operation Enduring Freedom.

Due to active project participation by our faculty, students, civilian engineers of the Air Force, and uniformed maintainers, that team approach has resulted in very successful and rapid adoption by the Air Force, so the Air Force is estimating that the annual cost savings resulting from that will be at least \$500,000 per year, which is like a 1-month payback on that \$30,000 project. But perhaps more importantly, the capacity to generate sorties, bombing missions, is increased through compression of the aircraft's turn-around cycle by a factor of 7 to 1, from 2 weeks to 2 days.

Today we respectfully request an additional \$8 million of congressional incremental funding in the pending fiscal year 2003

budget. The Air Force has defined and prioritized the use of previous funding, and will do so for the fiscal year 2003 funding. Plans include an expanded program of summer quick-look projects such as the B-1 project that I mentioned. In-depth engineering support and technology insertion activities on these and other priority issues for the logistics centers, education and training programs to meet those centers' workforce needs of the future, and augmentation of technical and programmatic capabilities at the CASI universities so they will be able to better support in the future, in addition to further engagement of our regional universities, including the University of Central Oklahoma, and Langston University.

Over the past 3 years, the CASI Coalition has become a credible partner of the Oklahoma City Air Logistics Center. We seek to provide expanded service to them and to other DOD logistics centers, and the requested funding is viable to grow the center toward that end.

Thank you, and may I answer any questions.

Senator INOUE. Dr. Landers, thank you for your testimony. We will certainly look into this as we proceed into the markup. Thank you very much.

Dr. LANDERS. Thank you.

[The statement follows:]

PREPARED STATEMENT OF THOMAS L. LANDERS

Mr. Chairman and members of the Subcommittee, we thank you for the opportunity to submit this testimony for Oklahoma's Center for Aircraft and Systems/Support Infrastructure (CASI). This testimony will identify the motivating national interest and describe the CASI approach to serve those needs.

We gratefully acknowledge Congress's incremental funding for the past year to the Department of Defense in the amount of \$3 million for the CASI program. Today we respectfully request an additional \$8 million in the pending fiscal year 2003 budget. The Air Force is actively leading the definition and prioritization of initiatives to utilize the proposed incremental funding. Plans include an expanded program of summer collaborative initiation projects, in-depth problem solving on these and other priority topics, collaborative engineering support/technology insertion activities, education/training support, augmentation of technical and programmatic capabilities at the CASI universities, and expansion of statewide participation by regional universities.

STATEMENT OF NATIONAL INTEREST

The United States is operating in a new era that requires a military force capable of high readiness and mobility. The aircraft fleets to support this mission have become increasingly expensive to develop, maintain, and operate. Fewer new aircraft are being built and the existing fleets must be retained in service periods that, in some cases, dramatically exceed the original design lifetime. For example, the C/KC-135 fleet is scheduled for retention in the operational inventory until the year 2040, when the average aircraft age will approach 80 years. Thus, the maintenance, repair, and overhaul (MRO) capabilities of the Air Force's Air Logistics Centers (ALCs) are vital to force readiness in support of the warfighter. The Oklahoma City Air Logistics Center (OC-ALC) at Tinker Air Force Base supports the C/KC-135 and other aircraft fleets and systems. Although MRO costs of these aircraft are rapidly increasing, fleet replacement is both expensive (e.g. \$40 billion for the existing fleet of more than 600 C/KC-135 aircraft) and lengthy (years before initial availability and decades for full fleet replacement). The technical challenges of maintaining an aging fleet are comparable to, and in some respects exceed, those in development of new aircraft platforms and systems.

The OC-ALC and other military aircraft programs and logistics facilities rely extensively on aircraft original equipment manufacturers (OEMs) and secondary engineering support firms to establish and update aircraft maintenance technologies and practices. However, the private sector sometimes lacks the specific expertise needed at the critical times to fully support the ALCs. There is also a need for an inde-

pendent source of alternative approaches, innovations, translational R&D, and new technology insertion. Oklahoma's research universities can partner with private-sector firms to provide this timely infusion of necessary expertise under the CASI framework and utilizing DOD contracting mechanisms. Several firms have already engaged CASI to provide specialized and complementary expertise.

CASI MISSION AND APPROACH

CASI is the first academic entity of its type in the nation focusing on creation of a state-wide, multi-disciplinary approach for conducting applied research and development, modeling, technology insertion, and engineering support activities for aircraft MRO sustainment. CASI has been organized under the aegis of Oklahoma's State Regents for Higher Education to provide a single point of contact through which the aviation community may access the capabilities of universities in the State. CASI supports public and private-sector partners with economics-based life-cycle engineering, management methods, and technology insertion to assist aircraft fleet owners in increasing readiness, lowering maintenance cycle times and costs, promoting environmental compliance, and improving safety.

The comprehensive universities primarily responsible for CASI administration are the University of Oklahoma System, the University of Tulsa, and the Oklahoma State University and A&M System. These systems of higher education include main campuses in Norman, Tulsa, and Stillwater, respectively; system campuses such as Cameron, Langston, and Northeastern Oklahoma A&M; and the University of Oklahoma Health Sciences Center. Langston University is the CASI Affiliate institution, providing expertise in information technology and Center outreach. Other regional institutions such as the University of Central Oklahoma and Cameron University are also involved, in technical topics such as corrosion electrochemistry and digital design capture. Representatives on the CASI Board of Directors act under the authority of the Vice-Presidents of Research at the respective universities. The Board includes Dr. John Nazemetz of Oklahoma State University (Co-Director), Dr. James Sorem of the University of Tulsa (Co-Director), and Dr. Thomas Landers of the University of Oklahoma (Executive Director).

The OC-ALC Technology Thrust Areas represent the kinds of engineering support required by the Air Logistics Centers: Structural/Materials, Avionics/Electronics/Software, Information Technology, Environmental, and Depot Industrial Processes. Expertise is dispersed throughout Oklahoma's Higher Education System corresponding to these requirements, including:

- Corrosion management, high performance materials, aircraft coatings, and ultra-precision surface finishing methods.
- Fatigue and fracture mechanics.
- Modeling, simulation, and forecasting for reliability, physics of failure, and logistics.
- Supportability and economic cost-of-ownership modeling and business management.
- Hazardous waste stream abatement, remediation, advanced environmental monitoring methods, and pollution prevention technologies.
- Industrial, manufacturing, and human factors engineering (e.g., man-machine studies, resource allocation, machining and metrology, process improvements, material handling and logistics, metrics and benchmarking, and industrial hygiene).
- Information Technology in cyber-security and in the product realization and sustainment process, including digital collaborative design, database management, and data mining.
- Avionics and ground electronics supportability applications such as real-time aircraft health assessment, fault isolation and detection, repair verification testing and calibration.

In fiscal year 2000, the CASI consortium established a cost-share program designed to stimulate the CASI collaboration with the OC-ALC and other air logistics centers. The Oklahoma Experimental Program to Stimulate Competitive Research (EPSCoR) office, Oklahoma State Regents for Higher Education, and CASI universities provided seed funding for this initiative. The State Regents and CASI universities have also invested substantial resources over \$1 million to develop the center infrastructure, including Center leadership and activation of contract mechanisms. The State cost share programs have fostered several new technology insertion activities with collaborating entities at the OC-ALC.

During the past 3 years, CASI faculty and students have initiated approximately \$6 million in projects supporting OC-ALC through contracts managed by firms in the private sector. These projects span the five Technology Thrust Areas. Five

projects (5 faculty) in summer of 2000, 19 projects (23 faculty) in summer 2001, and 18 projects (23 faculty) in summer 2002 have initiated collaboration with mission-critical programs at OC-ALC. These summer projects immerse the faculty and students in the problem domains and foster both short-term benefits to force readiness and long-term benefits to the growing partnership. Two projects in Summer 2001 demonstrate the positive impact of CASI work on force readiness, particularly in terms of reduced costs and process cycle times:

—*B-1B (Lancer) Pitotstatic Probe Interface.*—This project involved development of leak-testing and calibration apparatus, technology and process, significantly benefiting B-1B force readiness. The project resulted in estimated cost reductions of \$500,000 per year (a 1-month payback) and compression of the calibration cycle time by a factor of 7:1, from 2 weeks to 2 days. The Air Force anticipates rapid force adoption due to active participation and highly favorable reception by maintenance staff.

—*E-3A (AWACS) Torque Tube Reengineering.*—This project involved rapid prototyping and reverse engineering, resulting in a viable sourcing of scarce replacement parts. Through substitution of machined aluminum for cast titanium, replacement parts may be fabricated by a wide range of small businesses or even on base at the ALC in a few days. The previous sourcing required a lead-time of months.

CASI is also participating in the OC-ALC Science and Engineering Career Panel (SECP) to define requirements and develop strategies for meeting OC-ALC hiring needs in these critical career fields associated with expanding workload and impending retirements during the next decade. The CASI program introduces students to ALC mission and career opportunities.

CASI faculty have begun entering into strategic relationships to provide technology support for DOD systems maintained at sites outside of Oklahoma, including the Ogden Air Logistics Center (OO-ALC) at Hill Air Force Base in Utah and the Warner Robins Air Logistics Center (WR-ALC) at Robins Air Force Base in Georgia.

Senator INOUE. Now may I call upon the director of biodefense, University of Medicine and Dentistry of New Jersey, Dr. Nancy Connell.

STATEMENT OF DR. NANCY CONNELL, DIRECTOR, THE CENTER FOR BIODEFENSE, UNIVERSITY OF MEDICINE AND DENTISTRY OF NEW JERSEY

Dr. CONNELL. Greetings, Mr. Chairman, members of the committee. My name is Dr. Connell, and I am the director of the Center for Biodefense at the University of Medicine and Dentistry of New Jersey (UMDNJ).

I would like first to thank the committee for its support of the Center for Biodefense over the past 3 years. UMDNJ is the Nation's largest freestanding public university in the health sciences. Located on five statewide campuses, the university is well-positioned to respond to chemical and biological terrorist attack through our expertise in infectious disease research and statewide resources in public education, training, emergency response, and planning.

The Center for Biodefense was created in 1999 in anticipation of the possibility of bioterrorist attacks taking place in the United States. We are a truly collaborative effort engaged with State and local organizations such as the New Jersey Department of Health Office of Emergency Management to enhance our current capabilities and ensure consistency with their plans to coordinate activities in their fight against terrorism.

With the support of this committee, UMDNJ has achieved over \$8 million in targeted appropriations to develop the center's programs in research, education, training, public health, and emergency response. Funding secured for the center for fiscal years 2000 and 2001 is focused on research to better understand the

human immune response to infection by a wide range of agents. Through proposals accepted by the U.S. Army medical defense research program, we at the center aim to develop faster, more efficient methods of identifying specific infections.

Using gene chip technology, by the end of 2002 staff at the center will have characterized and compared the genetic response of human cells to infection by nine different agents, most of them select agents, including anthrax. We hope then to be able to differentiate one infection from the other by scrutinizing the immune response of the victim, and not by trying to identify the presence of the organism itself.

In fiscal year 2003, the center will continue this work by testing new Deoxyribonucleic Acid (DNA) chips designed to display genetic sequences to allow for this rapid screening and positive identification of the presence of the agent in question. Experiments conducted by the center over the last 2 years is using large amounts of data for UMDNJ scientists to draw upon in developing new directions in basic research in infectious diseases such as immunotherapy and vaccine.

We respectfully request funding of \$4 million for the Center for Biodefense to enhance and expand our scientific research agenda. The center's high containment biosafety level 3 laboratory facilities act as a backup or surge capacity lab in the event that the New Jersey State labs are again overwhelmed by a State or national emergency.

UMDNJ is respectfully seeking \$2 million to upgrade and maintain its Biohazard Safety Level (BSL)-3 capabilities at a state of constant readiness and to expand its existing facilities in order to provide additional surge capacity and backup support for New Jersey and regional State laboratories in the event of another bioterrorist event.

The center's other activities include emergency response planning, education, and training. In the wake of the 1993 attack on the World Trade Centers, the university hospital Emergency Medical Services (EMS) set up a mutual aid compact with New York City in the wake of that first attack in 1993. As you all know, New York City lost communications and incidence command when the trade towers fell. What you may not know is that it was UMDNJ's emergency medical department and the center staff who were able to replace fallen communications, command facilities, and personnel in a fully coordinated manner for several weeks following the September 11 attack.

New Jersey's overall response was a triumph of interagency cooperation, and the work accomplished by UMDNJ and the center leading up to this event was a major contributor to the State's achievements and the entire region's response to the worst terrorist attack in U.S. history.

Support received from Congress in fiscal year 2002 is enabling the center to establish a statewide system of equipment, personnel, and training to further enhance the capabilities of New Jersey's first responders to react to and mitigate a mass casualty event. In fact, UMDNJ is already playing a significant role in the forthcoming expansion of surveillance activities in the State by training

epidemiologists and improving infrastructure in local and county health departments.

Practical lessons in epidemiology surveillance and other public health issues are already presented to local and State officials through the center's educational program. Since October 2001, more than 100 presentations have reached target audiences in most of the State's 21 counties, including law enforcement agencies.

Support is formally and respectfully requested to address these kinds of requirements for the center's mass casualty response system, and to expand its training of emergency responders and public health officers on strategies to combat terrorism, and this would include development of a local statewide real time surveillance system.

The Center for Biodefense is playing a critical role in the counterterrorism and bio defense activities within the State of New Jersey. We believe that a comprehensive approach encompassing research, education, public health initiatives and emergency response represents a model that could be successfully emulated in other regions of the Nation. We stand ready to offer our expertise to further our country's homeland defense initiatives.

We wish again to thank the members of the committee for past support of UMDNJ's bioterrorism efforts and applaud the critical role you play in meeting our Nation's needs to prepare for these emerging threats.

Thank you very much, and I will take questions.

Senator INOUE. The members of the subcommittee looked upon this as the Lautenberg project. We will do our best to continue it.

Dr. CONNELL. Thank you very much.

[The statement follows:]

PREPARED STATEMENT OF DR. NANCY CONNELL

Mr. Chairman and honorable members of this committee, my name is Dr. Nancy Connell and I am the Director of the Center for BioDefense at the University of Medicine and Dentistry of New Jersey—New Jersey Medical School.

The University of Medicine and Dentistry of New Jersey (UMDNJ) is the largest freestanding public university of the health sciences in the country. The University is located on five statewide campuses including three medical schools, and schools of dentistry, nursing, health related professions, public health and graduate biomedical sciences. UMDNJ comprises a University-owned acute care hospital, three core teaching hospitals, an integrated behavioral health care delivery system, a statewide system for managed care and affiliations with more than 200 health care and educational institutions statewide.

UMDNJ is home to the International Center for Public Health, a strategic initiative that has created a world-class infectious disease research and treatment complex at University Heights Science Park in Newark, New Jersey; the New Jersey Medical School National Tuberculosis Center, one of only three model TB Prevention and Control Centers in the United States funded by the Centers for Disease Control (CDC); the Center for Emerging Pathogens at the New Jersey Medical School, which serves as a focus for infectious disease research; the Environmental and Occupational Health Sciences Institute (EOHSI), a joint venture of UMDNJ and Rutgers University, recognized as one of a select number of national centers of excellence by several Federal agencies; and a statewide system of Level I and II Trauma Centers.

In addition, UMDNJ plays a dominant role in providing continuing education and outreach in all aspects of emergency preparedness. Basic and applied research among the UMDNJ campuses directly addresses the biomedical implications of biological and chemical weapons and appropriate response in the event of their use.

UMDNJ's scientific and academic expertise uniquely positions us to develop a comprehensive, statewide program to combat chemical and biological terrorist attacks. With the strong support of the committee, UMDNJ has achieved over \$8 mil-

lion in Congressional targeted appropriations to develop a Center for BioDefense in New Jersey, with programs focused on research, education, training, public health and emergency response. The Center is engaged with various local and State organizations, such as the New Jersey Office of Emergency Management, the New Jersey Department of Health and Senior Services, and the Newark Department of Health to enhance current capabilities, ensure consistency within contingency plans and coordinate the Center's role in the fight against terrorism.

UMDNJ established the Center for BioDefense in 1999 in anticipation of the possibility of bioterrorism attacks taking place in the United States. This foresight proved timely, as the country was subjected to an unprecedented release of a bioweapons agent, *Bacillus anthracis*, in the fall of 2001.

Congressionally directed appropriations of \$3.2 million secured for the Center in fiscal year 2000 and 2001 are focused on scientific research to better understand the human immune response to infection by a wide range of agents. Through proposals accepted by the U.S. Army Medical Defense Research Program, scientists at the Center aim to develop faster, more efficient methods of identifying specific infections.

This work is vitally important in protecting all Americans, especially in the event of multiple and simultaneous use of biological weapons.

Researchers at the Center theorize that detecting the use of a bioweapons agent, such as anthrax or plague, could be accomplished by looking at the host's cellular response within the first few hours after infection. This is because within minutes of infection the body mounts an immune response. Researchers can then determine whether early infection leads to specific profiles of gene expression, a characteristic pattern that can differentiate one infection from another. Using gene chip technology, by the end of 2002, staff at the Center will have characterized and compared the genetic response of human cells to infection by nine different agents, including anthrax. The other agents that are being studied are plague, tularemia, glanders, hantavirus, dengue virus, influenza virus, monkeypox and multidrug-resistant TB.

In fiscal year 2003, the Center for BioDefense will continue this work by amassing the data collected so far and testing new "DNA chips" that will be designed to display sequences allowing for the rapid screening and positive identification of the agent in question. Additional experiments will focus on understanding the functions of the genes identified in the first 2 years of the funded research. During 2001–2002, Center scientists will have identified key aspects of the human immune response to infection by listed agents. These experiments will yield large amounts of data for UMDNJ scientists to draw upon in developing new directions in basic research in infectious diseases, such as immunotherapy and vaccines. For example, last fall neurochemists at UMDNJ-New Jersey Medical School predicted the long-term effects of exposure of neurons to anthrax toxins and began studies of the molecular basis of these interactions. We now know, as we predicted, that many of the victims of last fall's attacks who recovered from inhalation anthrax have lasting neurological problems. UMDNJ respectfully requests funding of \$4 million for the Center for BioDefense to enhance and expand its scientific research agenda.

In addition to research, the Center for BioDefense is playing an increasingly important role in all other areas of counter-terrorism and biodefense activities within the State of New Jersey and across the nation.

The Center's high containment (BSL-3) laboratory facilities act as a backup, or surge capacity lab, in the event the New Jersey State labs are overwhelmed by a State or national emergency. This is an important element in the State's planning and response to the anthrax outbreak last year. In addition, Center staff in the BSL-3 labs offer resources and assistance to law-enforcement agencies for specialized training in such topics as recognizing a clandestine biological laboratory. Staff expertise and BSL-3 support is lent to industry and other academic institutions as well.

In order to remain at the cutting edge of biodefense research, and to remain a resource in the war on terrorism, UMDNJ is proposing to upgrade, expand and maintain the BSL-3 laboratory. Support of \$2 million is respectfully sought to maintain the current BSL-3 Lab at a state of constant readiness and to upgrade and expand existing facilities. These enhanced laboratory facilities will provide additional surge capacity and back-up support for the NJ State laboratories in the event of a bioterrorist event.

The Center's other activities include emergency response planning, education and training. The Center and UMDNJ's extensive Emergency Medical Services (EMS) department were planning, preparing, exercising and training with New Jersey's first responders and alongside New York EMS and law enforcement personnel long before September 11th. A mutual aid compact had been implemented following the first World Trade Center bombing years ago. On September 11, when New York offi-

cials had to ask many to withhold their help because it could not be effectively integrated into their emergency operations, these officials actually reached out to the Center for BioDefense and UMDNJ, along with the New Jersey State Police, and requested their assistance. Having co-trained with New York personnel for years, UMDNJ and Center staff were able to replace fallen communications, command facilities and personnel in a fully coordinated manner for several weeks following the September 11th terrorist attacks. UMDNJ's commitment to success was evident in the New Jersey response to this event as our Emergency Medical Services department coordinated all actions of the State's EMS contingent for the 2-week duration of our involvement. New Jersey's overall response was a triumph in interagency cooperation; the work accomplished by UMDNJ and the Center leading up to this event was a major contributor to the State's achievement.

Congressionally targeted appropriations approved for the Center in fiscal year 2002 are enabling us to establish a regional statewide system of vehicles, equipment and personnel to further enhance the capabilities of New Jersey's first responders to react to and mitigate mass casualty events. The Center's staff provides training to first responders on how to fully utilize the capabilities of these assets.

While the responsibility of surveillance rests within the State and local governments, UMDNJ has played a significant role in the forthcoming expansion of surveillance activities in the State. Funded through the Centers for Disease Control, New Jersey will be expanding central state and local capacities for surveillance. UMDNJ will work closely with the State to train new epidemiologists and improve infrastructure in local and county health departments. Practical lessons in epidemiology, surveillance, and other public health issues are already presented to local and State officials through the Center's education programs. At these forums, strategies to combat bioterrorism are taught, much in the same manner as in the military's "War Colleges." More than 90 education and training presentations given by the Center since October 2001 have reached each region of the State and most of its 21 counties. UMDNJ is respectfully requesting \$2 million to address equipment requirements of its mass casualty vehicles, and to sustain and expand its training of emergency responders, government officials and public safety health officers on strategies to combat bioterrorism.

Additionally, the Center for BioDefense is poised to develop a real-time EMS-based surveillance system to be integrated with the University's electronic medical records system that now covers 1,000 faculty physicians and 200,000 patients. In conjunction with the State's existing and proposed surveillance systems, this enhanced system, integrating data from the State's busiest EMS systems operated by or affiliated with UMDNJ, will help public health officials to more quickly detect acts of bioterrorism and other threats to the public health. UMDNJ respectfully seeks \$2 million for this initiative.

The Center for BioDefense at UMDNJ is playing a critical role in the counter-terrorism and biodefense activities within the State of New Jersey. In the future we will work to expand even further our cooperative efforts with neighboring States to insure that our region is well prepared to meet the new threats of bioterrorism. Our comprehensive approach to bioterrorism, encompassing research, education, public health initiatives and emergency response represents a model that could be successfully emulated in other regions of the nation. We stand ready to offer our expertise to further our nation's preparedness.

We wish to thank the Members of this Committee for their support of UMDNJ's initiatives that has allowed us, in a few short years, to gain a State and national reputation for leadership and rapid response to terrorism. We look forward to continuing to provide leadership within these areas.

Thank you.

Senator INOUE. Our next witness is the executive director of the American Society for Bone and Mineral Research, National Coalition for Osteoporosis and Related Bone Diseases, Ms. Joan Goldberg.

STATEMENT OF JOAN GOLDBERG, EXECUTIVE DIRECTOR, THE AMERICAN SOCIETY FOR BONE AND MINERAL RESEARCH, ON BEHALF OF THE NATIONAL COALITION FOR OSTEOPOROSIS AND RELATED BONE DISEASES

Ms. GOLDBERG. Mr. Chairman, thank you. I am Joan Goldberg, as you said, executive director of the American Society for Bone and Mineral Research, and also representing the National Coali-

tion for Osteoporosis and Related Bone Diseases. I am here to urge you and your colleagues to continue the support for maintaining the Department of Defense Bone Health program.

Bone health is an essential element of military readiness. The President's budget seeks to assure military readiness by keeping our first-to-fight forces trained and equipped to adapt to emergency threats. This requires the ability to endure vigorous exercise during training and combat.

From the moment a soldier gets his or her orders, he or she faces new physical demands, including frequent weight-bearing activities such as marching, running, and carrying heavy equipment, all of this to develop a high level of physical fitness. An increase in weight borne heightens the risk of stress factors, and the military is carrying more than ever. Dietary deficiencies add to the risk.

On March 4, as reported in *The Washington Post*, our troops climbed the forbidding slopes of the Takora Gar Mountain in Afghanistan. They were carrying upwards of 80 pounds on their backs in military gear. They also took turns carrying their wounded comrades on the uneven terrain in freezing cold at high altitude awaiting helicopter rescue. Their joints swelled. With soldiers less well-conditioned, a fracture or broken leg or foot could have spelled the difference between survival and death.

Stress fractures occur too frequently and impair military readiness. They are costly in service time lost and medical expense. The incidence of stress fracture among U.S. military is high. From an estimated 1 to 20 percent. The highest rates are for women. Stress fractures are most common in the legs and feet, but they also occur in the ribs and upper extremities. For healing to occur, a recruit must stop running or marching for weeks. For many of our military in Afghanistan and elsewhere, the time simply is not available.

The DOD recognizes stress fracture is a major problem and has supported the following research:

A study in San Diego that found a direct correlation between current and prior fitness levels in stress fracture, and developed a tool being tested for its predictive value.

A University of Ohio investigation revealed that reproductive function is not disrupted in women because of an increase in intensive training or a low fat diet, as commonly believed. Rather, menstrual cessation, which means a drop in estrogen production, which has a harmful impact on bones, occurs because the calorie or energy intake is insufficient to meet the increased energy demands of intensive training, and you can see that in 5 days.

Another study found that dehydroepiandrosterone (DHEA), a hormone, may help maintain and improve bone mass in women with low estrogen, such as women with anorexia nervosa.

Another demonstrated that alcohol consumption increases the risk of skeletal injury during rigorous exercise by inhibiting bone remodeling and reducing bone mass.

These findings are directly translatable into strategies to improve the military's bone health through improved physical conditioning and diet, but we need to learn more to develop more prevention approaches, better diagnostic tools, and improve treatment approaches.

For example, another DOD study discovered that ultrasound alone is not helpful in predicting fracture, but new technologies, including a new Positron Emission Tomography (PET) device, looks promising. Another study just published in the *Journal of Bone and Mineral Research* indicated that Cox-2 inhibitors slow or stop bone healing in fractures in animals, while an editorial suggested a change in treatment for humans based on this evidence.

New studies are urgently needed to identify new strategies to eliminate stress fracture during physically intensive training, in combat, to optimize physical training, and nutrition standards for helping young men and women, and to develop practical methods and markers to predict impending injury.

Promising DOD research is ongoing. It includes investigations of vitamin D and calcium intake, exercise, and new diagnostic methods, among others. 2002 funding will likely address the effective resistance training on bone structure and function, practical monitoring strategies to identify individuals at risk, and interventions to optimize bone turnover to favor building bone.

Mr. Chairman, stress fractures erode the military's physical capabilities and reduce military readiness. We thank you for your past well-spent support for funding. We respectfully request that the Department of Defense maintain an aggressive and sustained bone health research program at the level of \$12 million in fiscal year 2003.

Thank you.

[The statement follows:]

PREPARED STATEMENT OF JOAN GOLDBERG

Mr. Chairman and Members of the Committee, I am Joan Goldberg, Executive Director of the American Society for Bone and Mineral Research. I am here today on behalf of the National Coalition for Osteoporosis and Related Bone Diseases to urge your support in maintaining the bone health research program within the Department of Defense and providing sufficient funding to sustain the program.

Bone health is an essential element of military readiness. The President's budget "seeks to assure military readiness by keeping our "first to fight" forces trained and equipped to adapt to emerging threats." A major component of being trained and equipped is assuring that the physical health of our troops is at a level to endure the vigorous exercise during training and during operational activities associated with combat. In peacetime or combat, soldiers are at risk for injury, incapacitation, and degraded performance resulting from injuries such as stress fractures—all of which compromise the mission, readiness, and budget of the Armed Forces.

From the moment a soldier gets his/her orders, that individual undergoes a new set of physical demands. Military training utilizes frequent weight-bearing activities, such as marching and running, to develop a high level of physical fitness. It also introduces additional factors such as carrying a pack, wearing boots, and training on uneven terrain. The increase in weight bearing increases the risk of stress fractures to the lower extremities. Factors such as low bone density, dietary deficiencies, menstrual irregularities, insufficient/inadequate exercise and sleep deprivation also contribute to the development of stress fractures, yet the optimum diet, amount of sleep and type of exercise best employed for bone health are not known.

Stress fractures are extremely costly to overall U.S. military readiness in terms of both service time loss and medical expenses. Costs due to stress fractures just among the 2,000 female Marine recruits trained annually are estimated to be \$1,850,000 per year, with 4,120 lost training days and an extended training period. The incidence of stress fracture among U.S. Military recruits is high, ranging from approximately one to 20 percent, with higher rates reported for women than for men, with women suffering a higher rate of particularly debilitating pelvic stress fractures. Stress fractures are most common in the tibia (legs) and metatarsals (feet), but also occur in non-weight bearing bones, including the ribs and upper extremities. In order for healing to occur, the stress must be removed, which means

that a recruit would have to stop running or marching for a period of time in order for healing to occur.

The DOD has recognized stress fracture as a major problem and, through its Army Military Operational Medicine Research Program, supports research to advance the understanding of methods to improve bone health of its recruits. This research will result in strategies to eliminate stress fracture during physically intensive training and combat; to optimize physical training and nutrition standards for healthy young men and women; and to develop practical methods and markers to predict impending injury (poor physical fitness at the time of entry into recruit training is a strong predictor of injury).

CURRENT STUDIES

Developing an injury model based on training, physiological and population-related factors, and refining predictions of stress fracture based on loading, bone damage and remodeling estimates.

Determining if a protein-based supplement food bar can promote an increase in bone mass in physically active young military trainees with adequate calcium intakes. If a measurable benefit to bone mineral accretion can be demonstrated through the use of a nutrient supplement, this could be of immediate use in military feeding strategies.

Examining gait patterns associated with stress fracture risk and specifically determining structural and biomechanical factors that contribute to tibial stress fracture risk. Identification of biomechanical factors associated with stress fracture may lead to development of preventive measures such as strategies for gait modification to reduce loading rates.

Comparing recovery times from tibial stress fracture in subjects treated with electric field stimulation. This study will also determine the most cost effective approaches to diagnosis and treatment of tibial stress fracture to accelerate return to duty. Stress fracture healing time using conservative but generally favored treatments of rest from weight bearing activity averages 3 months, making this a significant cost to military readiness.

Assessing the effects of oral contraceptives use on bone mineral density and incidence of stress fracture in young female runners. (An earlier study looked at oral contraceptives and discovered decreased peak bone mass in the rat.)

Determining if skeletal physiology including PTH, vitamin D, bone turn over, and bone density at the beginning of military training predicts risk of stress fractures. To determine if calcium intake, exercise patterns and menstrual function during military training contributes to the level of peak bone mass and risk of stress fractures over 4 years at the U.S. Military Academy.

RECENT FINDINGS

Research has demonstrated that thoughtful modification of physical training programs can delay the time to stress fracture occurrence and reduce the overall incidence of stress fractures without compromising physical standards or training level. This research is expected to provide information to further reduce training injuries through better identification of at risk individuals, and through scientifically based training, dietary, and medical interventions.

A meta-analysis of 76 studies demonstrated that progressive resistance and aerobic training increase and/or maintain bone density in women.

Another ongoing study discovered DHEA may help maintain or improve bone mass in low estrogen women, such as those with anorexia nervosa.

Scientists also found that ethanol consumption increases the risk of skeletal injury during rigorous exercise by inhibiting bone remodeling and reducing bone mass. Moreover, when bone is subject to lack of movement (e.g., after injury), ethanol worsens the negative effects. (Bed rest, for example, already has a negative impact on bone.)

It has also been found that 1 week of rest early in basic training provides no protective effect against stress fracture in male soldiers.

AREAS OF NEED

Research is needed to better relate the effects of types of physical training with specific diets and health habits in terms of their impact on the acquisition of peak bone mass. Also, longitudinal studies of bone physiology and bone remodeling in physically active populations need to be conducted, in addition to identifying the influences of specific types of intense physical training.

Mr. Chairman, stress fractures erode the physical capabilities and reduce the effectiveness of our combat training units, essentially compromising military readi-

ness. Therefore, it is imperative that the Department of Defense maintains an aggressive and sustained bone health research program at a level of \$12 million in fiscal year 2003.

Senator INOUE. I did not realize that stress fractures were this commonplace in the military.

Ms. GOLDBERG. Very common. There are a lot of different studies, and this actually is a report of the ongoing research going on at the Department of Defense. Some studies find 6 percent, 10 percent. It depends on whether they are looking at officers in training or recruits. It is also common in the rest of the population.

Senator INOUE. Is it primarily dietary?

Ms. GOLDBERG. We know that dietary puts you at risk. We also know that poor physical conditioning before starting physical training is another factor. We think that sleep deprivation and alcohol consumption are also involved, and we are trying to identify exactly what is the best nutrition and physical conditioning to help prevent that. Genetics may be involved as well.

Senator INOUE. We will check this out. Thank you very much.

Our next witness is the director of the legislative programs of the Fleet Reserve Association, Master Chief (Ret.) Joe Barnes.

STATEMENT OF MASTER CHIEF JOE BARNES, (RET.), DIRECTOR, LEGISLATIVE PROGRAMS, FLEET RESERVE ASSOCIATION

Chief BARNES. Mr. Chairman, Fleet Reserve Association (FRA) appreciates the opportunity to present its views on the 2003 defense budget. The association thanks this distinguished subcommittee for its leadership and strong support for the pay, health care and benefit improvements enacted in recent years. My statement today addresses the end strength's pay and other priority personnel issues. Bob Washington, FRA's director of member services, is speaking later on behalf of the military coalition.

The National Fleet Reserve Association (NFRA) strongly supports the coalition's positions on health care, reserve issues, and other quality of life programs. First, FRA supports an increase in end strength to ease both operational and personnel tempos now imposed upon a force too small to sustain the war on terrorism, while at the same time attempting to meet other operational commitments.

Second, the association recommends continued progress toward closing the military pay gap by funding higher than civilian pay increases. Congress is also urged to repeal the law that authorizes annual military pay caps below civilian wage levels.

Third, Congress should be commended for authorizing the Navy to determine the amounts of sea pay and submarine pay its personnel receive. Although the sea pay program expanded, submarine pay rates have not changed for 13 years. FRA requests support for the appropriations necessary to cover the cost of the new rates for these programs.

Fourth, the association again encourages Congress to fully authorize and fund the concurrent receipt of military retired pay and veterans disability compensation for disabled retirees. This was authorized for 2002 contingent upon funding being included in the 2003 budget. The Senate Budget Committee allocated funding in its budget resolution to authorize and gradually fund concurrent receipt beginning in 2003 for military retirees rated 60 percent and

above. This mirrors language in the House budget resolution, and indicates progress towards FRA's objective of full concurrent receipt for all disabled retirees.

Fifth, FRA appreciates the increases in the allowance for temporary lodging expenses authorized for 2002 and the authority to raise PCS per diem rates. However, service members still incur significant cost in complying with relocation orders.

Sixth, the 2003 budget reduces commissary funding by \$137 million, and eliminates over 2,600 positions from stores and headquarters staff by September 30, 2003. FRA is concerned that the size and scope of the reductions may negatively impact quality and service to customers. FRA strongly recommends full funding of the commissary benefit in 2003 and beyond, and opposes any efforts to privatize commissaries.

Seventh, spouse employment is a major consideration in the well-being and retention of service members. FRA salutes Congress for adopting provisions last year to provide military spouses with financial and other assistance and job training and education. The association urges continued support and sufficient funding for these programs in the fiscal year 2003 budget. FRA encourages your review of other issues addressed, including the needed reform of the survivor benefit plan and equity amendments to the Uniformed Services Former Spouses Protection Act.

Finally, two FRA initiatives are discussed, the extension of a dislocation allowance to retiring service members, and the retention of the final month's retired pay by surviving spouses at the time of the retiree's death. If authorized, the association asks your support for these proposals.

Thank you again, Mr. Chairman, and I stand ready to answer any questions you may have.

[The statement follows:]

PREPARED STATEMENT OF JOE BARNES

INTRODUCTION

Mr. Chairman: The Fleet Reserve Association (FRA) is grateful to have been invited to present its statement on the fiscal year 2003 Defense Budget. The Association's President and Board of Directors also thank you and the members of the Subcommittee staff for the outstanding quality of life successes gained over the years for the men and women serving in the Armed Forces of the United States. FRA salutes each of you for a job well done.

The FRA is the oldest and largest Association in the United States representing enlisted men and women of the Sea Services whether on active duty, in the reserves, or retired. Established in 1924, FRA's primary mission is to act as the premier "watchdog" organization for maintaining and improving quality of life for Sea Service personnel. In the past 5 years, for example, FRA led the way in a campaign to amend the military's "Redux" retirement system for the better and provided a pay study referenced by Congress in the adoption of pay reform for mid-grade enlisted personnel in 2001, and subsequently by Congress in 2002 with regard to further revising the pay for all noncommissioned and petty officers in grades E5 thru E9.

There are other issues and programs advocated by FRA over the past few years that are now a reality including sea duty pay reform, Tricare for Life and expanded pharmacy benefits for older military retirees. The latter are major benefit enhancements also advocated by The Military Coalition which is comprised of 33 nationally prominent military and veterans organizations.

FRA is the leading enlisted association in the Coalition and has the distinction of holding two of the six elected offices (President and Administrator) in the Coalition. Additionally, three of nine Coalition committees are co-chaired by members of FRA's legislative staff.

The Association strongly endorses all Coalition positions on health care, reserve issues, and other quality of life programs. This statement addresses some of the same issues including end strengths, basic pay, commissary funding, concurrent receipt, PCS reform, and spousal employment plus other in-house concerns such as submarine pay.

END STRENGTHS

In a recent appearance before the Senate Armed Services Committee the Chairman, Joint Chiefs of Staff, avowed that the Armed Forces will defeat terrorism “no matter how long it takes or where it takes us.” Missing from the statement was the promise to succeed “no matter how many uniformed service members are needed to do the job.”

Since 1995, FRA has annually requested increases in military manpower. Operational levels involving uniformed members of the Army, Navy, Marine Corps, Air Force, and Coast Guard escalated significantly over the past decade to a point where the United States does not have adequate numbers of military personnel to fully accommodate the many commitments ordered by the Department of Defense and area commanders-in-chief.

Today, those engagements have accelerated to meet anti-terrorism campaigns directed by the Bush Administration, including Transportation (Coast Guard and Federal Aviation Administration), and other governmental agencies involved in homeland defense measures. Over 70,000 National Guard and Reservists are now serving in some active duty capacity, while increased numbers of active duty service members are assigned duties in and near Afghanistan and in other foreign locations on land and sea.

Press reports indicate the Army has told the Pentagon it needs 20,000 to 40,000 additional troops over the next 5 years, the Air Force 7,000 and possibly more than 20,000, and Marine Corps an additional 2,400. The Navy declined to offer a specific number. However, the Secretary of Defense isn't favorable to the increase in manpower. FRA must support the military services. Before September 11 some defense officials, both civilian and military, complained that uniformed personnel were doing more with less, were over deployed, overworked, and stretched thin—this during a peace time environment. Now that the United States has ordered troops into Afghanistan and surrounding areas, military personnel are stretched even more. Nevertheless, the troops are serving magnificently. The question is: How much longer?

Recommendation.—That this Subcommittee agrees to increase funding to ease both operational and personnel tempos now imposed upon a force not sufficient in numbers to sustain current operational commitments. Although Congress authorized a small increase in the fiscal year 2002 strengths of the Navy and Air Force, the numbers fell short of their needs. The Army and Marine Corps, however received no increase in manpower, but are seeking increased numbers. FRA recommends that the Senate give greater credence to the needs of the individual services by adopting the House's increase in uniformed manpower for fiscal year 2003. The following warning is noteworthy in a Navy Times editorial of 12/10/01, 'Don't overextend military.' Time and again, America's armed forces have shown they'll do what it takes to serve their country. But history offers a warning: Work them too hard, keep them away from home too long, overlook their welfare and eventually they will walk.

BASIC PAY

FRA salutes the 106th and 107th Congresses for authorizing pay reform for mid-career enlisted personnel effective on July 1, 2001, and again on January 1, 2002, as well as for senior enlisted members in pay grades E8 and E9. FRA is particularly pleased that its 1999 study on mid-career noncommissioned and petty officers pay played a significant part in opening the path to pay reform for enlisted personnel in pay grades E5 and above.

The Association understands that the Administration is seeking an additional \$300,000,000 in fiscal year 2003 to execute further pay reform for mid-career enlisted personnel and to target raises for critical officer grades. FRA welcomes this initiative while recognizing the importance of Congress' commitment to increase military pay each year by 1/2 percent more than the average wage hike in the civilian sector to help close the pay gap by the year 2006.

FRA appreciates Congress' resolve to provide comparable pay for the Nation's Armed Forces personnel. This should have been authorized years ago when the gap was closed by double digit pay increases in 1981 and 1982. In the Uniformed Services Pay Act of 1981, Congress made it clear it was trying to restore in current dol-

lars the relationship of military compensation to pay in the private sector “that existed in 1972 when Congress adopted the All-Volunteer Force.”

Congress also declared that substantial improvements in pay rates “are necessary in fiscal year 1982” to provide necessary incentives for a career of military service. Additionally, the Senate found fault with the mechanism determining comparability indices used at that time for proposing annual increases in military pay, and suggested that a better mechanism be developed within the next year. However, budget constraints since then and until recently prevented any improvement in developing legislation addressing the pay gap.

Recommendation.—That this Subcommittee adequately fund Congress’ commitment to closing the military pay gap by 2006 through the use of higher-than-civilian-pay increases to military basic pay. However, in order not to allow military pay to again fall behind that in the civilian community, Congress must act to repeal the law that authorizes capping annual military pay increases below that of civilian wages. Additionally, FRA recommends that future pay increases for the Armed Forces be based on the performance value of each pay grade within its own category; enlisted, warrant officers, and commissioned officers. For example: If senior NCOs and petty officers have a greater value to the military than warrant or commissioned officers of certain pay grades, then the basic pay for the senior enlisted should be of a greater premium. The opposite would also apply.

SEA AND SUBMARINE PAY

Congress is to be lauded for authorizing the Navy to determine the pay its personnel will receive for sea and submarine duty. The Navy has taken steps to expand its career sea pay program to include junior personnel and has diverted funds totaling \$150,000,000 to finance the new rates. Submarine pay is however, another matter. The rates have not changed for 13 years and the purchasing power of submarine pay has deteriorated significantly. There is no money in the Navy’s fiscal year 2002 budget to increase the rates to reflect the arduous duty required of a submariner.

Today’s operational commitments and shortages of manpower place even heavier burdens on personnel deployed on naval ships and submarines. They are deserving of higher rates for their outstanding effectiveness in discharging their mission to provide the United States with the world’s most efficient and powerful naval force.

Recommendation.—Congress is urged to consider the sea and submarine duty programs as an imperative part of the Nation’s vital defenses. Both programs should be funded independently. FRA requests of Congress the necessary appropriations to cover the costs of the new rates for the two pays as established by the U.S. Navy.

CONCURRENT RECEIPT

The Fiscal Year 2002 National Defense Authorization Act (NDAA) includes a provision addressing the concurrent receipt of military non-disability retired pay and any VA compensation for service-connected disabilities. Currently, the receipt of VA compensation causes a like reduction to a retired service member’s military retired pay. As a result, retired service members believe they are forced to pay for their service connected disabilities.

The fiscal year 2002 NDAA authorizes concurrent receipt but only if the Administration seeks that authorization and includes funding in its fiscal year 2003 budget. This did not happen, however, the Senate Budget Committee allocated funding in its fiscal year 2003 Budget Resolution to authorize and gradually fund over several years concurrent receipt for military retirees rated 60 percent and above. This mirrors language in the House Budget Resolution for fiscal year 2003. Unfortunately, the Senate resolution has yet to come to the Senate floor for debate.

FRA is not privy to the Administration’s reason for not endorsing concurrent receipt. However, government officials often reference a 1993 Congressional Research Service report citing programs (i.e.—social security, unemployment compensation, black lung disease) that have offsets or limits in concurrent receipts. However, the report states emphatically that: “. . . veterans’ disability compensation is always payable fully and concurrently with income or benefits from nonmilitary sources because concern about preserving work incentives for disabled veterans and the longstanding policy that disabled veterans who are able to work in the private economy after separation from military service should not be penalized.” (Emphasis added.)

The report further noted that its review listed 25 pairs of programs that in a broad sense might be relevant to policies pertaining to military retired pay and veterans’ compensation. “However,” the report warns, “many of the program pairs are not similar enough to the veterans’ situation to be instructive.” (Emphasis added.)

Actions relative to tax changes to the military's disability retirement system forced many retired service members to seek redress from the Veterans Administration, later the Department of Veterans Affairs (VA). Before 1975 military disability pay was tax exempt. The Tax Reform Act of 1976 forced the Department of Defense (DOD) to change the rules so that only a percentage of the member's disability retired pay attributable to combat-related injuries would be tax-exempt. Subsequently, many retiring service members petitioned the VA for relief for service-connected injuries.

Service members, whether in uniform or retired, are considered Federal employees, subject not only to Title 10, U.S. Code, but Title 5, U.S. Code, the latter that governs the conduct and performance of government employees. Both active and retired Federal civilian employees eligible for veterans' compensation may also receive full benefits of Federal civil service pay or Federal civil service retirement payments, including disability retirement with no offsets, reductions, or limits.

Recommendation.—FRA encourages Congress to fully authorize and fund concurrent receipt of military non-disabled retirement pay and veterans' compensation program as currently offered to other retired Federal employees—including those receiving benefits under the Federal Government's disability program. Congress must remember that U.S. service members not only had a major hand in the creation of this Nation, but have contributed more than any group to the military and economic power of the United States for more than 200 years.

PERMANENT CHANGE OF STATION (PCS) REFORM

FRA appreciates the significant increases in the Temporary Lodging Expense (TLE) allowance authorized for fiscal year 2002 and the authority to raise PCS per diem expenses to match those for Federal civilian employees in fiscal year 2003. There are significant steps to upgrade allowances that had been unchanged in over 15 years. Even with the much-needed changes, however, servicemembers continue to incur significant costs in complying with relocation orders.

For example, PCS mileage rates have not been adjusted since 1985. The current rates range from 15 to 20 cents per mile and are significantly lower than the temporary duty mileage rate of 36.5 cents per mile for military members and Federal civilians. Members are authorized time off for house-hunting trips in advance of a PCS relocation, but unlike Federal civilians, they must do so at personal expense. FRA also believes that adequate funding for the Relocation Assistance Program is essential.

Recommendation.—FRA urges continued up-grades of permanent change of station reimbursement allowances in fiscal year 2003 to recognize that the government, not the servicemember, should be responsible for paying the cost of doing the government's business.

COMMISSARIES

The President's fiscal year 2003 budget reduces Defense Commissary Agency (DeCA) funding by \$137,000,000 and eliminates over 2,600 positions from stores and headquarters staff by September 30, 2003. While DeCA indicates there will be no loss in service to the customer, FRA is concerned that the size and scope of the reductions may negatively impact quality and service to customers, including additional store closings, reduced hours, longer cashier lines and reduced stock on store shelves. This would have a significant adverse impact on the benefit, which is widely recognized as a valuable part of the service member's compensation package and a cornerstone of quality of life benefits. FRA strongly opposes any efforts to privatize commissaries and strongly supports full funding of the commissary benefit in fiscal year 2003 and beyond.

Recommendation.—FRA opposes privatization of commissaries and strongly supports full funding of the benefit to sustain the current level of service for all commissary patrons.

SPOUSAL EMPLOYMENT

Recently the Armed Forces have become concerned with the plight of military spouses who lose employment when their service member husbands or wives are transferred to new locations. Studies indicate that many military families suffer significant financial setbacks when spouses leave employment to accompany their military sponsor on permanent changes of station (PCS). Some losses are substantial. Worse, yet, is the lack of equal or even minimal employment opportunities at new duty stations.

Spousal employment is a major consideration in the retention of the service members and the services are launching new programs to assist spouses in finding full

or temporary employment to include counseling and training. Other initiatives will help spouses find portable employment in companies with customer-service jobs that can be done at remote locations. Further, Federal and State cooperation to provide unemployment benefits is required to provide unemployment compensation equity to military spouses forced to leave jobs due to PCS orders.

Recommendation.—FRA salutes Congress for the provisions it adopted in the fiscal year 2002 NDAA to provide military spouses with financial and other assistance in job training and education. The Association urges Congress to continue its support of the military's effort to effect a viable spousal employment program and to appropriate sufficient funds to assure the program's future success.

OTHER QUALITY OF LIFE CONCERNS

SURVIVOR BENEFIT PLAN

FRA believes the Federal Government continues to renege on its commitment to members of the uniformed services who opt to participate in the military's Survivor Benefit Plan (SBP). The plan was to be patterned after the Civil Service/Federal Employees Retirement Systems with the cost to be shared; 40 percent by the government and 60 percent by participating military retirees. Both of these points appear numerous times in congressional hearings on SBP before the House and Senate Armed Services Committees.

Hearings in the 94th, 95th, 96th, and 99th Congress' note that the military's SBP should "conform identically to the formula" or "function in an identical fashion" to the civil service plan. During a September 1976 hearing conducted by the House Armed Services Committee, a Department of Defense General Counsel letter of July 26, 1976, was inserted for the record. The letter read that if Congress failed to make certain corrections to the military's SBP as it had authorized for the civil service plan, it would "constitute an unwarranted inequity that has extremely adverse impact on the morale of retirees and those nearing retirement."

The 40-60 share between the government and the participating military retiree is reported in Senate Hearing No. 99-298 of June 20, 1985 that lists five different references to the intent of the plan to share the cost at the above percentage figures. Spokesmen for the Congressional Budget Office and Department of Defense referred to the cost-sharing as follows:

—(CBO).—Under current law, members retiring today will bear about 62 percent of the cost of the Survivor Benefit Plan; roughly consistent with the 60 percent goal for cost-sharing.

—(DOD).—The legislative history of the SBP shows an intent that the Government contribute approximately 40 percent of the benefits.

There is reluctance by Congressional sources to accept the fact that the military's Survivor Benefit Plan was designed to emulate the civil service plan or that the participating service member was to incur but 60 percent of the program's costs.

Equity has gone the way of all good intentions. Military SBP participants have seen their share of the plan's cost rise above the 70 percent factor (approximately 73 percent overall, 79 percent for those enrolled since the 1970s.) The rise in the plan's cost-sharing for military retirees was predicted as early as 1980 (Senate Report No. 96-748, p. 7) and again in 1996 (Military Compensation Background Papers, Fifth Edition, Sep. 1996, p. 691). In fact, DOD, in the Senate Report referenced immediately above, warned that if certain changes were not made to the Plan, "the officer portion of the cost sharing will escalate to 76 percent, while enlisted members share 125 percent of the costs." Nearly 10 years earlier, in the September 1, 1976, House hearing referenced above, a DOD General Counsel letter of August 30, 1976, was inserted for the record. It stated that over time, "inflation will cause the cost of the SBP participant to become increasingly out of balance with the cost to his or her counterpart participating in the comparable plan for Federal civil servants." Meanwhile, the civil service and Federal employees' plans remain at participating costs of 50 percent and 58 percent, respectively.

There is yet another cost-sharing inequity that exists in the military SBP. Participants in the plan pay premiums over a much longer period than their counterparts in the civil service/Federal employees' plans. This gives the Federal retiree a far more advantageous benefit-to-premium ratio.

FRA is in agreement with Retired Air Force Colonel Mike Lazorchak who wrote in Navy Times, January 15, 2001, "(E)ach year Congress fails to pass more meaningful SBP rates, military retirees are forced to give the government an ever-increasing interest-free loan in return for their benefits. Admittedly, an increase in the government subsidy will require Congress to increase the annual contribution to the Military Retirement Trust Fund, most of this increase is merely a repayment

of the interest-free loans that military retirees have been required to give the government for decades.”

Recommendation.—The high cost of participating in the military’s Survivor Benefit Plan is contrary to the intent of Congress to pattern it after the Civil Service/Federal Employees survivor plans. Congress is urged to amend the military’s Survivor Benefit Program to repeal the minimum post-62 SBP annuity over a period of 10 years. [35 percent to 40 percent in October 2002, to 45 percent in October 2005, and 55 percent no later than October 2011.] Additionally, to further amend the year 2008 to 2003, at which time the military retiree who has paid premiums for 30 years and is at least 70 years of age, will be a paid-up participant. In the event the authorizing committee agrees to the above amendments, FRA urges the Subcommittee to appropriate the necessary funding.

UNIFORMED FORMER SPOUSES PROTECTION ACT (USFSPA)

The USFSPA was enacted nearly 20 years ago, the result of Congressional chicanery that denied the opposition an opportunity to express its position in open public hearings. With one exception, only private and public entities favoring the proposal were permitted to testify before the Senate Manpower and Personnel Subcommittee. Since then, Congress has made 23 amendments to the Act: eighteen (18) benefitting former spouses. All but two of the 23 amendments were adopted without public hearings, discussions, or debate. In the nearly 20 years since the USFSPA was adopted, opponents of the Act or many of its existing inequitable provisions, have had but one or two opportunities to voice their concern to a congressional panel. The last hearing, in 1999, was conducted by the House Veterans Affairs Committee and not before the Armed Services panel having oversight authority for amending the USFSPA.

FRA believes that Congress is avoiding its responsibility to the men and women who serve or have served in the Armed Forces of the United States. For nearly 200 years, Congress controlled the pay and allowances of active, reserve, and retired military personnel. The States had no say as to how Federal payments would be regulated, even when the recipient retired from military service. In fact, the Federal courts ruled that in retirement the member was still in the military service and was in all respects still performing service. This led to the term, “reduced pay for reduced but continuing service.” In short, military retired (or retainer) pay is not a pension or an annuity. Through the media and other public forums, members of Congress, reporters, and outside advocates for the enactment of a former spouses protection act, used the term “pension” to describe military retired pay. Today, the word has nearly replaced its true nomenclature.

Few provisions the USFSPA protect the rights of the service member. They are unenforceable by the Department of Justice or DOD. If a State court violates the right of the service member under the provisions of USFSPA, the Solicitor General will make no move to reverse the error because the Act fails to have the enforceable language required for Justice or Defense to react. The only recourse is for the service member to appeal to the court, which in many cases gives that court jurisdiction over the member that it didn’t have when the original ruling violated the Act. Some State courts also award a percentage of veterans’ compensation to ex-spouses; a clear violation of U.S. law.

Recommendation.—That Congress take a hard look at the USFSPA with the purpose of amending the language so that the Federal Government is required to protect its service members against State courts that ignore provisions of the Act and modify other provisions that weigh heavily in favor of former spouses. FRA urges the distinguished members of the Subcommittee to suggest to their colleagues on the Armed Services Committee that hearings be scheduled to determine required changes to the Act.

DISLOCATION ALLOWANCE

Throughout a military career, service members endure a number of permanent changes of station (PCS). Most often the moves require additional expenses for household relocations. Such expenses may include, but are not limited to, loss of rent deposits, abandonment or forced sale of items that must be replaced, added wear and tear on household goods in transit, disconnecting and connecting telephone service and other utilities, and the purchase of some furniture replacements for the new home.

To help defray these additional costs, Congress in 1955 adopted the payment of a special allowance termed “dislocation allowance”—to recognize that duty station changes and resultant household relocations reflect personnel management decisions of the Armed Forces and are not subject to the control of individual members.

In 1989, Congress increased the allowance from one month's basic allowance for quarters (BAQ) to two months.

Service members retiring from the Armed Forces are not eligible for dislocation allowances, yet many are subject to the same additional expenses as their active duty counterparts. In August 2000, the Marine Corps Sergeants Major Symposium recommended the payment of dislocation allowances to retiring members who, in the opinion of the Sergeants Major, bear the same financial consequences on relocating as their active duty counterparts. Both reflect management decisions.

Recommendation.—That if the authorizing committee should amend 37 USC, 407, to authorize the payment of dislocation allowances to members of the Armed Forces retiring or transferring to the Fleet Reserve or Fleet Marine Reserve, the Association requests the necessary funding to execute the payments.

TERMINATION OF RETIRED PAY ON DATE OF RETIREE'S DEATH

FRA believes it is insensitive for the Federal Government to continue recovering the balance of the retired pay of a member of the Armed Forces whose death occurs on any date in the final month of the retiree's life. Current regulations require the military's finance center to terminate payment of retired pay upon notification of the retiree's demise. Further, to recoup outstanding retired pay checks or direct deposit payments including any check or deposit paid for the month in which the retiree dies.

Eventually, the finance center will pay the eligible survivor for each day the retiree was alive during the month of demise. Meanwhile, the eligible survivor will experience a considerable drop in income. The retiree, unlike his or her active duty counterpart, will receive no death gratuity and, in the case of many of the older enlisted retirees, will not have adequate insurance to provide a financial cushion for their surviving spouses. Although the SGLI program was initiated in 1965, it covered the retiree only up to 120 days after the effective date of retirement. Retirees were then authorized to purchase an individual policy of permanent insurance in an amount equal to the SGLI coverage from any participating company in the program.

The problem is one of finances. When the service member retires, his or her income decreases by two-thirds. The average retiree is an enlisted member in grades E5 thru E7 (74 percent of total enlisted retirees in fiscal year 2000) whose monthly fiscal year 2000 retired pay averaged only \$965. It was much less in the earlier years. Simply stated, the majority of retirees with families could ill afford to convert their SGLI policies. Others believed that the military would pay a death gratuity to the family when the member passed away in retirement.

Recommendation.—If the authorizing committee should adopt the retention of the final payment, the Subcommittee is requested to provide the necessary funding. Retirement and its related activities is a most agonizing if not a arduous experience for many military retirees and families transitioning to an unfamiliar civilian lifestyle. Upon his or her demise, in consideration of the member's service to the Nation and the trauma surrounding the member's death, the surviving spouse should be authorized to retain the final retired pay check/deposit covering any month in which the member was alive for at least 24 hours.

CONCLUSION

Mr. Chairman. In closing, allow me to again express the sincere appreciation of the Association's membership for all that you and the distinguished Subcommittee and staff have done for our Nation's military personnel over these many years.

Senator INOUE. Some of the matters you have suggested are in the jurisdiction of the Armed Services Committee. We will advise them of your concern.

Chief BARNES. Thank you, Mr. Chairman.

Senator INOUE. We will look at some of your recommendations very seriously, sir.

Chief BARNES. Thank you, Mr. Chairman.

Senator INOUE. Thank you.

Our next witness is the director of research at the Johns Hopkins University Applied Physics Laboratory, representing the Association of American Universities, Dr. John Sommerer.

**STATEMENT OF DR. JOHN SOMMERER, DIRECTOR FOR RESEARCH,
JOHNS HOPKINS UNIVERSITY APPLIED PHYSICS LABORATORY,
ON BEHALF OF THE ASSOCIATION OF AMERICAN UNIVERSITIES**

Dr. SOMMERER. Good morning, Mr. Chairman, and thank you for this opportunity to testify today. I am the chief technology officer at the Applied Physics Laboratory at Johns Hopkins, and my remarks today are submitted on behalf of the Association of American Universities, a national association of State universities and land grant colleges. We want to thank the subcommittee and you, Mr. Chairman, for your support of science and technology research programs in the Department of Defense.

The universities play the largest role in basic defense research, receiving more than 60 percent of this funding, as well as substantial funding for applied defense research and advance technology development. As you know, the Quadrennial Defense Review, the Defense Science Board, and the administration all advocate a strong S&T program funded at about 3 percent of the overall DOD budget. I am here today to urge the committee to continue their support and, if possible, to increase funding in this area for fiscal year 2003 to reach the 3 percent goal as quickly as possible.

Our prior investments in science and technology prepared the military for war in Afghanistan, and you have seen some of these technologies at work, we all have on the news. A satellite navigation receiver that you can hold in your hand, even while on horseback, tells you where you are within a few feet, and the products of that investment are becoming pervasive in the commercial market.

Soldiers are communicating by satellites with small radios to call in air support. Lasers, recently laboratory tools, are now in the field to determine ranges and designate targets for smart bombs, and soon micromechanical devices no bigger than a pen operating within artillery shells will increase their accuracy. All these military capabilities resulted from breakthroughs in DOD-funded science and technology research.

Let me point to another vital product of the basic research funding at universities, an educated workforce that can keep our troops equipped with advance technology. The students who participate in research today become the highly qualified scientists and engineers that go on to work in academia, industry, and the Federal laboratories.

The Applied Physics Lab is a division of Johns Hopkins, but our mission, as contrasted with that of pure research, is to enhance the security of the Nation by applying technology in practical ways to military operational problems. We help create solutions and also let the military forces know what technology can do for them. To paraphrase Churchill, a gap exists between inventors who know what they could invent if only they knew what was wanted, and the soldiers who know what they want and would ask for it if only they knew how much science could do for them. It is our job to bridge that gap.

Let me give one example. Basic research in quantum physics served as the foundation of my laboratory's development of the world's first prototype practical cryptographic system where secret information can be transmitted from one place to another with no

possibility of undetected interception. In other words, information security guaranteed by the laws of physics.

That expertise is now focused on the development of a practical approach to quantum computing, a goal that, if achieved, would enable the efficient breaking of the majority of codes in use today and permit information security only for those with quantum cryptographic systems. Essentially, no present-day information would be secured by encryption any more.

For example, a lot of the information on the Internet is encrypted, things like your credit card number, and it could all be broken in real time. We need to know if quantum computing is really feasible, to learn how to use it ourselves, and to make sure that our national security codes do not become vulnerable to others.

It would be a pleasure to welcome you or your staff to the applied physics lab so you could see first-hand other exciting research being done with the support of the Department of Defense and of this subcommittee.

Thank you again for permitting me to testify today.

[The statement follows:]

PREPARED STATEMENT OF DR. JOHN SOMMERER

Mr. Chairman and members of the subcommittee: Thank you for the opportunity to testify today. My name is John Sommerer, and I am the Director for Research at the Johns Hopkins University Applied Physics Laboratory. My remarks today are submitted on behalf of the Association of American Universities (AAU), which includes 63 of North America's most prominent public and private research universities. This testimony is also submitted on behalf of the National Association of State Universities and Land-Grant Colleges (NASULGC). These two associations include universities and colleges in every State that perform the science and technology research that is funded by the Department of Defense.

I want to thank this subcommittee and you, Mr. Chairman, for the support that you have shown for science and technology research programs in the Department of Defense. As you know, Basic and Applied Research are funded under program elements 6.1 and 6.2 in the Research, Development, Testing and Evaluation section of the Department of Defense appropriation. The Army, Navy, Air Force and the "Defense-wide" account under the Office of the Secretary all receive separate appropriations for these programs. Universities play the largest role in basic defense research, receiving more than 60 percent of this funding (program element 6.1). They also receive substantial funding for applied defense research and advanced technology development (program elements 6.2 and 6.3, respectively).

I am here today to support an appropriation of \$11 billion, 3 percent of the overall Department of Defense (DOD) budget, for DOD science and technology programs (6.1, 6.2 and 6.3) in fiscal year 2003. This recommendation is consistent with the recommendations of the Quadrennial Defense Report and the Defense Science Board, as well as experts such as Pete Aldridge, Under Secretary Acquisition, Technology, and Logistics, who have all called for a DOD S&T budget that reflects 3 percent of the overall DOD budget.

The war on terrorism points out the urgency of our military's need to be prepared for unforeseen threats and to use advanced technology to defend our allies abroad as well as protect our security at home. University research discoveries have made major contributions to the nation's technological edge. These include ARPANET (forerunner of the Internet), inertial navigation, radar and electronic warfare, precision guidance, advanced materials, and reduced radar cross-section technology. Researchers today are helping to prepare the U.S. military to be ready for new threats of the 21st century, including nuclear, chemical, biological, and other asymmetric threats such as terrorism and cyber attacks. U.S. military troops are currently rewriting the rules of war in Afghanistan with new technologies, such as the Predator Unmanned Aerial Vehicle that circles and watches for enemy activity, the Rapid Multilingual Support Device that helps to issue instructions and orders in targeted languages, and advanced laser-guided weapons. All these resulted from breakthroughs in DOD-funded science and technology research.

University-based research produces important advances in knowledge and helps keep top scientists and engineers involved in defense research. Equally important, the students who receive hands-on research training today become the highly qualified scientists and engineers who go on to work in academia, industry, and Federal laboratories tomorrow. DOD is the third largest Federal funder of university research (after the National Institutes of Health and the National Science Foundation). The funds are awarded under competitive merit review procedures to assure high quality. Nearly 350 universities and colleges conduct DOD-funded research and development. Universities receive more than 60 percent of defense basic research funding. They also receive substantial funding for applied defense research and advanced technology development.

For all these reasons, we hope this subcommittee will continue the progress that has been made in the past few years to provide increased support for these programs which make such an important contribution to national security.

It would be a pleasure to welcome you or your staff to the Applied Physics Lab so that you can see first-hand the exciting research being done with the support of the Department of Defense and this subcommittee. In addition, I would like to invite you to an exhibit featuring interactive examples of DOD-sponsored research to be held on Wednesday, July 10 from 4:30 to 7:30 p.m. in the Rayburn House Office Building Foyer.

Thank you again for permitting me to testify today.

Senator INOUE. Where is your Applied Physics Lab?

Dr. SOMMERER. It is located in Howard County, Maryland, about halfway between Washington and Baltimore, Senator.

Senator INOUE. We might just take up your invitation.

Dr. SOMMERER. Thank you very much.

Senator INOUE. Thank you very much. Our next witness, the dean of the School of Fisheries and Ocean Sciences of the University of Alaska, Consortium for Oceanographic Research and Education, Dr. Vera Alexander.

STATEMENT OF DR. VERA ALEXANDER, DEAN, SCHOOL OF FISHERIES AND OCEAN SCIENCES, UNIVERSITY OF ALASKA, ON BEHALF OF THE CONSORTIUM FOR OCEANOGRAPHIC RESEARCH AND EDUCATION

Dr. ALEXANDER. Thank you, Chairman Inouye, and thank you very much for the opportunity to testify this morning. My name is Vera Alexander. I am dean of the School of Fisheries and Ocean Sciences at the University of Alaska, and I appeal to you on behalf of the 66-member institutions of the Consortium for Oceanographic Research and Education (CORE). CORE represents the mainstream of American academic oceanographic research, and I want to take the opportunity this morning to discuss with you the community's concerns about the state of the U.S. academic research fleet, also known as the University National Oceanographic Laboratory System (UNOLS) fleet.

Since the end of World War II and the adoption of the model for support for public research, the academic community has been the leader in understanding problems related to the oceans. During this period, the support from the Navy has been critical in addressing the many questions about our seas and the results from these investigations have contributed to the primacy of the United States military.

An essential component for quality oceanographic research is the ability of investigators to go to sea, and that calls for modern, capable science platforms. This requirement was recognized many years ago, leading to the Navy's development and support of public and supported academic research vessels, known today as the Univer-

sity National Oceanographic Laboratory System, UNOLS fleet. UNOLS is an organization of academic oceanographic institutions working in cooperation with agencies of the Federal Government to ensure broad access to the modern, well-operated research vessels, submersibles, and facilities which are required to support a healthy and vigorous research program in the ocean sciences.

Through the UNOLS fleet, the oceanographic research institutions have been able to help the Oceanographer of the Navy and the Chief of Naval Research meet the research needs of their customers, America's sailors and marines. The UNOLS fleet is able to support the Navy's science needs because in the past four decades the Navy, the National Science Foundation, and universities and research institutions have made substantial investments in research infrastructure.

It is because we have research vessels at sea that much of the research that is so important to the naval war-fighter can be conducted. Quite simply, without a robust fleet of ships at sea, a broad number of crucial areas of research will not be available to the Navy.

Now, here is the problem. Unfortunately, in the coming decade many of the current UNOLS vessels will reach retirement age. At the University of Alaska, for example, the research vessel ALPHA HELIX will reach retirement age in 2005. The research vessel GYRE at Texas A&M University will be ready for retirement in 2006.

In the coming decade, at the rate of about one a year, we will see nearly all of the ocean and regional class vessels currently in service come up for retirement. If resources are not dedicated soon to begin recapitalizing the academic research fleet, the research capability afforded the Navy by the UNOLS fleet will be severely diminished.

This looming crisis in fleet infrastructure has not gone unnoticed. In December 2001, after extensive discussion in both Federal agencies and the academic community, the Federal Oceanographic Facilities Committee, which is known as FOFC, completed charting the future for the academic research fleet, a long-range plan for renewal. It should be noted the Oceanographer of the Navy and the Deputy Chief of Naval Research both sit on the committee, and this report clearly outlined the state of vessels within the fleet and examined what will be required to replace ships when they reach retirement age, and provided a time line for fleet replacement that ensures that the fleet remains state-of-the-art.

This report has received broad support within the academic community. It has received the endorsement of the UNOLS council. More importantly, though, it has received the support of the Federal agencies who use the UNOLS fleet. In December, the plan was approved by the National Ocean Research Leadership Council, of which the Secretary of the Navy is a member.

In addition to the effort that has been done to address the general needs of the fleet, there has been considerable work undertaken to provide for a replacement of the next research vessel scheduled to retire, the research vessel ALPHA HELIX. In fact, tomorrow I will be chairing a design review panel at the National Science Foundation on the Alaska Regional Research Vessel, the

ARRV. Because of the design funding made available already by the National Science Foundation, we will be in a position in fiscal year 2004 to start building the ship.

While the ARRV will operate primarily in the Alaska region, which has the majority of the continental shelf and coastline of the United States, the vessel has much broader national impact in the academic research community. Inherent in all UNOLS vessels is the fact that they are a shared resource. They provide a platform for researchers from around the country to conduct their research for the Navy.

In addition to being a shared tool, the ARRV is the most pressing need in the fleet. There will be a long line of vessels in the next 10 to 12 years that will need to be replaced, and the longer we wait to replace the first one, the longer we will have to wait to replace the GYRE and the other eight vessels that will follow it. More importantly, the cost will also go up with time, if we wait. Acting now, we will keep the fleet's capabilities modern, in the long term save the taxpayers money.

While the FOFC plan is a specific and comprehensive blueprint for the future of the fleet, it requires necessary funding to actually keep the fleet afloat. On behalf of the academic oceanographic community, CORE requests that in this year's appropriation bill you strongly encourage the Navy to provide funding in the fiscal year 2004 request to begin recapitalizing the academic research fleet. Without strong encouragement from Congress, we fear that the unique capabilities the fleet provides the Navy will begin to decline.

Thank you for the opportunity to testify. I would be happy to answer any questions.

[The statement follows:]

PREPARED STATEMENT OF DR. VERA ALEXANDER

Chairman Inouye, Ranking Member Stevens, and members to the subcommittee thank you for the opportunity to testify this morning. My name is Dr. Vera Alexander. I am Dean of the School of Fisheries and Ocean Sciences at the University of Alaska. I appear before you on behalf of the 66 member institutions of the Consortium for Oceanographic Research and Education. CORE represents the mainstream of American academic oceanographic research. I want to take the opportunity this morning to discuss with you the oceanographic community's concerns about the state of the U.S. academic research fleet, also known as the UNOLS Fleet.

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UNOLS, is an organization of academic oceanographic institutions working in cooperation with agencies of the Federal Government to ensure broad access to the modern, well operated, state of the art research vessels, submersibles and facilities required to support a healthy and vigorous research program in the ocean sciences. Through the UNOLS fleet, oceanographic research institutions have been able to help the Oceanographer of the Navy and the Chief of Naval Research meet the research needs of their customers, America's sailors and marines.

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search institutions have made substantial investments in research infrastructure. It is because we have research vessels at sea that much of the research that is so important to the naval warfighter can be conducted. Quite simply without a robust fleet of ships at sea, a broad number of crucial areas of research will not be available to the Navy.

Unfortunately in the coming decade many of the current UNOLS vessels will reach retirement age. At the University of Alaska for example, the R/V Alpha Helix will reach retirement age in 2005. The R/V Gyre at Texas A&M will be ready for retirement in 2006. In the coming decade at a rate of one a year, we will see nearly all of the Ocean and Regional Class vessels currently in service come up for retirement. If resources are not dedicated soon to begin recapitalizing the academic research fleet, the research capability afforded the Navy by the UNOLS fleet will be severely diminished.

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While the ARRV will operate primarily in the Alaska region, the vessel has a much broader national impact in the academic research community. Inherent in all UNOLS vessels is the fact that they are shared resource providing a platform for researchers from around the country to conduct their research for the Navy.

In addition to being a shared tool, the ARRV is the most pressing need in the fleet. There will be a long line of vessels in the next 10 to 12 years that will need to be replaced. The longer we wait to replace the ARRV, the longer we will have to wait to replace the R/V Gyre, and the other eight vessels that will follow it. More importantly, the longer we wait to build the ships, the more expensive the vessels get. Acting now will both keep the fleets capabilities modern and in the long-term save taxpayers money.

While the FOFC Plan is a specific and comprehensive blueprint for the future of the fleet it requires the necessary funding to actually keep the fleet afloat. On behalf of the academic oceanographic community, CORE requests that in this year's appropriation bill you strongly encourage the Navy to provide funding in fiscal year 2004 request to begin recapitalizing the academic research fleet. Without strong encouragement from Congress, we fear that the unique capabilities that the fleet provides the Navy will begin to decline. Thank you for the opportunity to testify and I will be happy to answer any questions.

Senator INOUE. I will get together with Senator Stevens to work on a replacement for the ALPHA HELIX. I think we can do it.

Now may I call upon the director of legislative affairs, Non Commissioned Officers Association of the United States of America, Ms. Kimberlee D. Vockel.

STATEMENT OF KIMBERLEE D. VOCKEL, DIRECTOR OF LEGISLATIVE AFFAIRS, NON COMMISSIONED OFFICERS ASSOCIATION OF THE UNITED STATES OF AMERICA

Ms. VOCKEL. Thank you, Mr. Chairman. Thank you for this opportunity to present the defense funding priorities of the Non Commissioned Officers Association (NCOA) for fiscal year 2003. While

I am unable to highlight all of the areas the association believes should be funded, I have chosen to focus on five specific provisions of the Senate Defense authorization bill, S. 2514, that are particularly important to the enlisted men and women serving in the Armed Services.

NCOA's first funding priority for fiscal year 2003 is the active duty basic pay raise. Last year, the subcommittee provided funding for a substantial and much-needed pay raise. However, the 2002 increase was only one step toward pay comparability for active duty service members. S. 2514 authorizes a 4.1 percent across-the-board pay raise for active duty service members and a targeted pay raise ranging from 5.5 to 6.5 percent for mid to senior noncommissioned officers. NCOA recommends the subcommittee ensure funding for this pay raise.

NCOA's second defense funding priority is an increase in the basic allowance for housing. The 2000 National Defense Authorization Act provided for an elimination of out-of-pocket housing costs for active duty service members by 2005. Last year's defense bill brought us closer to that elimination by dropping the out-of-pocket expenses to 11.3 percent of the national median housing cost. S. 2514 further decreases the expenses to 7.5 percent. Considering the increasing cost of off-base housing, utilities, and transportation, NCOA recommends that this subcommittee provide funding to accelerate the elimination of out-of-pocket expenses in 2003.

The association's third defense funding priority concerns the selected reserve Montgomery GI bill. S. 2514 authorizes an extension of the usage period for the reserve GI bill from 10 to 14 years. In today's high op tempo guard and reserve environment, service members find it increasingly difficult to juggle employment and school commitments with family and reserve responsibilities. A part-time student guardsman or reservist could easily exceed the 10 years currently authorized to complete an undergraduate degree. NCOA recommends that this subcommittee ensure that reserve personnel accounts are adequately increased to cover the extension of the selected reserve Montgomery GI bill usage period an additional 4 years.

NCOA's fourth defense funding priority concerns defense health care. The 2001 National Defense Authorization Act created TRICARE Prime remote coverage for families of service members assigned to areas where there is no TRICARE Prime option. However, the program requires that the family member reside with the service member. Since there are many circumstances where service members are assigned unaccompanied, this program unintentionally excludes the families that desperately need the TRICARE Prime remote coverage. S. 2514 authorizes expanding eligibility to those family members who are unable to reside with the service member. NCOA recommends that this subcommittee ensure full funding of the defense health programs to include the expansion of TRICARE Prime remote coverage.

NCOA's fifth funding priority is concurrent receipt. For many years, the association has fought to get Congress to authorize and fund the concurrent receipt of military retired pay and VA disability compensation. S. 2514 authorizes concurrent receipt for military retirees with a 60-percent disability rating and above.

While this is a positive step in the right direction, NCOA recommends that this subcommittee appropriate funds to allow all disabled retirees to receive veterans disability compensation concurrently with receipt of their full earned military retired pay.

Mr. Chairman, thank you again for this opportunity to present the funding priorities of the Noncommissioned Officers Association. I would be happy to answer any questions you may have.

Senator INOUE. I believe your recommendations are reasonable, and I will make certain that this matters are studied by the committee.

Ms. VOCKEL. Thank you, sir.
[The statement follows:]

PREPARED STATEMENT OF KIMBERLEE D. VOCKEL

EXECUTIVE SUMMARY—FISCAL YEAR 2003 APPROPRIATIONS RECOMMENDATIONS

Basic Pay Raise

Basic Pay Raise NCOA recommends that this Subcommittee appropriate the necessary funds to provide a 4.1 percent across-the-board pay raise for servicemembers and a targeted pay raise ranging from 5.5 percent to 6.5 percent for mid to senior noncommissioned officers. NCOA further recommends future additional increases in annual pay adjustments well above the Employment Cost Index (ECI) with the objective of restoring pay comparability for uniformed service personnel as soon as possible. NCOA further recommends that the Subcommittee consider the recommendations of the Ninth Quadrennial Review of Military Compensation to reform basic military pay tables to provide more appropriate pay adjustments between grades.

Basic Allowance for Housing

NCOA recommends that this Subcommittee appropriate the funds needed for the acceleration of projected funding increases to match local housing costs, by grade, at every CONUS location as soon as possible. In view of the existing pay comparability gap and the rising private sector housing costs, NCOA believes it does not serve retention and readiness interests to delay elimination of out of pocket expenses until 2005.

Extension of Reserve GI Bill Delimiting Period

NCOA recommends that this Subcommittee ensure that Reserve Personnel accounts are adequately increased to cover the extension the Reserve Montgomery GI Bill benefits usage period an additional 4 years beyond the current 10-year eligibility window.

Continuation of TRICARE Prime Remote Eligibility

NCOA recommends that this Subcommittee ensure full funding of the Defense Health Program to include the expansion of TRICARE Prime Remote coverage to include active duty servicemembers' family members who are unable to reside with the servicemember.

Concurrent Receipt

NCOA recommends that this Subcommittee appropriate funds to allow disabled uniformed service retirees to receive veterans' disability compensation concurrently with receipt of their full earned military retired pay.

National Call to Service Program

NCOA recommends that this Subcommittee not appropriate funds for the National Call to Service Program at this time to allow for more thorough discussions and analysis.

INTRODUCTION

Mr. Chairman and distinguished members of this Subcommittee, on behalf of the Non Commissioned Officers Association (NCOA), which represents active duty, reserve component, retired, and veteran enlisted servicemembers and their families, I would like to express our sincere appreciation for the opportunity to present the Association's views on issues surrounding the defense appropriations for fiscal year 2003.

FISCAL YEAR 2003 NATIONAL DEFENSE AUTHORIZATION BILL

NCOA is pleased that the fiscal year 2003 National Defense Authorization bill (S. 2514) addresses so many of the ongoing needs of the men and women serving in the Armed Services. While the 2003 Defense bill includes numerous quality-of-life provisions that are beneficial to the men and women of the Armed Services, the Association would like to use this opportunity to highlight five personnel/quality of life provisions that are of particular concern to the enlisted ranks. The following are five provisions for which the Association requests this Subcommittee provide appropriated funds:

- 4.1 percent across the board pay raise, with targeted pay raises for mid to senior noncommissioned officers ranging from 5.5 percent to 6.5 percent;
- Increase in the housing allowance that moves the reduction of the average out-of-pocket expenses for off-post housing to 7.5 percent, coming closer to eliminating out-of-pocket expenses by 2005;
- Extension of the Reserve GI Bill delimiting period from 10 to 14 years;
- Continuation of TRICARE Prime Remote eligibility for dependents residing at remote locations after departure of sponsors for unaccompanied assignments; and
- Concurrent receipt of retired pay and VA disability compensation for a service-connected disability.

The Association would also like to take this opportunity to express its concerns about the “National Call to Service Program” provision.

BASIC PAY RAISE

The debate between Congress and the Pentagon on how to define and address the pay gap between military and civilian pay continues; however, recognition of the existence of the gap is universal. In 1999, Congress initiated the “comparability-plus” plan that would increase basic pay by the Employment Cost Index (ECI) plus .5 percent until 2006. For the 4th year in a row, the Authorizers have approved a pay raise, at the request of the Department of Defense, for servicemembers of 4.1 percent, which is above the rate of inflation. They have also acknowledged the need to enhance the pay of mid to senior noncommissioned officers by providing a 5.5 to 6.5 percent targeted pay raise. Regardless of the definition or means of elimination, the fiscal year 2003 pay raise is needed to get servicemembers closer to their civilian counterparts.

On May 17, 2002, the Department of Defense released its 9th Quadrennial Review of Military Compensation (QRMC), which focused on military basic pay and special and incentive pays and bonuses. The study identified two fundamental tenets of an effective military compensation system: balance and flexibility¹. Based on these tenets, the QRMC provided two important policy recommendations that NCOA believes should be weighed by this Subcommittee when considering defense appropriations for fiscal year 2003. The following are those recommendations:²

- The first priority is to “get basic pay right.” Basic pay is the foundation of the compensation system. If basic pay is not set at an appropriate level, the system will become imbalanced, requiring other compensation tools to fill the gap. Today, basic pay has fallen behind for some segments of the force, particularly mid-grade enlisted personnel and junior officers. This deficit is due primarily to the fact that the traditional basis for evaluating the adequacy of military pay is no longer valid. Today the Department pays its enlisted force as high school graduates and its officers as college graduates. In fact, the educational levels across the force are significantly higher.
- A new basis for comparing military and civilian pay is needed. For enlisted personnel, a composite profile of the earnings of high school graduates, those with some college, and college graduates serves as an appropriate comparison for different segments of the force. For officers, civilians with baccalaureate or advanced degrees working in professional and technical occupations are the appropriate comparison group. The earnings of warrant officers are appropriately compared to a composite profile of civilians with some college and college graduates. Getting basic pay right first is the basis for balance in the military compensation system.

The QRMC recommended that a targeted pay raise is needed for E-5 through E-7 in fiscal year 2003, “to further narrow the differential to the 70th percentile of

¹Ninth Quadrennial Review of Military Compensation, May 17, 2002, Department of Defense, page 185.

²Id.

civilian earnings.”³ The study also found that targeted raises for grades E-8 and E-9 are necessary “to preserve promotion incentives to these grades.”⁴

NCOA Recommends

That this Subcommittee appropriate the necessary funds to provide a 4.1 percent across-the-board pay raise for servicemembers and a targeted pay raise ranging from 5.5 percent to 6.5 percent for mid to senior noncommissioned officers. NCOA further recommends future increases in annual pay adjustments well above the Employment Cost Index (ECI) with the objective of restoring pay comparability for uniformed service personnel as soon as possible. NCOA further recommends that the Subcommittee consider the recommendations of the Ninth Quadrennial Review of Military Compensation to reform basic military pay tables to provide more appropriate pay adjustments between grades.

BASIC ALLOWANCE FOR HOUSING

With increasing costs of off-base housing, utilities, and transportation, as well as a pay comparability gap that is only slowly being addressed, the out-of-pocket expenses for living off-base are as vital an issue for enlisted families as is the basic pay raise. In the Fiscal Year 2000 National Defense Authorization Act, Congress approved a plan that would eliminate out-of-pocket expenses by 2005. While NCOA applauds Congress’ efforts to reduce these expenses for servicemembers’ and their families, the Association asserts that the elimination should be accelerated.

Out-of-pocket expenses were reduced to 11.3 percent of the national median housing costs for each grade in the Fiscal Year 2002 National Defense Authorization Act, and the fiscal year 2003 Defense bill authorizes a reduction to 7.5 percent. The proposed reduction for 2004 is 3.5 percent of the national median housing costs for each grade, and 0 percent in 2005. Living in high-cost areas can reduce the effectiveness of raises in basic pay, since enlisted families are forced to use their pay raises to make up their housing costs.

NCOA Recommends

NCOA recommends that this Subcommittee appropriate the funds needed for the acceleration of projected funding increases to match local housing costs, by grade, at every CONUS location as soon as possible. In view of the existing pay comparability gap and the rising private sector housing costs, NCOA believes it does not serve retention and readiness interests to delay elimination of out of pocket expenses until 2005.

EXTENSION OF RESERVE GI BILL DELIMITING PERIOD

Individuals who initially join the National Guard or Reserve from civilian life become eligible for the Selected Reserve Montgomery GI Bill (MGIB). Eligibility requirements include possession of a high school diploma, agreement to serve 6 years in the Selected Reserve, and completion of initial active duty for training. In today’s high-OPTEMPO Guard and Reserve environment, servicemembers find it increasingly difficult to juggle employment and school commitments with family and Reserve responsibilities. A part-time student-Guardsman or Reservist could easily exceed the 10 years currently authorized for Reserve MGIB benefits to complete an undergraduate degree. To enable successful completion of educational goals and access to all earned educational benefits, the period of benefit eligibility should be extended beyond completion of the 10-year eligibility period.

NCOA Recommends

That this Subcommittee ensure that Reserve Personnel accounts are adequately increased to cover the extension of the Reserve Montgomery GI Bill benefits usage period an additional 4 years beyond the current 10-year eligibility window.

CONTINUATION OF TRICARE PRIME REMOTE ELIGIBILITY

NCOA is grateful for the fiscal year 2001 NDAA provision authorizing TRICARE Prime Remote coverage for families of servicemembers assigned to areas where there is no TRICARE Prime option. However, this program has a shortcoming in that it requires that the family member must reside with the servicemember. This requirement may be reasonable when the family has a choice of accompanying the member, but this is not always the case. It can prove particularly troublesome for family members whose sponsor has Permanent Change of Station (PCS) orders that

³Id, page 187.

⁴Id.

are “unaccompanied.” In such circumstances, there can be many good reasons why the family finds itself living in an area without Prime access while awaiting the end of the unaccompanied tour.

Further, families of deployed Guardsman and Reservists called to active duty for over 179 days are eligible for the Prime Remote benefit, but in most circumstances the servicemember is sent far from their residence, and the family remains behind. Other circumstances where families are separated include families who may return to their home of record during deployment and college students residing away from home. These families are unfairly burdened by having to pay much higher copayments for care than their counterparts fortunate enough to have an opportunity to reside with the sponsor.

NCOA Recommends

That this Subcommittee ensure full funding of the Defense Health Program to include the expansion of TRICARE Prime Remote coverage to include active duty servicemembers’ family members who are unable to reside with the servicemember.

CONCURRENT RECEIPT

NCOA has long held that military retired pay and veterans’ disability compensation are paid for different purposes, and one should not offset the other. Specifically, retired pay is earned compensation for completing a career of arduous uniformed service, while veterans’ disability compensation is paid for pain and suffering and loss of future earnings’ potential caused by a service-connected disability. NCOA strongly believes the time has come to recognize this essential distinction by authorizing and appropriating the concurrent receipt of military retired pay and disability compensation paid by the Department of Veterans Affairs (VA).

The Fiscal Year 2002 National Defense Authorization Act authorized the elimination of the offset of retirement pay by disability compensation; however, the language stipulated that the President had to request funding in his budget request and that Congress had to pass offsetting legislation. While this did nothing substantive for disabled military retirees, it did set the stage for Congress to move toward eliminating the offset. The fiscal year 2003 National Defense bill authorizes eliminating the offset by 2007 for retirees with VA disability ratings 60 percent and above. Previous attempts to fix this inequity have all been met with the same response—the cost is too large. But, the cost to men and women in uniform who have been injured while serving this Nation is far greater. No one disabled in the course of serving his or her country should have to forfeit an earned retirement—for years of faithful and dedicated service—in order to receive VA disability compensation for the wounds, injuries, or illnesses incurred in such service.

Congress recently affirmed a similar principle in repealing the outdated statutory provision that, before October 1, 1999, required partial forfeiture of military retired pay by retired servicemembers who accepted post-service employment as Federal civilians. The same rationale applies to disabled servicemembers. That is, both categories of retirees deserve to receive the full retired pay they earned by virtue of their career of military service. Just as they should not be required to forfeit that retired pay based on their subsequent civilian employment, they should not have to pay a retired pay penalty because their service in uniform caused them long term disability. Compensation for the latter condition must be provided in addition to their earned retired pay, not in place of it.

NCOA Recommends

That this Subcommittee appropriate funds to allow disabled uniformed service retirees to receive veterans disability compensation concurrently with receipt of their full earned military retired pay.

NATIONAL CALL TO SERVICE PROGRAM

One of President Bush’s initiatives since taking office has been to encourage Americans to volunteer their time and skills to a cause greater than themselves. Following the horrific attacks on Americans on September 11, 2001, American citizens scrambled to find ways to offer their services to assist in America’s recovery. Blood and financial donations increased exponentially, and citizens flocked to provide other recovery services where they could. There is no doubt that Americans felt an unprecedented desire to contribute to their nation. With a decisive military response quickly following the worst terrorist attack on American soil, service in the military became a popular option for many. Regardless of the means by which Americans gave their time, the motivation was the same—service before self, the recognition of the need to serve a cause greater than themselves. The concept of an “all volunteer” military follows that same motivation. Because the United States no

longer drafts individuals to serve in the military, we must rely on men and women to answer the call to serve their country.

The National Call to Service Program provision in the Senate version of the fiscal year 2003 National Defense Authorization bill appears to be designed to support the President's volunteerism initiative, as well as to make military service more attractive for those looking for a way to serve the country in its time of need. While NCOA recognizes the many benefits of this program, the Association has many more concerns. With no apparent feedback from the various services and a generally negative response from the Association's members, NCOA believes that this program needs further analysis to determine its long-term effects on the services and their recruiting practices. Without thorough discussions of this issue having taken place, the Association cannot support this provision at this time.

NCOA Recommends

That this Subcommittee not appropriate funds for the National Call to Service Program at this time to allow for more thorough discussions and analysis.

CONCLUSION

The Non Commissioned Officers Association (NCOA) would again like to offer its thanks to this Subcommittee for the opportunity to present the Association's views on defense appropriations for fiscal year 2003. While the Association's focus is not necessarily on the weapons and equipment provisions in the Defense Authorization bill, the Association maintains its view that these items are essential to the well-being of the men and women serving in the Armed Services. With that said, NCOA would like to ask that the five personnel/quality of life provisions previously outlined in this testimony be given special attention by this Subcommittee and that this Subcommittee will ensure funding for their successful implementation. These five provisions, the basic pay raise, the increase in housing allowances, the extension of the Reserve GI Bill delimiting period, the extension of TRICARE Prime Remote eligibility, and concurrent receipt, are all important issues to our members and their families. Your support of these programs would be greatly appreciated.

Senator INOUE. Our next witness is the executive director of the Reserve Officers Association of the United States, Mr. Jason Spiegel.

STATEMENT OF JAYSON L. SPIEGEL, EXECUTIVE DIRECTOR, RESERVE OFFICERS ASSOCIATION OF THE UNITED STATES

Mr. SPIEGEL. Thank you, Mr. Chairman. On behalf of the 80,000 members of the Reserve Officers Association (ROA), I am grateful for the opportunity to present ROA's views with respect to the defense appropriations bill for 2003. I have a written statement which, with your permission, I will submit for the record.

Let me thank you and the committee for your strong support of the men and women of the Reserve component. Your faith and confidence in our dedication, achievements, and competence have not been misplaced.

The Department of Defense and the Congress have both made it clear that the future of our national defense policy will continue to depend significantly upon the Reserve components. This total force policy is being fully vindicated today by the 83,000 men and women of the Guard and Reserve who have been mobilized in support of Operations Noble Eagle and Enduring Freedom. In fact, no major extended operation involving U.S. military forces is possible without using our Reserve forces.

My written statement details various unfunded Reserve requirements. In the interest of time, I shall limit my remarks to two specific areas, equipment and the Congress of the Interallied Confederation of Reserve Officers.

With respect to equipment, this Congress long ago recognized that Reserve equipment shortfalls are the major inhibitor of Re-

serve force readiness. The Congress has for the past several years added funds to procurement specifically to provide equipment for the Reserves, equipment that would not be readily available through normal service channels. As a result, Reserve force equipment readiness has improved steadily.

These Reserve equipment funds remain vitally important to the Reserve's ability to perform their mission. The Reserves cannot train to maintain the active components' new state-of-the-art equipment if the Reserves have only old and substitute equipment handed down by the active components. Moreover, logistical cost and strain involved in maintaining the parts required for multiple incompatible systems is no longer fiscally sound. DOD has indicated that it wishes to fund Reserve force equipment within the normal budgetary processes. The results thus far have been disappointing. Absent the significant and consistent improvement in DOD's approach to Reserve component equipment procurement, we believe that the National Guard and Reserve equipment appropriation must remain an essential element of Reserve force readiness.

Each of the Reserve components has specific high priority equipment shortfalls. With respect to the Army Reserve, we would draw your attention to the biological integrated detection system. This system detects any biological agents which may be released anywhere in the world by a hostile force. There are only two such units currently in the Army inventory, one on active duty, one in the Reserve. The Reserve unit was mobilized immediately after September 11, and is continuing to perform its mission throughout the world.

In addition, \$28 million is required to complete the \$42 million buy for the next unit, which is scheduled to be fielded next fiscal year in St. Louis. The Army Reserve also has needs for additional humvees and high frequency radios.

The other services primarily have aviation needs. The Navy Reserve needs additional C-40 Air Force for its inter-theater airlift mission, the Marine Corps Reserve requires F/A-18 upgrades so that its Reserve aircraft are compatible with the active aircraft, and the Air Force Reserves needs two C-17's and 10 C-40A's necessary for its critical air mobility mission.

Let me turn now to the Congress of the Interallied Confederation of Reserve Officers. This is a forum that brings together reservists from all the North Atlantic Treaty Organization (NATO) and Partnership for Peace (PFP) countries to discuss issues and advise the Commander in Chief (CINC). Confederation of Reserve Officers (CIOR) is not a private organization. It is an official organ of the NATO Military Committee chartered under MC-248. Mr. Chairman, your colleague, Senator Thurmond, was the international vice president of CIOR back in the mid-1950's.

Each year, a NATO country hosts the International Congress of CIOR, and in 2004 the Congress is scheduled to be held in the United States. DOD has decided not to support this meeting because of the war on terrorism, and has urged that the meeting be moved to another NATO country. We believe that is exactly the wrong signal to send to our NATO allies, and we ask that the Congress provide \$500,000 in fiscal year 2003 to prepare for and execute the CIOR Congress in 2004 to be held in the United States.

There is report language in the Senate Armed Service Committee (SASC) report that does urge that DOD reverse itself and support this Congress.

With that, Mr. Chairman, I will answer any questions that you may have.

[The statement follows:]

PREPARED STATEMENT OF JAYSON L. SPIEGEL

Mr. Chairman and Members of the Subcommittee: On behalf of the members of the Reserve Officers Association from each of the uniformed services, I thank you for the opportunity to present the association's views and concerns relating to the Reserve components and the National Defense Appropriations Act for Fiscal Year 2003.

To say that this is an extraordinary year, a year like no other in recent history, has become a truism that belies the harsh reality of September 11th and its aftermath. So much has changed so obviously in our outlook, our way of living, and our approach to doing the nation's business, that it requires no further enumeration.

In the National Defense Authorization Act for Fiscal Year 1991, the Congress stated that "the overall reduction in the threat and the likelihood of continued fiscal constraints require the United States to increase the use of the Reserve components of the Armed Forces. The Department of Defense should shift a greater share of force structure and budgetary resources to the Reserve components of the Armed Forces. Expanding the Reserve components is the most effective way to retain quality personnel as the force structure of the Active components is reduced . . . The United States should recommit itself to the concept of the citizen-soldier as a cornerstone of national defense policy for the future."

Studies and Analyses

Before September 11th, the results of recent force structure studies were largely manifested as significant reductions to Reserve end strength underpinned by undue optimism. It remains to be seen what changes to the national defense strategy may be forthcoming as a result of emerging homeland security missions and the findings and recommendations of the National Security (Hart-Rudman) Commission, the administration's initial Defense assessment, the National Defense Strategy, and the 2001 QDR and its directed comprehensive review of Reserve forces. Evolutionary or revolutionary, these changes will ultimately hinge on affordability and the prudent acceptance of risk. Thus far there has been notable growth in defense spending, but how far that growth will go toward remedying the deficiencies of the previous decade remains to be seen.

Although earlier force structure reviews were described as being threat-based rather than budget-driven, common sense and experience says that both of these factors will play a large part in developing the final product in both cases. Ultimately the recommended solution will bear evidence of pressure from both sides of the equation. To achieve balance in the face of unyielding economic constraint, force structure will be transformed and so, too, will the definition of the perceived threat.

Clearly, this is not the way to develop a national defense strategy for the next century; nevertheless, the actual product is more likely to resemble this model than not. What may be salutary in this process will be the necessity of significantly transforming the structure of the Total Force to integrate components and to eliminate as much as possible the current unnecessary redundancies that exist, both inter- and intra-service and component. However the structure is finally crystallized, one thing is virtually certain: our Reserve forces must and will play an increasingly significant role in it and its employment.

Greater Reliance on Reserve Components

The 50 years of reliance on a large, Cold War, standing military have ended. Confronted with sizeable defense budget reductions, changes in the threat, and new missions, America's military answer for the future must be a return to the traditional reliance on its Minutemen—the members of the Reserve components. Can America's Reservists fulfill their commitment to the Total Force—can they meet the challenge?

Operations Desert Shield and Desert Storm proved that the Reserve components were ready and able. During the Gulf War, more than 265,000 Reservists were called to active duty. Of the total mobilized, 32 percent were from the National Guard and 67 percent from "the Reserve." More than 106,000 Reservists were de-

ployed to Southwest Asia. About 20 percent of the forces in the theater were members of the Reserve components.

In Bosnia and Kosovo, more than 48,000 Reservists have again demonstrated their readiness and their capability to respond to their nation's call. For the past several years, the Reserve components have provided approximately 12.5 million support days to the Active components annually. That equates to some 35,000 support years annually, the equivalent of two Army divisions.

A strong, viable Reserve force is an inseparable part of America's military, a cost-effective augmentation to the Active force and the marrow of the mobilization base. Ultimately, mobilizing Reserve forces is the litmus test and the enabler of public support and national will. The early and extensive involvement of the Guard and Reserve in the Gulf War was instrumental in achieving the strong public support of the military and our national objectives.

Reserve Components' Cost-Effectiveness

ROA has long maintained that a proper mix of Active and Reserve forces can provide the nation with the most cost-effective defense for a given expenditure of Federal funds. Reservists provide 38 percent of the Total Force, but cost only 7.5 percent (\$23.4 billion) of the fiscal year 2002 DOD budget. They require only 23 percent of active-duty personnel costs, even when factoring in the cost of needed full-time support personnel. We need only consider the comparable yearly personnel (only) costs for 100,000 Active and Reserve personnel to see the savings. Over a 4-year period, 100,000 Reservists cost \$3 billion less than 100,000 Active duty personnel. If the significant savings in Reserve unit operations and maintenance costs are included, billions more can be saved in the same period. ROA is not suggesting that DOD should transfer all missions to the Reserve, but the savings Reservists can provide must be considered in force-mix decisions. It is incumbent upon DOD to ensure that the services recognize these savings by seriously investigating every mission area and transferring as much structure as possible to their Reserve components.

ARMY RESERVE

The Army Reserve has played a major role in the Army's increased post-Cold War OPTEMPO. When the Army has deployed, so has its Army Reserve. The downsizing of America's Army and the Army's decision to transfer much of its combat service (CS) and combat service support (CSS) into the Reserve have required a much greater reliance by the Army on its Army Reserve. The Army can no longer go anywhere or sustain its operations once there without the support of its Reserve components. However, this increased reliance has not generated adequate funding in the Defense budget.

The expected fiscal year 2002 budget request, as have previous budgets, appears to critically underfund the Army Reserve personnel, operation and maintenance, and military construction accounts. These resourcing shortfalls will adversely affect readiness and training and ultimately the quality of life, the morale, and the retention of these highly motivated and patriotic citizen-soldiers.

The Army Reserve's expected share of the Army budget request in the fiscal year 2002 DOD budget request is \$4.3 billion or 5.7 percent of the entire \$75.5 billion Army request. Separated into the Reserve Personnel, Army (RPA) and the Operation and Maintenance, Army Reserve (OMAR) accounts, the request is for approximately \$2.6 billion RPA and \$1.7 billion OMAR. At those funding levels both accounts require considerable plus-ups to fully fund known requirements—requirements that were identified during the development of the president's budget, but because of insufficient funding fell below the line and were not resourced. Critical/executable funding shortfalls identified in the RPA and OMAR areas alone is expected to exceed \$300 million.

Reserve Personnel, Army

The fiscal year 2001 authorized end strength for the Army Reserve is 205,300. Reliance on the Guard and Reserve for involvement in real world operations and domestic contingencies increased considerably during the last decade. During this evolution of the Reserve from a break-glass-in-case-of-emergency-type operation to its current role as a full partner in the Army's real world operations, adequate resourcing to support readiness, training, manning and equipping of the Reserve to enable it to support the Army and our national military strategy has become critical.

The expected RPA budget request for \$2.6 billion will not provide adequate funds to train, educate, man, and support Army Reserve personnel and units at levels required for immediate mobilization and deployment. Based on preliminary budget es-

timates we believe the fiscal year 2002 Defense budget request will critically underfund the Army Reserve by over \$150 million in several Reserve Personnel, Army accounts. For example:

Active Guard Reserve (AGR) Personnel

Active Guard Reserve (AGR) personnel give USAR units the ability to maintain a high-level of readiness by providing the additional training, command and control, technical functional, and military expertise required to efficiently and effectively transition from peacetime to a wartime posture. One of the greatest challenges facing the Army Reserve today is an insufficient number of full-time manning (FTM) authorizations to support the over 1,900 USAR units in day-to-day operations.

The Army Reserve has the lowest percentage of FTM of all the Reserve components and historically has been the component most frequently called and deployed. The shortage of FTM personnel constrains high priority units and causes personnel turbulence in lower priority units, as personnel are cross-leveled to fill higher priority units.

The Army has established an 11-year ramp of 300 AGRs each year beginning in fiscal year 2002 to increase the level of AGR FTM positions within the USAR. Projected fiscal year 2002 costs to support the fiscal year 2001 AGR increase and the fiscal year 2002 ramp is projected to be \$23.5M. The Army Reserve has a critical/executable-funding shortfall of \$23.5 million in its AGR FTM program.

Incentives Program

The USAR has validated requirements for \$147 million to support its fiscal year 2002 incentives programs. Expected funding for the program based on the September 2000 Best Estimate (BES) is \$115 million leaving a critical shortage of \$32 million. Any shortfall will put at risk initial payments for non-prior service, prior service, reenlistment, and health professional recruiting and retention bonuses; its health professional loan repayment program; the Montgomery GI Bill Kicker; and College First. Recent congressional actions to enhance incentives have increased the non-prior service bonus from \$5,000 to \$8,000, the health professional loan repayment from \$20,000 to \$50,000, and the reenlistment window from 10 to 14 years. We believe the Army Reserve will have a critical executable funding shortfall of \$32 million in its incentives program.

Army Reserve Unit Sustainment Training

The Army had insufficient total obligation authority (TOA) to fully resource all fiscal year 2003 unit training and collective training requirements and ensure sufficient train-up time for the Army after mobilization to meet required readiness levels. Supply, maintenance and unit management activities, command inspections, safety programs, and emergency preparedness training/operations will not be conducted and pushed into IDT periods. The level of funding required is \$107 million and is funded at \$50.0 million, leaving a critical shortfall of \$57 million. The executable/critical shortfall for Army Reserve Unit Sustainment Training is \$57 million

Operations And Maintenance, Army Reserve (OMAR)

The fiscal year 2003 DOD budget request for the Army Reserve Operations and Maintenance (OMAR) account is \$1.9 billion. We believe there is at least a \$165.1 million executable/critical OMAR shortfall in the fiscal year 2003 budget request that will force the Army Reserve to compensate by further reducing equipment and facility maintenance, and supply purchases. Backlogs for maintenance and repair continue to grow and necessary support to essential training continues to deteriorate, decreasing readiness and contributing to a lower quality of life for unit soldiers.

Full-Time Manning: MILTECHs

The lack of adequate numbers of required military technicians (MILTECHs) in USAR units and maintenance facilities jeopardizes unit readiness. The Army has a validated requirement for 8,990 MILTECHs based on staffing standards that require minimum staffing levels of required MILTECHs of 90 percent for Force Package (FP)1 units, 80 percent for FP2 units, 70 percent for FP3 units and 65 percent for FP4 units. These percentage levels are considered the "high-risk" threshold for USAR and ARNG MILTECH authorizations.

The current USAR MILTECH endstrength of 7,344 is 1,646 below the validated requirement of 8,990. These MILTECHs will enable units to maintain a higher level of readiness by providing additional training, technical, functional and military expertise required to efficiently and effectively transition from peacetime to wartime posture.

The Army has established a ramp of 250 MILTECH each year beginning in fiscal year 2002 to increase the level of MILTECH FTM positions within the USAR. There is no funding for the fiscal year 2003 ramp leaving a \$8 million shortfall. The executable/critical shortfall for the USAR MILTECH program is \$8 million.

Advertising

Army Reserve advertising is underfunded by at least \$9.7 million in the fiscal year 2003 budget request. Without adequate advertising funding, the Army Reserve will be unable to overcome the market effects of a strong economy and the low propensity of our nation's youth to enlist in the military.

The USAR fiscal year 2003 recruiting advertising requirement is \$61 million, but it is funded at only \$50.3 million. The Army Reserve must expand its Internet advertising to keep pace with new technology and media habits of the targeted market. It must also consider the expanding female and Hispanic markets. In addition, there are greater than ever needs to recruit special skills such as medical and linguists. The USAR recruiting environment is difficult. A good offset is a vibrant, adequately funded ad campaign that reaches the target audiences. The executable/critical shortfall for advertising is \$9.7 million.

USAR Reserve Component Automation System (RCAS) Life Cycle Support

The RCAS infrastructure enables the USAR to integrate rapidly into joint organizations and is required to support Joint and Army C4/IT systems/concepts, i.e., Defense Message System (DMS), Common Access Card (CAC) Global Combat Support System (GCSS) and others. The life cycle support of the fielded RCAS systems becomes the responsibility of each Reserve component in fiscal year 2002. The Army has insufficient TOA to fully resource these costs that the USAR must pay to maintain the systems worth \$2.4 billion in capital investment.

RCAS is crucial to the USAR day-to-day CONUS/OCNUS operations and is designed to support virtually every type of mission including effective C2, soldier's pay, mobilization, training, sustainment, and administration. The executable/critical shortfall for the RCAS Life Cycle Support is \$7.1million.

Force Protection

The Army Reserve has insufficient force protection funds. The events of September 11th raised the visibility of significant security deficiencies at several Army Reserve facilities. Funding the entire Force Protection program is crucial if the Army Reserve is to close its installations and maintain the minimum ATFP standards. If the program remains critically underfunded, Army Reserve facilities will remain unprotected and face a continuing terrorist threat. Current funding levels do not permit the Army Reserve to upgrade and repair facilities in accordance with the new DOD antiterrorism/force protection standards. The \$52 million requirement is funded at \$28 million leaving a critical shortfall of \$24 million. The executable/critical shortfall is \$24.0 million.

National Guard And Reserve Equipment Request

The Office of the Secretary of Defense in its February 2000 "National Guard and Reserve Equipment Report for Budget Year 2001", (the 2001 report is not available) states that the Army Reserve has 89 percent of its Equipment Readiness Code A (ERC A) equipment items and 87 percent of its ERC-P items on-hand for all units. This represents a projected shortfall of equipment through fiscal year 2005 that exceeds \$2.1 billion.

The greatest source of relief to Army Reserve equipment shortages is the National Guard and Reserve Equipment Appropriation (NG&REA) that funds equipment requirements identified by the services but not resourced due to funding shortfalls in the FYDP. Since 1981 the Army Reserve has received, through the oversight of Congress, nearly \$1.5 billion in equipment through the NG&REA. Without the appropriation the Army Reserve would still be struggling to reach 50 percent equipment on hand (EOH). The NG&REA works, and works well. ROA urges the Congress to continue the NG&REA and to fully fund the Army Reserve \$896 million fiscal year 2003 equipment modernization requirement.

AIR FORCE RESERVE

Thank you for your continued interest in how the Air Force Reserve is doing as it responds to today's unique challenges while supporting active duty Air Force and Joint Commanders. ROA is especially appreciative of your support in the fiscal year 2002 Defense appropriations for pay and allowance increases, as well as funding school and special training. Your efforts to fund military construction and reserve equipment help to address continuing shortages. Support in recruiting and adver-

tising helped our recruiters achieve an outstanding accession rate of 105 percent and command retention rates were exceeded in all categories during fiscal year 2001. For the coming year, recruiters will have an additional challenge facing them due to the Air Force enforcing stop-loss for over half of the year.

Highlights

The Air Force Reserve operates 447 aircraft and is mission-ready and able to deploy within 72 hours. The Air Force Reserve has 9,245 reservists in support of Noble Eagle/Enduring Freedom down from a high of 12,500. They have also provided between 2,000 and 3,000 volunteers in other active duty statuses to those mission areas. The challenge will be to support Air Expeditionary Force (AEF) commitments with volunteers while continuing to support Noble Eagle/Enduring Freedom. The Reserve provided to AEF over 14,000 personnel during each of the first two 15-month cycles.

Requirements

Of particular concern is the increased need for potentially 2,000 or more personnel in the fields of security, intelligence, information operations, space, and maintenance. Additional issues of concern during the current tempo are:

- Fund 3- and 6-year reenlistment bonuses for the Selected Reserve up to 20 years to encourage retention of trained personnel
- Fund increased prior service enlistment bonus (\$5,000 to \$8,000) to encourage prior service personnel to continue their military service (similar to non-prior service recruits)
- Remove the appropriation prohibition on security forces so billets can be filled with Reserve full-time support personnel
- Fund increased end strength ceilings during mobilizations

Just as with Desert Shield/Storm, recent events have once again reminded everyone of the critical need for the Air Force Reserve to be a Total Force participant. The Reserve provides the Air Force with a surge capability in aircrew, support personnel, and airframes. It is imperative the Air Force Reserve remains a constant contributor to our nation's defense by being equipped with the latest equipment and weapon systems.

Modernization requirements are:

Fiscal year 2003 requirements	Quantity	Cost in Millions
C-17s	2	TBD
C-40s	10	TBD
KC-135 Engine Kits	2 kits	\$54
C-130 Js	3 ac	\$217.9
F-16 Commercial Central Interface Unit—Upgrade	80 kits	\$7.3
F-16 Processor Upgrade (Color)	23 units	\$3.71
Tactical Radios (SCOPE SHIELD II)	41 sets	\$9.25
Motor Vehicles For Med UTC's (Multi-Yr)	34 veh	\$1.87
Snow Removal Vehicles	7 veh	\$1.2
Land Mobile Radios (Multi-Yr)	5.5 bases	\$4.08
Intrusion Detection System (Multi-Yr)	5 bases	\$2.063
Hydrant Fueling Trucks	9 trucks	\$1.4
Truck Tractors	10 trucks	\$0.77
Utility Truck (4x4)	5 trucks	\$0.152
Flightline Video Surveillance System	4 systems	\$0.72
Next Generation NVGs	30 sets	\$1.5

NAVAL RESERVE

Since September 11th, 2001, the Naval Reserve has recalled approximately 10,000 Selected Naval Reservists to support Operations Noble Eagle and Enduring Freedom. The great preponderance of those mobilized has been dedicated to the conduct and execution of Operation Enduring Freedom. The majority of these Naval Reservists have been recalled individually based on specific skills. They include significant numbers of law enforcement officers and security specialists. Entire units of the Naval Coastal Warfare commands were activated. Medical, supply, intelligence and other specialties are being heavily tasked. Naval Reserve pilots are keeping the flow of men and materiel flowing to the theater of operations.

Funding for fiscal year 2002 enabled the Naval Reserve to resource peacetime contributory support, bonuses, a substantial pay raise, real property maintenance, base operating support, and recruiting advertising/support. It is clearly evident that Con-

gress has given full recognition to the significant and well-recognized compensating leverage offered by today's Naval Reserve, which represents 19 percent of the Navy, yet expends only 3 percent of the budget.

Naval Reserve end-strength was reduced from 88,900 in fiscal year 2001 to 86,011 in fiscal year 2002. The issue of peacetime contributory support versus surge training requirements continues to pull Naval Reserve personnel policies and operations in two different, not wholly compatible, directions. Highly trained, motivated and experienced Naval Reserve personnel should not be lost to the Naval Reserve Force while the nation girds for the long-haul in the war on terrorism. ROA strongly urges the Congress to increase Naval Reserve end-strength to 87,500 to support the increased requirements imposed by Operations Enduring Freedom and Noble Eagle for the foreseeable future.

Several Naval Reserve personnel programs in particular should be maintained or increased in fiscal year 2003: (1) Active Duty for Training is a program that provides Naval Reservists to the Navy CinCs for unique, short-term periods in support of fleet requirements. ROA supports a funding level of \$10 million for fiscal year 2003 for this highly successful program. (2) Additional support for non-prior service accessions allows Naval Reserve recruiters greater direct access to the public. This program accounts for approximately one third of new USNR enlistees. ROA encourages the Congress to increase the level of funding for this effort in fiscal year 2002 by \$2.5 million in order to implement the non-prior service enlistment bonus program. (3) Additional active duty funding for schools should be provided in the amount of \$4 million. (4) Incentive pay for Reserve personnel in hard to fill and hard to maintain specialties, such as medical programs, should be increased by \$4 million. (5) Lastly, new funding should be provided to fund the funeral honors support program.

Naval Reserve Equipment Requirements

Fiscal year 2002 was marked by a sharp decline in procurement of equipment for the Naval Reserve. Total Naval Reserve equipment procurement has steadily declined from \$260 million in fiscal year 1997 to about \$35 million in fiscal year 2002, with NGREA and congressional add-ons virtually disappearing and P1R equipment shrinking precipitously. This rapid downturn in real dollars is of significant concern since the readiness of Naval Reserve hardware units is in great jeopardy. In summary, given the force-multiplying effect of today's Naval Reserve and its proven potential as a cost-effective force multiplier to assist in additional missions, the Naval Reserve must continue to receive sufficient funding and to hold and receive updated warfighting equipment if the United States is to be expected to have a well-trained contingency force ready to respond in the event of national emergency.

NAVAL RESERVE FISCAL YEAR 2003 EQUIPMENT NEEDS

[Dollars in millions]

UNFUNDED EQUIPMENT REQUIREMENT	Cost	Quantity
C-40A Transport Aircraft	\$189.0	3
Littoral Surveillance System	30.0	1
IT-21 Fleet Readiness Infrastructure Support	17.0	.....
F/A-18 Mod, ECP 560 & AN/AAS	37.0	6
Naval Coastal Warfare TOA	70.0	.....
P-3C AIP/Block Mod Update III Kits	27.0	3
P-3C/BMUP Kits	27.0	.....
FLIR Targeting Pod	7.5	5
C-130T Avionics Modernization Program	4.0	20
F-5 Avionics Modernization	16.0	4
CH-60 Helicopter	88.0	4

Equipment modernization is the most critical priority for the Naval Reserve. ROA strongly urges the Congress to provide \$527.5 million to support the vital and continuing Naval Reserve unfunded equipment needs in fiscal year 2003.

MARINE CORPS RESERVE

Nearly 5,000 Marine Corps Reservists have been recalled under the partial mobilization declared by the President. Marine Reservists are in every theater of the war on terrorism. They are in Guantanamo Bay, Cuba, guarding Al Qaeda detainees and they were in Kandahar, Afghanistan securing the heartland of the Taliban. Every Marine is first and foremost a Marine and a rifleman.

ROA urges the Congress to maintain Selected Marine Corps Reserve end-strength at 39,558 (including 2,261 Active Reservists) in order to ensure the Marine Corps capability to be the first expeditionary American force to meet and defeat the enemy anywhere in the world.

Equipment Modernization

Modern equipment continues to be critical to the readiness and capability of the Marine Corps Reserve. Although the Marine Corps attempts to implement fully the single acquisition objective philosophy throughout the Marine Corps Total Force (Active and Reserve), there are some unfilled Reserve equipment requirements that have not been met because of funding shortfalls.

To achieve the readiness necessary to quickly mobilize and augment the Active Marine Forces in time of national emergency, Marine Forces Reserve units must be equipped in the same manner as their Active force counterparts. The top modernization requirement of Marine Corps Reserve continues to be Engineering Change Proposal 583 (ECP-583), which will make its F/A-18A aircraft compatible with the F/A 18 Cs utilized by the Active force. As part of a complete modernization to achieve complete Force interoperability and support compatibility, this initiative will upgrade the aircraft to state of the art avionics and weapons systems. A safe and consistent fielding of the V-22 Osprey tilt rotor flight system is critical to the future readiness of Marine Corps aviation. Reserve CH-46Es will not be replaced for at least another 10 years at the current planned production rate. Further, until the V-22 is fielded to the Reserve, the Marine Corps Reserve will not be able to take full advantage of the skills of V-22-trained Marines who separate from the Active forces. The increasing cost of CH-46E maintenance and this potential loss of V-22 expertise can be avoided by earlier fielding of the V-22 across the Total Force.

MARINE CORPS RESERVE FISCAL YEAR 2003 UNFUNDED EQUIPMENT NEEDS

[Dollars in millions]

UNFUNDED EQUIPMENT REQUIREMENT	Cost	Quantity
F/A-18A ECP-583 (12 USMCR aircraft)	\$70.0	36
CH-53E Helicopter Night Vision System (HNVS) "B" Kits	45.0	.....
KC-130 APR V2 Radar Warning Receiver	2.0	.....
CH-53E External Cargo Load Improvements	3.3	.....
CH-53E APR-39A V2 Radar Warning Receiver	20.0	.....
NBC Equipment	0.8	.....
KC-130T Avionics Modernization	8.5	.....
CH-53E SLEP Risk Assessment	15.0	.....
CH-53E Aircrew Procedure Trainer (APT) Flight Simulator	12.8	1
AH-1W Aircrew Procedures Trainer (APT) Flight Simulator	10.0	1
Supplemental Aviation Spares Package	7.0	.....
Reserve Manpower Management System 21st Century	1.2	.....
Initial Equipment Issue (Reserves)	6.5	.....

Aviation equipment funded through Aircraft Procurement Navy appropriation.

ROA recommends that the Congress authorize and appropriate \$202.1 million for these critical unfunded Marine Corps Reserve equipment priorities.

INTERALLIED CONFEDERATION OF RESERVE OFFICERS—CIOR

The Reserve Officers Association is asking the Congress to provide support, through the Department of Defense, for the 2004 International Summer Congress of the Interallied Confederation of Reserve Officers (CIOR) and the Interallied Confederation of Reserve Medical Officers (CIOMR) that will be hosted by the United States. This is a United States nationally sponsored event, not a private association conference. U.S. military team members, most of whom are world-class athletes, will compete in international team sporting events, including orienteering, obstacle courses and marksmanship, equivalent to triathlon "Ironman" sports competitions, against other nationally sponsored teams over a period of ten days. A host of other activities focused on military professional development, information exchange, and leadership will also highlight the agenda.

This CIOR International Summer Congress was last held in the United States in 1993 in Washington and ROA, as agent for CIOR, deeply appreciated the support of the Department of Defense, and its contribution of personnel and resources. That Summer Congress was a tremendous success and highlighted the outstanding athletes and Reserve military forces of the United States, as well as the Capitol of our nation. It should be noted that Senator Strom Thurmond previously served as the

United States International Vice President for CIOR. CIOR was created in 1948 prior to the Washington Treaty of 1949 that formed NATO. It serves the sole purpose of supporting NATO under a NATO Military Committee charter that empowers CIOR to advise NATO on Reserve forces and to advocate and demonstrate a strong public diplomacy for the citizen-soldier on behalf of NATO.

ROA strongly urges the Congress to support the commitment to, planning for, and execution of the 2004 CIOR/CIOMR Summer Congress in Washington, D.C., to include fully funding the Military Competitions and the Young Reserve Officers Workshop events in the 2004 Summer Congress. Congress is further requested to create a discrete budget line for CIOR/CIOMR in the Department of Defense account, and appropriate \$500,000 in fiscal year 2003 for the purpose of supporting the 2004 CIOR Summer Congress. By so doing, Congress will signal unequivocal U.S. support for this important foreign policy and national security activity.

CONCLUSION

Thank you for the opportunity to represent the Reserve Officers Association's views on these important subjects. Your support for the men and women in uniform, both Active and Reserve is sincerely appreciated. I'll be happy to answer any questions that you might have.

Senator INOUE. Well, I will suggest to my subcommittee that we, on behalf of Senator Thurmond, provide the money.

Mr. SPIEGEL. Thank you, sir. We appreciate it.

Senator INOUE. Thank you very much.

Our next witness is the vice president of public policy, the Leukemia & Lymphoma Society, Mr. George Dahlman.

STATEMENT OF GEORGE DAHLMAN, VICE PRESIDENT, PUBLIC POLICY, THE LEUKEMIA & LYMPHOMA SOCIETY

Mr. DAHLMAN. Thank you, Mr. Chairman, for this opportunity to testify on behalf of the Leukemia & Lymphoma Society. I am George Dahlman, as you know, vice president, public policy, for the society. I am also the parent of a child with leukemia.

During its 52-year history, the society has been dedicated to finding a cure for the blood cancers. Those are leukemia, lymphoma, and myeloma. The society is both the largest private organization dedicated to blood cancers and also the Nation's second-largest private cancer organization. In 2002 we are providing \$38 million in research grants and a wide range of services to patients and their families throughout our 59 chapters across the country.

A great deal of progress is being made in the treatment of many blood cancers. Over the last two decades there have been impressive strides in the treatment of childhood leukemia. Just last year, a new therapy was approved for chronic myelogenous leukemia (CML) called Gleevec. It is a so-called targeted therapy that corrects the molecular defect that causes the disease.

Despite the advances in these diseases, they pose a continuing risk to Americans. In 2002, more than 100,000 people will be diagnosed with a blood-related cancer, and almost 60,000 will die from them. Taken together, the blood cancers are fifth among cancers in incident, and second in mortality.

Why are these diseases important to the Department of Defense? They are important for a number of reasons. First, research on blood-related cancers have special relevance to the Armed Forces because these are the cancers that appear among individuals with chemical warfare and nuclear exposure. Higher incidences of leukemia have long been substantiated in extreme nuclear incidents in both military and civilian populations, and recent studies have proven that individual exposure to chemical agents such as Agent

Orange in the Vietnam War caused an increased risk of lymphoid malignancies.

This point was driven home in The Washington Post yesterday in its description of a plot to explode a so-called dirty bomb, and the number of cancer cases that would result from such an incident.

Secondly, research in the blood cancers has traditionally pioneered treatments in other cancers. Chemotherapy and bone marrow transplants are two striking examples of treatments first developed in the blood cancers now being applied to other malignancies. The more recent example of Gleevec and its targeted molecular approach to treatment clearly continues that tradition.

That relevance and opportunity was recognized last year when Congress appropriated \$5 million to begin the initial research into chronic myelogenous leukemia through the Pentagon's peer reviewed program. Since that program was announced, members of the society, patient advocates, and leading researchers have enthusiastically welcomed the opportunity to become a part of that program. Unfortunately, \$5 million does not go very far in medical research.

Recognizing that fact, and the opportunity here, a bipartisan group of 31 Members of Congress have requested that the program be modestly increased to \$16 million and be expanded to include all of the blood cancers, leukemias, lymphomas, and myelomas. This would provide the research community with the flexibility to build on the pioneering tradition that has characterized this field.

DOD research on the other forms of blood-related cancer addresses the importance of preparing for civilian and military exposure to the weapons being developed by several hostile nations, and to aid in the march to a more effective treatment to all who suffer from these diseases.

The Leukemia and Lymphoma Society, along with its partners in the Blood Cancer Coalition, the Lymphoma Research Foundation and the Multiple Myeloma Research Foundation strongly endorses and enthusiastically supports this effort, and respectfully urges the committee to include this funding in the fiscal year 2003 defense appropriations bill.

That concludes my statement, Mr. Chairman. I would be happy to answer questions.

[The statement follows:]

PREPARED STATEMENT OF GEORGE DAHLMAN

INTRODUCTION

I am pleased to submit this statement on behalf of The Leukemia & Lymphoma Society (LLS). The Society is the largest private organization dedicated to blood-related cancers and is the nation's second largest private cancer organization. During its 52-year history, the LLS has been dedicated to finding a cure for the blood cancers—leukemia, lymphoma, and myeloma. Our central contribution to the search for a cure is funding a significant amount of basic and translational research in the blood cancers. In 2002, we will fund almost \$38 million in research grants. In addition to our role as a funder of research, we provide a wide range of services to individuals with the blood cancers, their caregivers, families, and friends through our 59 chapters across the country. Finally, we advocate responsible public policies that will advance our mission of finding a cure for the blood cancers.

We are pleased to report that impressive progress has been made in the treatment of many blood cancers. Over the years, there have been steady and impressive

strides in the treatment of the most common form of childhood leukemia, and the survival rate for that form of leukemia has dramatically improved. And just last year, a new therapy was approved for chronic myelogenous leukemia, a form of leukemia for which there were previously limited treatment options, all with serious side-effects. This new therapy, a signal transduction inhibitor called Gleevec, is a so-called targeted therapy which corrects the molecular defect that causes the disease, and does so with few side effects.

LLS contributed to the early research on Gleevec, as it has contributed to basic research on a number of new therapies. We are pleased that we played a role in the development of this life-saving therapy, but we realize that our mission is far from complete. Many forms of leukemia and lymphoma present daunting treatment challenges, as does myeloma. There is much work still to be done, and we believe the research partnership between the public and private sectors—as represented in the Department of Defense's Congressionally Directed Medical Research Program—in an integral part of that effort and should be strengthened.

THE GRANT PROGRAMS OF THE LEUKEMIA & LYMPHOMA SOCIETY

The grant programs of the LLS are in three broad categories: Career Development Grants, Translational Research Grants for early-stage support for clinical research, and Specialized Centers of Research. In our Career Development program, we fund Scholars, Special Fellows, and Fellows who are pursuing careers in basic or clinical research. In our Translational Research Program, we focus on supporting investigators whose objective is to translate basic research discoveries into new therapies.

The work of Dr. Brian Druker, an oncologist at Oregon Health Sciences University and the chief investigator on Gleevec, was supported by a translational research grant from LLS. Dr. Druker is certainly a star among those supported by LLS, but our support in this field is broad and deep. Through the Career Development and Translational Research Programs, we are currently supporting more than 400 investigators in 33 States and ten foreign countries.

Our new Specialized Centers of Research grant program (SCOR) is intended to bring together research teams focused on the discovery of innovative approaches to benefit patients or those at risk of developing leukemia, lymphoma, or myeloma. The awards will go to those groups that can demonstrate that their close interaction will create research synergy and accelerate our search for new therapies, prevention, or cures.

IMPACT OF HEMATOLOGICAL CANCERS

Despite enhancements in treating blood cancers, there are still significant research opportunities and challenges. Hematological, or blood-related, cancers pose a serious health risk to Americans. These cancers are actually a large number of diseases of varied causes and molecular make-up, and with different treatments, that strike men and women of all ages. In 2002, more than 100,000 Americans will be diagnosed with and almost 60,000 will die from these cancers. For some, treatment may lead to long-term remission and cure; for others these are chronic diseases that will require treatments on several occasions; and for others treatment options are extremely limited. For many, recurring disease will be a continual threat to a productive and secure life.

—Taken together, the hematological cancers are fifth among cancers in incidence and second in mortality.

—Almost 700,000 Americans are living with a hematological malignancy in 2002.

—Almost 60,000 people will die from hematological cancers in 2002, compared to 40,000 from breast cancer, 30,200 from prostate cancer, and 56,000 from colorectal cancer.

—Blood-related cancers still represent serious treatment challenges. The improved survival for those diagnosed with all types of hematological cancers has been uneven. The 5-year survival rates are:

Hodgkin's disease—83 percent

Non-Hodgkin's lymphoma—53 percent

Leukemias (total) 45 percent

Multiple Myeloma 29 percent

Acute Myelogenous Leukemia 14 percent

—Individuals who have been treated for leukemia, lymphoma, and myeloma may suffer serious adverse events of treatment, including second malignancies, organ dysfunction (cardiac, pulmonary, and endocrine), neuropsychological and psychosocial aspects, and quality of life.

TRENDS

Since the early 1970s, incidence rates for non-Hodgkin's lymphoma (NHL) have nearly doubled.

For the period from 1973 to 1998, the death rate for non-Hodgkin's lymphoma increased by 45 percent, and the death rate for multiple myeloma increased by more than 32 percent. These increases occurred during a time period when death rates for most other cancers are dropping.

Non-Hodgkin's lymphoma and multiple myeloma rank second and fifth, respectively, in terms of increased cancer mortality since 1973.

Recent statistics indicate both increasing incidence and earlier age of onset for multiple myeloma.

Multiple myeloma is one of the top ten leading causes of cancer death among African Americans.

Despite the significant decline in the leukemia death rate for children in the United States, leukemia is still one of the two most common diseases that cause death in children in the United States.

Lymphoma is the third most common childhood cancer.

CAUSES OF HEMATOLOGICAL CANCERS

The causes of hematological cancers are varied, and our understanding of the etiology of leukemia, lymphoma, and myeloma is limited. Chemicals in pesticides and herbicides, as well as viruses such as HIV and EBV, play a role in some hematological cancers, but for most cases, no cause is identified. Researchers have recently published a study reporting that the viral footprint for simian virus 40 (SV40) was found in the tumors of 43 percent of NHL patients. These research findings may open avenues for investigation of the detection, prevention, and treatment of NHL. There is a pressing need for more investigation of the role of infectious agents or environmental toxins in the initiation or progression of these diseases.

IMPORTANCE TO THE DEPARTMENT OF DEFENSE

This type of medical research is particularly important to the Department of Defense for a number of reasons.

First, research on blood-related cancers has significant relevance to the armed forces, as the incidence of these cancers is substantially higher among individuals with chemical and nuclear exposure. Higher incidences of leukemia have long been substantiated in extreme nuclear incidents in both military and civilian populations, and recent studies have proven that individual exposure to chemical agents, such as Agent Orange in the Vietnam War, cause an increased risk of contracting lymphoid malignancies. In addition, bone marrow transplants were first explored as a means of treating radiation-exposed combatants and civilians following World War II.

Secondly, research in the blood cancers has traditionally pioneered treatments in other malignancies. This research frequently represents the leading edge in cancer treatments that are later applied to other forms of cancer. Chemotherapy and bone marrow transplants are two striking examples of treatments first developed in the blood cancers.

Now, research into these types of cancers is creating great new opportunities for the understanding and treatment of a wide range of cancers. Scientists are investigating several new approaches to the treatment of blood cancers, and the results of one of those exciting endeavors—the new therapy called Gleevec, to treat chronic myelogenous leukemia (CML)—continues that pioneering trend. Although that drug is receiving great praise and is even being hailed as a possible cure for CML, research by blood cancer scientists on the cellular mechanisms of cancer growth will clearly enhance our understanding not only of blood-related cancers, but all cancers.

Investigators are working to develop a system of molecular classification of hematological malignancies that may enable development of treatments that are specific for each cancer. Genetic and molecular analyses of hematological cancers are identifying targets for drug development. Gleevec—based on an understanding of the genetic change that leads to this disease, is hopefully just the first of other similar drugs that are targeted to intercept a cellular malfunction that leads to cancer.

Other innovative approaches include cancer vaccines employing immunotherapy to enhance the recognition and destruction of cancer cells; laboratory-designed monoclonal antibodies to use the specificity of an antibody directed against a tumor antigen to target therapy to the tumor, sparing normal cells; and use of an antibody to carry a radioactive isotope or toxin to the cancer cells.

The public and private investment in research has yielded knowledge of the nature of hematological cancers and advances in treatment. These studies have served as a model for treatment of other cancers and have contributed to our understanding of diseases associated with autoimmunity and aging. Research in blood cancers has also contributed to our understanding of disease associated with autoimmunity and aging, such as lupus, rheumatoid arthritis, and Alzheimer's diseases. The pace of discovery has recently accelerated, and there is great potential for significant new advances in treating these diseases in ways that are more targeted and less toxic.

The potential in this field was recently illustrated with the release of a report by the Leukemia, Lymphoma and Myeloma Progress Review Group (LLM-PRG). In December 2000, the National Cancer Institute (NCI) convened a blue-ribbon panel of extramural researchers, clinicians, and advocates to provide advice on the NCI's blood cancer research program. This group of experts made a series of recommendations aimed at strengthening the blood cancer research program. One of those recommendations was for a public-private sector translational research consortium with the lofty goal of reducing by half the period of time necessary for development of a new blood cancer therapy. This idea is one that we would like to see developed further, because it reflects our philosophy that collaboration and cooperation are critical to improvements in cancer treatment; it also reinforces the commitment of LLS to increase our investment in translational research in order to speed the movement of basic research findings to the bedside.

It is this valuable translational approach to research—getting therapies from the research bench to the bedside—that has characterized our emphasis and which has now been made the emphasis in the initial CML research in the DOD program.

Finally, while the incidence of many cancers is declining, the incidence of non-Hodgkin's lymphoma has increased dramatically since the 1970s and recent statistics indicate both increasing incidence and earlier age of onset for multiple myeloma. The reasons for these trends—which stand in, marked contrast to those for many other cancers—are not understood. It is absolutely critical that possible links between environmental exposure to toxins and blood-related cancers be thoroughly investigated. In total, some 110,000 Americans will be diagnosed with a blood-related cancer this year, and more than 60,000 will die from them.

From a medical research perspective, it is a particularly promising time to build a DOD research effort focused on blood-related cancers. That relevance and opportunity were recognized last year when Congress appropriated \$5 million to begin initial research into chronic myelogenous leukemia (CML) through the Congressionally Directed Medical Research Program (CDMRP). As members of the Committee know, a noteworthy and admirable distinction of the CDMRP is its cooperative and collaborative process that incorporates the experience and expertise of a broad range of patients, researchers and physicians in the field. Since the CML program was announced, members of the Society, individual patient advocates and leading researchers have enthusiastically welcomed the opportunity to become a part of this program and contribute to the promise of a successful, collaborative quest for a cure.

Unfortunately, \$5 million does not go very far in medical research. Recognizing that fact and the opportunity this research represents, Senators Jack Reed and Mike DeWine, along with a number of your colleagues, have requested that the program be modestly increased to \$16 million and that it be expanded to include all the blood cancers—the leukemias, lymphomas and myeloma. This would provide the research community with the flexibility to build on the pioneering tradition that has characterized this field.

The Leukemia & Lymphoma Society strongly endorses and enthusiastically supports this effort and urges the Committee to include this funding in the fiscal year 2003 Defense Appropriations bill.

We believe that building on the foundation Congress initiated last year would both significantly strengthen the CDMRP and accelerate the development of cancer treatments. As history has demonstrated, expanding its focus into areas that demonstrate great promise; namely the blood-related cancers of leukemia, lymphoma and myeloma, would substantially aid the overall cancer research effort and yield great dividends.

Senator INOUE. Thank you. What will \$16 million do?

Mr. DAHLMAN. We are hopeful it will complement a lot of the work being done by other agencies at NIH, and be able to give them a start at looking at what some complementary research might be.

Senator INOUE. It is not duplicating?

Mr. DAHLMAN. No, it is not. A precedent has been set through the program, through the breast cancer program and the prostate cancer program. They have all been very innovative programs.

Senator INOUE. Thank you very much. I think I am one of the cosponsors.

The next witness is the cochairman of the Health Care Committee of the Military Coalition, Senior Chief Robert Washington, United States Navy (Ret.).

**STATEMENT OF SENIOR CHIEF ROBERT WASHINGTON, (RET.), USN,
COCHAIRMAN, HEALTH CARE COMMITTEE, THE MILITARY COALITION**

Chief WASHINGTON. Thank you, Mr. Chairman. The Military Coalition is most grateful for your leadership and strong support of last year's improvement in military health care, pay, and other benefits. The coalition also appreciates this opportunity to present its concerns for 2003.

The coalition recommends increasing end strength to match demanding operational commitments, reauthorization of funding for the proposed pay increases, and restoration of full pay comparability. The coalition also urges fully funding Guard and Reserve force end strength and missions and funding for concurrent receipt relief in 2003, along with the reform of the SBPP program authorized by the Armed Services Committee. The balance of my statement will address health care concerns.

Recent landmark legislation enacted for uniformed services beneficiaries demonstrates Congress recognizes the extraordinary demands and sacrifices of the uniformed service career. The coalition is grateful that priority was placed on the over-65 population and active duty beneficiaries. However, similarly aggressive action is needed to make TRICARE more responsive to the needs of the under-65 beneficiaries, and to address other issues crucial to all TRICARE beneficiaries.

Despite the initiative this subcommittee has promoted, our members tell us they have difficulty in finding TRICARE providers in certain areas. Complaints run the course from insufficient reimbursement to demanding administrative requirements. The loss of providers due to reimbursement restriction has escalated since the TRICARE maximum allowable charge rates were tied to Medicare rates. During the current controversy over the reimbursement level, providers are simply refusing to take new Medicare patients, or are dropping out of the program altogether. Those unwilling to accept Medicare patients because of reimbursement are also reluctant to be TRICARE providers.

The coalition urges consideration of additional steps to ensure provider participation and urging DOD to help implement existing authority to increase reimbursement when necessary to attract providers, reduce administrative requirements, and take additional steps to ensure rapid implementation of electronic claim processing.

There are problems with the coordination of TRICARE Standard benefit with other health insurance, and there is an inequity in benefit administration. If a beneficiary has other health insurance that pays 115 percent of the allowable charge, TRICARE pays nothing, leaving the beneficiary responsible for the remainder of the bill. This is a denial of benefit, and it unfairly shifts costs to

beneficiaries. As a result, under-65 beneficiaries may have to give up their TRICARE benefit due to private sector employment that provides private health insurance.

We urge the subcommittee to eliminate the 115 percent billing limit when TRICARE is compared to other health insurance and reinstate the benefit methodology, the same benefit afforded to TRICARE for Life beneficiaries. The coalition also urges funding to expand TRICARE primary remote to family members who are unable to reside with service members. We also urge the expansion of TRICARE coverage for ready Reserve and National Guard members and their families to ensure an adequate health care safety net for them.

During this national crisis and the increased mobilization of the Guard and Reserve, this is an important continuity of care matter, as well as a recruitment and retention issue.

In conclusion, Mr. Chairman, I thank you again for the opportunity for me to present the coalition's views.

[The statement follows:]

PREPARED STATEMENT OF ROBERT WASHINGTON

Mister Chairman and distinguished members of the subcommittee, on behalf of The Military Coalition, a consortium of nationally prominent uniformed services and veterans organizations, we are grateful to the Subcommittee for this opportunity to express our views concerning issues affecting the uniformed services community. This testimony provides the collective views of the following military and veterans organizations, which represent approximately 5.5 million current and former members of the seven uniformed services, plus their families and survivors.

- Air Force Association
- Air Force Sergeants Association
- Air Force Women Officers Associated
- AMVETS
- Army Aviation Association of America
- Association of Military Surgeons of the United States
- Association of the United States Army
- Chief Warrant Officer and Warrant Officer Association, U.S. Coast Guard
- Commissioned Officers Association of the U.S. Public Health Service, Inc.
- Enlisted Association of the National Guard of the United States
- Fleet Reserve Association
- Gold Star Wives of America, Inc.
- Jewish War Veterans of the United States of America
- Marine Corps League
- Marine Corps Reserve Officers Association
- Military Chaplains Association of the United States of America
- Military Order of the Purple Heart
- National Guard Association of the United States
- National Military Family Association
- National Order of Battlefield Commissions
- Naval Enlisted Reserve Association
- Naval Reserve Association
- Navy League of the United States
- Non Commissioned Officers Association
- Reserve Officers Association
- The Retired Enlisted Association
- The Retired Officers Association
- The Society of Medical Consultants to the Armed Forces
- United Armed Forces Association
- United States Army Warrant Officers Association
- United States Coast Guard Chief Petty Officers Association
- Veterans of Foreign Wars
- Veterans' Widows International Network

The Military Coalition, Inc., does not receive any grants or contracts from the Federal Government.

PERSONNEL ISSUES

Mr. Chairman, The Military Coalition (TMC) is most grateful to the leadership and members of this Subcommittee for their strong support leading to last year's significant improvements in military pay, housing allowances and permanent change of station allowance enhancements. But as much as Congress accomplished last year, very significant inequities and readiness challenges remain to be addressed.

In testimony today, The Military Coalition offers its collective recommendations on what needs to be done to address these important issues and sustain long-term personnel readiness.

ACTIVE FORCE ISSUES

Since the end of the Cold War, the size of the force and real defense spending have been cut more than a third. But national leaders also have pursued an increasingly active role for America's forces in guarding the peace in a still-dangerous world—even more so since last September—so that today's servicemembers are being deployed many times more often than those of the mid-1980s. The increased personnel tempo necessary to meet continued and sustained training and operational requirements has required servicemembers to work progressively longer and harder every year.

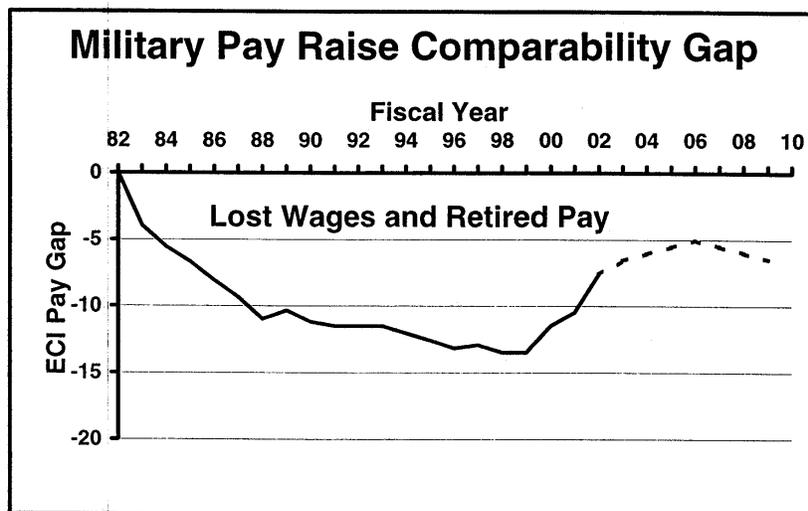
Personnel Strengths and Operations Tempo.—The Coalition has been dismayed at low force levels and the very modest Service requests for additional end strength increases resulting in high operational tempo levels. The force is unduly stressed due to insufficient numbers of personnel to support the war on terrorism and associated operational requirements, resulting in a negative impact on the quality of life for uniformed services personnel.

The Military Coalition strongly recommends restoration of Service end strengths consistent with long-term sustainment of current deployments and fulfillment of national military strategy. The Coalition supports application of recruiting resources/voluntary recall policies as necessary to meet this requirement. The Coalition urges the Subcommittee to consider all possible manpower options to ease operational stresses on active, Reserve and Guard personnel.

Pay Raise Comparability.—The Military Coalition is extremely appreciative of the Subcommittee's support during the last 3 years in reversing the routine practice of capping servicemembers' annual pay raises below the average American's. The January 2002 pay raise, the largest in 20 years, and the increased allowances approved last year provided more appropriate financial recognition for career and high-performing servicemembers. But the Coalition urges the Subcommittee to do more.

As significant as the recent gains in military pay have been, it must be acknowledged that the annual increases approved so far will make up only about half of the cumulative pay raise sacrifices imposed on servicemembers over the previous two decades. The last time a large pay comparability gap coincided with a retention crisis (in the late 1970's), the gap was eliminated via double-digit raises in both 1981 and 1982.

The President's Budget proposes an average 4.8 percent raise for fiscal year 2003, which would shrink the gap another 1.2 percentage points. Even at that rate, it would take another 6 years to restore full comparability. But current law would only reduce the gap by one-half percentage point per year through 2006—and then once again begin capping military raises below private sector wage growth.



The Coalition urges the Subcommittee to fund the Administration-proposed raise and restore full pay comparability on the quickest possible schedule. The Military Coalition believes all members need and deserve annual raises at least equal to private sector wage growth.

NATIONAL GUARD AND RESERVE ISSUES

Support of Active Duty Operations.—National Guard and Reserve members and units shoulder ever-greater day-to-day operational workloads. Along with active duty forces, they increasingly have come to face many of the same challenges as their active counterparts.

Compounding the problem for National Guard and Reserve personnel, their increasing support of day-to-day active duty operations also has placed greater strains on the employers of these members. This support has become less and less certain as National Guard and Reserve members have taken longer and more frequent leaves of absence from their civilian jobs. In the last few months, the requirements of the war on terrorism led to the activation of over 76,000 National Guard and Reserve members for homeland defense and overseas deployments.

The Military Coalition urges continued attention to ensuring an appropriate match between National Guard and Reserve force strengths and missions, and appropriations sufficient to fully fund those strengths and missions.

RETIREMENT AND SURVIVOR ISSUES

While issues affecting retired pay and survivor benefits for uniformed services personnel (and their dependents) fall under a different subcommittee, the Coalition would like to express its concern over two important subjects.

Concurrent Receipt of Military Retired Pay and VA Disability Compensation.—The Coalition has long held that military retired pay and veterans disability compensation are paid for different purposes, and one should not offset the other. Specifically, retired pay is earned compensation for completing a career of arduous uniformed service, while veterans disability compensation is paid for pain and suffering and loss of future earnings' potential caused by a service-connected disability.

Previous attempts to fix this inequity have all been met with the same response—the cost is too large. But the cost to men and women in uniform who have been injured while serving this Nation is far greater. No one disabled in the course of serving his or her country should have to forfeit an earned retirement—for years of faithful and dedicated service—in order to receive VA disability compensation for the wounds, injuries, or illnesses incurred in such service.

Rep. Michael Bilirakis' HR 303 and Sen. Harry Reid's S. 170 would correct the unfair and outdated retired pay/disability compensation offset, and these bills enjoy cosponsorship of 86 percent of the House and 76 percent of the Senate, respectively.

The Coalition believes strongly that that level of cosponsorship support is inconsistent with continued inaction, and that there needs to be a greater correlation between what Congress says and what it does. The remaining disabled warriors of the Greatest Generation and Korea have earned and deserve better treatment, and Congress needs to provide substantive relief as a matter of urgency before any more of their number fade into history.

Last year, Congress opted to leave the issue to the Executive Branch. The sad reality is that Administrations of any party have been consistently reluctant to seek the budget resources to solve expensive personnel equity problems. Military members have had to look to Congress to do the right thing, and more often than not, Congress has done so.

With other options exhausted, it is finally time for Congress to take real action to address the grossly unfair financial penalties visited for so long on those who already have suffered most for their country—military retirees disabled as a result of their service.

The Military Coalition urges Subcommittee leaders and members to voice their support of concurrent receipt to House and Senate leaders most strongly, to ensure authority and funding for substantive concurrent receipt relief in fiscal year 2003—including appropriated funding for the necessary increases for DOD deposits in the military retirement trust fund.

Reduction in Age-62 Survivor Benefit Plan (SBP) Annuity.—Since SBP was first enacted in 1972, retirees and survivors have inundated DOD, Congress and military associations with letters decrying the reduction in survivors’ SBP annuities that occurs when the survivor attains age 62. The amount of the reduction varies by the circumstances in each case. Before age 62, SBP survivors receive an annuity equal to 55 percent of the retiree’s SBP covered retired pay. At age 62, the annuity is reduced to a lower percentage, down to a floor of 35 percent of covered retired pay. For many older retirees, the amount of the reduction is related to the amount of the survivor’s Social Security benefit that is potentially attributable to the retiree’s military service. For members who attained retirement eligibility after 1985, the post-62 benefit is a flat 35 percent of covered retired pay.

Although this age 62 reduction was part of the initial SBP statute, large numbers of members who retired in the 1970s (or who retired earlier but enrolled in the initial SBP open season) were not informed of it at the time they enrolled. This is because the initial informational materials used by DOD and the services to describe the program made no mention of the age 62 offset.

These retirees and their spouses are often stunned to learn of this reduction in survivor benefit, and they are further dismayed to learn that the survivor reduction attributed to the retiree’s Social Security—covered military earnings applies even to widows whose Social Security benefit is based on their own work history.

To add to these grievances, the DOD Actuary has confirmed that the 40-percent government subsidy for the SBP program—which has been cited for more than two decades as an inducement for retirees to elect SBP coverage—has declined to less than 27 percent. The statute assumed that retiree premiums would cover 60 percent of expected long-term SBP costs based on the Actuary’s assumptions about future inflation rates, interest rates, and mortality rates. However, actual experience has proven these assumptions were too conservative, so that retiree premiums now cover 73 percent of expected SBP benefit costs. In effect, retirees are being charged too much for the long-promised benefit.

In addition, a significant inequity exists from the military retiree’s standpoint in that the survivor benefit plan coverage provided for federal civilian employees provides both a higher post-62 benefit and a higher government subsidy, as indicated in the chart below.

FEDERAL CIVILIAN VS. MILITARY SBP ANNUITY AND SUBSIDY

[Percent]

	CSRS ¹	FERS ²	Military
Post-62 percent Of Ret Pay	55	50	35
Gov’t Subsidy	50	42	27

¹ Civil Service Retirement System.
² Federal Employees Retirement System.

Some might argue that federal civilians warrant higher benefits and subsidies on the basis of their extended careers, but that is false reasoning. Military members, except for disabled members, must serve at least 20 years to qualify for retirement

and often serve much longer. While many federal civilian employees do, in fact, serve even longer periods, this is not necessary to qualify for retirement and survivor coverage, as many nondisabled federal civilians qualify for retirement after serving considerably less than 20 years—and can do so with as little as 5 years' service, depending on age.

The Fiscal Year 2001 Defense Authorization Act included a "Sense of Congress" provision specifying that legislation should be enacted to increase the SBP age-62 annuity to "reduce (and eventually eliminate)" the different levels of annuities for survivors age 62 and older vs. those for younger survivors. But that statement of support remains to be translated into substantive relief.

The Military Coalition strongly supports legislation sponsored by Sen. Thurmond and Rep Miller (S. 145 and H.R. 548, respectively) that, if enacted, would eliminate the disparity in a three-stage process—raising the minimum SBP annuity to 40 percent of SBP-covered retired pay immediately; to 45 percent on October 1, 2004; and to 55 percent on October 1, 2011.

We appreciate only too well the cost and other challenges associated with such mandatory spending initiatives, and believe this incremental approach offers a reasonable balance between the need to restore equity and the need for fiscal discipline. Despite a shrinking federal surplus, action is needed now to correct this long-standing inequity.

The Military Coalition strongly recommends elimination of the age-62 Survivor Benefit Plan annuity reduction and additional appropriated funding to cover the associated increases in DOD deposits to the military retirement/SBP trust fund.

HEALTH CARE ISSUES

The Military Coalition (TMC) is most deeply appreciative of the Subcommittee's exceptional efforts over the last 2 years to honor government health care commitments to uniformed services beneficiaries, particularly for Medicare-eligibles and active duty members and families. The long and impressive list of accomplishments that this Subcommittee has provided funds for is worth enumerating once more:

- Authorization of TRICARE For Life (TFL) and the TRICARE Senior Pharmacy Program (TSRx) for Medicare-eligibles;
- Establishment of the Military Medicare-eligible Retiree Health Care Fund to guarantee funding for older beneficiaries' care beginning Oct. 1, 2002;
- Reduction of the TRICARE Catastrophic Cap on retired beneficiaries' out-of-pocket expenses from \$7,500 to \$3,000 per year per family;
- Elimination of TRICARE Prime copayments for active duty family members;
- Expansion of TRICARE Prime Remote for active duty families assigned where Prime is not available; and
- Full funding of the defense health program in fiscal year 2002, for the first time in many years.

These and other subcommittee-sponsored enhancements are saving military beneficiaries thousands of dollars a year and represent the greatest military health care advancements in a generation. However, much remains to be done to fully implement this host of laudable initiatives, to address certain chronic program shortcomings, and to address remaining initiatives that will be essential to providing a more equitable and consistent health for all categories of TRICARE beneficiaries, regardless of age or geography.

The Coalition looks forward to continuing its productive and cooperative efforts with the subcommittee's members and staff in pursuit of this common objective.

PROVIDE ADEQUATE FUNDING FOR THE DEFENSE HEALTH BUDGET

A top Coalition priority for fiscal year 2003 is to work with Congress and DOD to ensure continued full funding of the Defense Health Budget to meet readiness needs and deliver needed care, through both the military direct care system and managed care support contracts, for ALL uniformed services beneficiaries, regardless of age, status or location. An adequately funded health care benefit is as critical to the retention of qualified uniformed services personnel and to readiness as are pay and other benefits. The Subcommittee's continuing conscientious scrutiny of the adequacy of annual budget proposals will be essential to avoid a return to the chronic underfunding situations that previously led to execution shortfalls, shortchanging of the direct care system, inadequate equipment capitalization, failure to invest in infrastructure and substitution of annual emergency supplemental funding requests for candid and conscientious budget planning.

In years past, part of the funding problem was attributable to the lack of a clearly defined benefit. With the introduction of TFL, the benefit is more clearly defined and funding requirements should be better understood.

The Military Coalition strongly recommends the Subcommittee continue its watchfulness to ensure full funding of the Defense Health Program, to include military medical readiness, TRICARE, and the DOD peacetime health care mission.

TRICARE FOR LIFE IMPLEMENTATION

The Coalition is pleased to report that, The Coalition is actively engaged in two OSD-sponsored TFL action groups working with DOD to facilitate implementation. From our vantage point, the Defense Department continues to be committed to implement TFL consistent with Congressional intent and is working vigorously toward that end.

The Coalition is concerned that DOD appears not to have budgeted the necessary funds to adequately inform beneficiaries and providers about the upgraded TFL and TSRx benefits. In most cases, informing beneficiaries was left to the managed care support contractors. The result was a great disparity in the quantity and quality of notice members received about these benefit changes. In many cases, the MCSCs put limited resources into mailings and beneficiary briefings because they had not budgeted for such things, and received little, if any, extra funding from DOD for this purpose.

In many cases, beneficiaries' best sources of information were magazines and other TFL- or TSRx-specific publications published by beneficiary associations. Unfortunately, many beneficiaries did not have access to the association publications and thus were inadequately informed.

The Coalition recommends the subcommittee establish safeguards to ensure adequate funding is provided for beneficiary education whenever significant changes occur in military health or pharmacy programs.

IMPROVEMENTS IN TRICARE

The Coalition is pleased that the fiscal year 2001 NDAA made an effort to address the lack of physician participation in TRICARE by requiring:

- DOD to designate specific rates for reimbursement for services in certain localities where access to health care services would be severely impaired; and
- Prepare reports analyzing the utility of increased reimbursements to ensure the availability of network providers, and to determine the extent to which physicians are choosing not to participate in contracts to provide health care in rural areas.

However, beneficiaries in certain geographies continue to report a lack of provider participation in TRICARE, thus limiting in access and choice. Despite initiatives to improve the program, we continue to hear complaints from providers of low and slow payments, and burdensome administrative requirements and hassles. These problems must be addressed by increasing reimbursement, streamlining claims processing requirements, greater reliance on electronic claims technology and eliminating unnecessary reporting requirements. Only by decreasing the administrative burden placed on providers and building a simplified and reliable claims system that pays in a timely way can Congress and DOD hope to establish TRICARE as an attractive program to providers and a dependable benefit for beneficiaries.

A key problem is that, since 1991, TRICARE fees have been tied to Medicare reimbursement rates that have been in continual decline. While Congress has previously given the authority to the Secretary of Defense to increase reimbursements and mandated improvements in TRICARE business practices, only some of these improvements have been implemented. To date, the Secretary of Defense has made only very limited use of his existing authority to increase participation by raising reimbursement levels. Because of the slow pace of change and reluctance to use existing authorities, there has been little increase in provider participation.

Once providers have left the system, promises of increased efficiencies have done little to encourage them to return. Lessons learned from TFL implementation demonstrate the effectiveness of electronic claims processing. TFL has dramatically improved access to care for Medicare-eligibles by streamlining administrative procedures, processing claims electronically, making the system simple for providers, and paying claims on time.

But TRICARE remains a morass of paper claims, bureaucratic layering, and low and slow payments that has stubbornly resisted the kinds of upgrades that are essential to make TRICARE an attractive and reliable program for providers and beneficiaries. Having implemented dramatic improvements in health coverage for Medicare-eligibles over 65 and active duty dependents, it is essential for the subcommittee to apply similar aggressive action to make TRICARE similarly responsive to the needs of under-65 beneficiaries.

The Military Coalition most strongly urges the Subcommittee to ensure sufficient funding to raise reimbursements where necessary to attract adequate provider participation and to take additional steps as necessary to ensure funding for needed TRICARE upgrades, including rapid implementation of electronic claims processing.

CONCLUSION

The Military Coalition would like to reiterate its profound gratitude for the extraordinary progress this Subcommittee has made in seeking to restore health care equity for all uniformed services beneficiaries, particularly those who are Medicare-eligible. The Subcommittee's efforts to authorize the implementation of TFL and TSRx are giant steps toward honoring the lifetime health care commitment. With minor refinements, TFL should provide a comprehensive and equitable health care benefit for all Medicare-eligible beneficiaries.

But much work remains to be done with the TRICARE program. More urgent effort is essential, both by Congress and DOD, to enable TRICARE to attract and retain quality health care providers and to ensure prompt upgrade of the claims processing system, to deliver a more uniform health care benefit across all ages and geographic areas.

CLOSING STATEMENT

Thank you very much for the opportunity to present the Coalition's views on these critically important topics. We look forward to addressing further details of these and other issues with you and the Subcommittee staff.

Senator INOUE. I will personally take this matter to the attention of the authorizing committee, and we will try to work out something that will carry out your recommendations.

Chief WASHINGTON. Thank you, Mr. Chairman.

Senator INOUE. Thank you very much, sir.

Our next witness is the senior vice president of the Biologics, Celera Genomics, American Society of Tropical Medicine and Hygiene, Dr. Stephen Hoffman.

STATEMENT OF DR. STEPHEN L. HOFFMAN, M.D., SENIOR VICE PRESIDENT, BIOLOGICS, CELERA GENOMICS, ON BEHALF OF THE AMERICAN SOCIETY OF TROPICAL MEDICINE AND HYGIENE

Dr. HOFFMAN. Good morning, Mr. Chairman. I am Stephen Hoffman, senior vice president of biologics at Celera Genomics. I am a retired Navy Captain, the former director of the Navy's malaria vaccine development program, and I was fortunate to work for 2 years in the wonderful Inouye Building in Silver Spring. I am the immediate past president of the American Society of Tropical Medicine and Hygiene (ASTMH) and I am here this morning to present testimony on the society's behalf.

The ASTMH is a professional society of 3,500 researchers and practitioners dedicated to the prevention and treatment of infectious and tropical diseases. The collective experience of our members is in the areas of basic science, medicine, insect vector control, epidemiology, public health, and bioterrorism defense. In fact, most of our country's leaders in bioterrorism defense are members of our society.

The DOD medical research programs play a critical role in our Nation's infectious disease and bioterrorism defense efforts. Furthermore, the programs are vitally important to maintain the health of our troops. Working with the private sector and other U.S. public health agencies, DOD scientists at the U.S. Army Medical Research Institute for Infectious Diseases, the Walter Reed Army Institute of Research and the Naval Medical Research Center, and DOD medical laboratories abroad are helping us to better

understand diagnose, treat, and prevent infectious and tropical diseases. Such diseases include malaria, Acquired Immune Deficiency Syndrome (AIDS), dengue, diarrheal diseases, and hepatitis.

Infectious diseases are the second leading cause of death worldwide, accounting for over 13 million deaths. Twenty well-known diseases, including TB, malaria, cholera, have reemerged or spread geographically since 1973, often in more virulent and drug-resistant forms. At least 30 previously unknown disease agents have been identified in this period, including Human Immunodeficiency Virus (HIV), Ebola, and hepatitis C, agents for which therapy is not optimal, or does not exist at all.

With worldwide deployment of our military personnel, it is imperative to protect them against infectious diseases that occur around the globe. Often, our troops are exposed to new strains of a disease that does not exist within our own borders.

A significant accomplishment made by military scientists and their corporate partners is the discovery of the first prototype vaccine that prevents malarial infection. Novel vaccines such as the Deoxyribonucleic Acid (DNA) vaccine for malaria are being developed under the leadership of scientists at the Naval Medical Research Center. Most recently, licensure has been awarded for malarone, a new drug for the prevention and treatment of malaria. Another antimalarial drug, tafenaquine, is in advanced field trials with a corporate partner.

With the certainty that resistance to malaria drugs quickly appears, these drugs have a useful life span of only about 10 years. Replacements must be sought continually. The society believes the military overseas laboratories deserve special attention and mention. The U.S. Army and the Navy currently support medical research labs located in five developing countries, Thailand, Egypt, Indonesia, Kenya, and Peru. These research laboratories serve as critical sentinel stations alerting military and public health agencies to dangerous infectious disease outbreaks and increasing microbial resistance to drugs.

The research stations are an important national resource in the ongoing battle against emerging diseases, and should be strengthened with increased funding and increased opportunities for collaborations with civilian scientists. The laboratories provide field sites for testing of new drugs and vaccines, for performing basic research, and for increasing our understanding of disease and the spread of disease. The overseas laboratories strengthens collaborations between the United States and foreign countries, expanding our knowledge and understanding of infectious diseases, and providing hands-on training for both the U.S. and local students and investigators, and for local health authorities.

The society supports the Global Pathogen Surveillance Act, S. 2487, recently introduced by Senators Biden, Helms, Frist, and Kennedy, that includes additional resources to increase the number of personnel and expand operations at the overseas labs operated by the DOD and the Centers for Disease Control and Prevention (CDC) as part of an effort to enhance the capacity of developing nations to track, monitor, and report infectious disease incidents and outbreaks.

We request and urge a strong national commitment to the DOD infectious disease research programs to accelerate the discovery of the products that protect American soldiers and citizens at home and abroad, and to improve global health and economic stability in developing countries. The DOD's military infectious disease research program has been a highly successful program, and our Nation's continued commitment to this research is critically important, given the resurgent and emerging infectious disease threats that exist today.

The STMH urges the subcommittee to make DOD infectious disease research a high priority in the DOD budget for the fiscal year 2003.

Thank you.

[The statement follows:]

PREPARED STATEMENT OF STEPHEN L. HOFFMAN, M.D.

Good morning Mr. Chairman and Members of the Subcommittee. I am Stephen Hoffman, Senior Vice President of Biologics at Celera Genomics. I am also the immediate Past President of the American Society of Tropical Medicine and Hygiene (ASTMH), and I am here this morning to present testimony on the Society's behalf. The ASTMH is a professional society of 3,500 researchers and practitioners dedicated to the prevention and treatment of infectious and tropical diseases. The collective experience of our members is in the areas of basic science, medicine, insect vector control, epidemiology, and public health, and bioterrorism defense.

The Department of Defense (DOD) medical research programs play a critical role in our nation's infectious disease and bioterrorism defense efforts. Furthermore, the programs are vitally important to maintain the health of our troops in the theater. Working with other U.S. public health agencies, DOD scientists at the U.S. Army Medical Research Institute for Infectious Diseases (USAMRIID), the Walter Reed Army Institute of Research (WRAIR), the U.S. Naval Medical Research Center (NMRC), and DOD medical laboratories abroad are helping us to better understand, diagnose, and treat infectious and tropical diseases. Such diseases include malaria, AIDS, dengue, leishmaniasis and other parasitic infections, cholera, and common diarrheal diseases, scrub typhus, and hepatitis.

Infectious diseases are the second leading cause of death worldwide, accounting for over 13 million deaths (25 percent of all deaths worldwide in 1999). Twenty well-known diseases—including tuberculosis, malaria, cholera, and Rift Valley Fever—have reemerged or spread geographically since 1973, often in more virulent and drug-resistant forms. At least 30 previously unknown disease agents have been identified in this period—including HIV, Ebola, Nipah virus, Marburg virus, and hepatitis C—for which therapy is not optimal or does not exist at all.

A January, 2000, unclassified report from the CIA's National Intelligence Council labeled global infectious disease a threat to U.S. national security. "The Global Infectious Disease Threat and Its Implications for the United States," concluded that infectious diseases are likely to account for more military hospital admissions than battlefield injuries. The report also assessed the global threat of infectious disease, stating "New and reemerging infectious diseases will pose a rising global health threat and will endanger U.S. citizens at home and abroad, threaten U.S. armed forces deployed overseas, and exacerbate social and political instability in key countries and regions in which the United States has significant interests."

As mandated in The Presidential Executive Order issued September 30, 1999, entitled "Improving Health Protection of Military Personnel Participating in Particular Military Operations," mandates that "It is the Policy of the United States Government to provide our military personnel with safe and effective vaccines, antidotes, and treatments that will negate or minimize the effects of these health threats."

This includes diseases endemic to areas of military operations. Accordingly, the primary mission of the DOD's Military Infectious Diseases Research Program is to develop new products with which to protect and maintain the health of our troops in the theater. With worldwide deployment of our military personnel, it is imperative to protect them against infectious diseases that occur around the globe. Often our troops are exposed to new strains of a disease that does not exist within our own borders. Examples of the highly focused research conducted by the Program include efforts to make vaccines to prevent malaria and overseas strains of the AIDS virus.

The Society believes the military's overseas laboratories deserve special mention. The U.S. Army and the Navy currently support medical research labs located in five developing countries, including Thailand, Egypt, Indonesia, Kenya, and Peru. These research laboratories serve as critical sentinel stations alerting military and public health agencies to dangerous infectious disease outbreaks and increasing microbial resistance to drugs. The research stations are an important national resource in the ongoing battle against emerging disease, and should be strengthened with increased funding and increased opportunities for collaborations with civilian scientists. The laboratories provide field sites for testing of new drugs and vaccines, for performing basic research, and for increasing our understanding of disease and the spread of disease. The overseas laboratories strengthen collaborations between U.S. and foreign countries, expanding our knowledge and understanding of infectious diseases, and providing hands-on training for both U.S. and local students and investigators, and for local health authorities.

The Society supports the Global Pathogen Surveillance Act (S. 2487) recently introduced by Senators Biden, Helms, Frist and Kennedy that includes among the bill's provisions additional resources to increase the number of personnel and expand operations at the overseas laboratories operated by the Department of Defense and Centers for Disease Control and Prevention as part of an effort to enhance the capacity of developing nations to track, monitor and report infectious disease incidents and outbreaks.

As the leader in tropical and infectious disease research, DOD programs have been vital for the successful outcome of military campaigns. It was the DOD research program that developed the first modern drugs for prevention and treatment of malaria. The DOD investment in malaria vaccine development is not only good public health policy, but it also makes good sense from an economic standpoint. Malaria is estimated to cause up to 500 million clinical cases and up to 2.7 million deaths each year, representing 4 percent to 5 percent of all fatalities worldwide. Malaria affects 2.4 billion people, or about 40 percent of the world's population. Tragically, every 30 seconds a child somewhere dies of malaria. Specifically, malaria causes an enormous burden of disease in Africa, and is considered a primary cause of poverty. In the recent Report of the Commission on Macroeconomics and Health of the World Health Organization it was estimated that malaria alone reduces the economic growth of Africa by more than 1 percent per year, adding up to hundreds of billions of dollars of lost income in the long run.

Along with Venezuelan Equine Encephalitis, the DOD also developed or supported promising vaccines for prevention of Rift Valley Fever, Argentine Hemorrhagic Fever, Adenovirus disease in recruits, and plague. Two of these vaccines (plague and adenovirus) are no longer licensed in the United States.

As a result of a significant outbreak in Saudi Arabia and Yemen, the first epidemic outside of Africa, Rift Valley Fever vaccine has become of interest to an important ally. Spread of this disease to the United States is not out of the question, since mosquitoes capable of transmitting Rift Valley Fever are found in the United States. Further development of these vaccines is an important national priority.

Other notable advances accomplished by military experts in tropical diseases working with corporate partners include the invention of hepatitis A vaccine at WRAIR and its ultimate licensure based on studies conducted at the U.S. Armed Forces Research Institute of Medical Sciences (AFRIMS) in Bangkok; the discovery (during WWII), and later licensure of Japanese encephalitis vaccine, based on studies conducted at AFRIMS and WRAIR; and the discovery and licensure of mefloquine and halofantrine for treatment and prevention of malaria. WRAIR scientists reported the first successful cultivation of vivax malaria.

A significant accomplishment made by military scientists at WRAIR and their corporate partners is the discovery of the first prototype vaccine shown to be capable of preventing falciparum malaria. Novel vaccines, such as a DNA vaccine for malaria, are being developed under the leadership of scientists at the NMRC. Most recently, licensure has been awarded for Malarone, a new drug for prevention and treatment of malaria. Another anti-malarial drug, Tafenaquine, is in advanced field trials with a corporate partner. With the certainty that resistance to malaria drugs quickly appears, these drugs have a useful lifespan of only about 10 years. Replacements must be sought continually.

In 1987 Congress mandated that the DOD establish the HIV Vaccine Research program because of the significant risk of active-duty personnel in acquiring the HIV virus. Today, in all branches of the military, approximately 400 military personnel become newly infected each year, with as many as one-third of these infections acquired during overseas deployment. The DOD's HIV Research program is a world leader in the study of HIV genetic variation world-wide and in the develop-

ment and testing of new vaccines to be used against HIV strains anywhere in the world.

Although the Administration has transferred this program to the National Institute on Allergy and Infectious Diseases at the National Institutes of Health, the Society hopes this Subcommittee will oversee the transfer of this program. It is critical that the overseas collaborations and agreements facilitated by the current leadership from the Walter Reed Army Institute of Research be preserved to ensure the continued progress of current and planned clinical trials to test the efficacy of new vaccine products.

Request.—ASTMH urges a strong national commitment to the DOD infectious disease research programs to accelerate the discovery of the products that protect American soldiers and citizens at home and abroad, and to improve global health and economic stability in developing countries. The DOD's Military Infectious Disease Research Program has been a highly successful program. ASTMH urges the Subcommittee to make DOD infectious disease research a high priority in the DOD budget for fiscal year 2003.

Conclusion.—Our borders remain porous to infectious and tropical diseases, including most recently the West Nile Virus, which has been found right here in Washington, DC. Other diseases still largely confined to the tropics, like malaria, pose a major threat to American travelers and especially to our military. In all military operations in the last century where malaria is transmitted, including the Pacific Theater in World War II, Vietnam, and Somalia, more casualties were caused by malaria than by combat injuries. And with global warming, the increasing resistance of insect vectors to insecticides, and the increasing resistance of the malaria parasite to antimalarial drugs, the range of malaria and other vector-borne diseases is expanding.

The ASTMH urges you to provide strong support for the DOD Military Infectious Diseases Research Programs. Our nation's commitment to this research is critically important given the resurgent and emerging infectious disease threats that exist today. If we don't make these important programs a priority, the health of our troops, as well as the health of all Americans, will continue to be at risk; we will continue to experience increased health costs; and infectious diseases will flourish around the world, prolonging economic and political instability in developing nations.

Thank you for the opportunity to present the views of the American Society of Tropical Medicine and Hygiene, and for your consideration of these requests.

Senator INOUE. What you have provided us today is very important. You can be sure this matter will be seriously discussed, because it is right here with us right now.

Dr. HOFFMAN. Thank you.

Senator INOUE. Thank you very much.

Our next witness represents the National Breast Cancer Coalition, the president, Fran Visco.

STATEMENT OF FRAN VISCO, PRESIDENT, NATIONAL BREAST CANCER COALITION

Ms. VISCO. Thank you very much, Mr. Chairman. I am here as a 15-year breast cancer survivor, and on behalf of the National Breast Cancer Coalition, 600 member organizations, and 70,000 individual members across the country to thank you for your ongoing leadership and support of this program.

Mr. Chairman, you know as well as I do the enormous success of this program. It has been incredible. We have created a model of new scientific research that has been replicated not just by other biomedical research programs in the Department of the Army, but worldwide. Other countries, across this country, programs have come to learn about the success of this program and to replicate it.

This program is a collaboration of the military, the scientific community, and the lay public. We are not here on behalf of one institution. As you know, this program funds scientists around the world, in just about every State of this country, and it funds inno-

vation. It funds issues and proposals that are relevant to breast cancer, those that will make a significant impact. It fills gaps in the traditional funding stream.

There is no bureaucracy associated with this. We are able to respond rapidly to changes in the science, changes in the scientific community, changes in the need of women and their families, women with this disease. It has just truly been an incredible partnership whose success has not been matched elsewhere in the scientific community.

One of the most important components of this program is the fact that it is transparent. The American taxpaying public knows where the money has gone. It can go into the Army program web site and see what has been funded and, as you know, every other year there is a meeting called the Era of Hope, where scientists who have been funded by the program report on the progress of their research to the public, and that meeting will happen in September in Orlando.

It has just been incredible. On behalf of the program, as a member of the integration panel, and as a woman who has been diagnosed with breast cancer, I urge the committee to continue the program with level appropriation so that we can continue the innovative work we have done, continue to create new models.

I have a little anecdote I would like to tell you. Last year, Dr. Rick Klausner, who was then Director of the National Cancer Institute (NCI), was talking to me about the success of the DOD program, and he was referencing a number of the new mechanisms we have put in place for the scientific community to respond to, and what he said to me was, they were just brilliant, and he wished that he could do that at NCI, but he cannot, so there you have proof that we are filling gaps. We are not replicating what is happening, and we are really making a significant difference for women and their families in this country.

So again I thank you, and I urge you to continue the program.
[The statement follows:]

PREPARED STATEMENT OF FRAN VISCO, J.D.

Thank you, Mr. Chairman and members of the Appropriations Subcommittee on Defense for your exceptional leadership in the effort to increase and improve breast cancer research. As my testimony will describe in detail, the investment in cancer research made by you and this Committee is one of the contributions that has brought us closer than ever to the verge of significant discoveries about cancer.

I am Fran Visco, a breast cancer survivor, a wife and mother, a lawyer, and President of the National Breast Cancer Coalition. On behalf of NBCC, and the more than 3 million women living with breast cancer, I would like to thank you for the opportunity to testify today.

Last year, your subcommittee appropriated, and the Full House and Senate passed a DOD appropriations bill, which included \$175 million for the BCRP—level funding from the previous year. Due to the extraordinary circumstances facing us last year, the Conference Committee cut the Defense Health Programs across the board by 15 percent—bringing funding for the DOD Peer Reviewed BCRP to \$150 million for fiscal year 2002. For fiscal year 2003, we are requesting that you support a \$175 million appropriation—bringing funding up to the original amount approved by the Subcommittee last year—for the DOD to continue its work to help eradicate breast cancer.

As you know, the National Breast Cancer Coalition is a grassroots advocacy organization made up of more than 600 organizations and tens of thousands of individuals and has been working since 1991 toward the eradication of this disease through advocacy and action. NBCC supports increased funding for breast cancer research, increased access to quality health care for all women, and increased influence of

breast cancer activists at every table where decisions regarding breast cancer are made.

OVERVIEW OF THE DOD BREAST CANCER RESEARCH PROGRAM:

The DOD Peer-Reviewed Breast Cancer Research Program has been an incredible model that others have replicated. Broadly defined, the innovative research performed through the program has the potential to benefit not just breast cancer, but all cancers, as well as other diseases. Its success is literally changing the face of biomedical research in many arenas.

This program is both innovative, and incredibly streamlined. It continues to be overseen by a group of distinguished scientists and activists, as recommended by the Institute of Medicine (IOM). Because there is no bureaucracy, the program is able to quickly respond to what is currently happening in the scientific community. It is able to fill gaps, with little fuss. It is responsive, not just to the scientific community, but also to the public.

Since its inception, this program has matured from an isolated research program to a broad-reaching influential voice forging new and innovative directions for breast cancer research and science. The flexibility of the program has allowed the Army to administer this groundbreaking research effort with unparalleled efficiency and skill.

In addition, an inherent part of this program has been the inclusion of consumer advocates at every level, which has created an unprecedented working relationship between advocates and scientists, and ultimately led to new avenues of research in breast cancer. Since 1992, more than 600 breast cancer survivors have served on the BCRP review panels. Their vital role in the success of the BCRP has led to consumer inclusion in other biomedical research programs at DOD. In addition, this program now serves as an international model.

It is important to note that the DOD Integration Panel that designs this program has a plan of how best to spend the funds appropriated. This plan is based on the state of the science—both what scientists know now and the gaps in our knowledge—as well as the needs of the public. This plan coincides with our philosophy that we do not want to restrict scientific freedom, creativity and innovation. While we carefully allocate these resources, we do not want to predetermine the specific research areas to be addressed.

UNIQUE FUNDING OPPORTUNITIES

Developments in the past few years have begun to offer breast cancer researchers fascinating insights into the biology of breast cancer and have brought into sharp focus the areas of research that hold promise and will build on the knowledge and investment we have made. The Innovative Developmental and Exploratory Awards (IDEA) grants of the DOD program have been critical in the effort to respond to new discoveries and to encourage and support innovative, risk-taking research. The IDEA grants have been instrumental in the development of promising breast cancer research. These grants have allowed scientists to explore beyond the realm of traditional research and have unleashed incredible new ideas and concepts. IDEA grants are uniquely designed to dramatically advance our knowledge in areas that offer the greatest potential.

IDEA grants are precisely the type of grants that rarely receive funding through more traditional programs such as the National Institutes of Health, and academic research programs. Therefore, they complement, and do not duplicate, other Federal funding programs. This is true of other DOD award mechanisms as well.

For example, the Innovator awards are structured to recognize talented individuals, rather than projects, from any field of study by providing funding and freedom to pursue creative, potentially breakthrough research that could ultimately accelerate the eradication of breast cancer. In addition, in the area of training, the DOD BCRP has launched innovative programs such as Physician-Scientist Training Awards, which are intended to support the training of new breast cancer clinical research physicians.

Also, Historically Black Colleges and Minority Universities/Minority Institutions Physicians' Training Awards ("Minority Institution" awards) are intended to provide assistance at an institutional level. The major goal of this award is to support collaboration between multiple investigators at an applicant Minority Institution and a collaborating institution with established investment in breast cancer research, for the purpose of creating an environment that would foster breast cancer research and, in which Minority Institute faculty would receive training toward establishing successful breast cancer research careers.

These are just a few examples of innovative approaches at the DOD BCRP that are filling gaps in breast cancer research. It is vital that these grants are able to continue to support the growing interest in breast cancer research—\$175 million for peer-reviewed research will help sustain the program's momentum.

The DOD BCRP also focuses on moving research from the bench to the bedside. A major feature of the awards offered by the BCRP is that they are designed to fill niches that are not offered by other agencies. The BCRP considers translational research to be the application of well-founded laboratory or other pre-clinical insight into a clinical trial. To enhance this critical area of research, several research opportunities have been offered. Clinical Translational Research Awards, for investigator-initiated projects that involve a clinical trial within the lifetime of the award, make up the majority of the BCRP's translational research portfolio. The BCRP expanded its emphasis on translational research by offering 5 different types of awards that support work at the critical juncture between laboratory research and bedside applications. For instance, the Clinical Bridge Award mechanism was developed in fiscal year 2000 to sponsor novel research focused around clinical trials.

SCIENTIFIC ACHIEVEMENTS

The BCRP research portfolio is comprised of many different types of projects, including support for innovative ideas, infrastructure building to facilitate clinical trials, and training breast cancer researchers.

One of the most promising outcomes of research funded by the BCRP was the development of Herceptin, a drug that prolongs the lives of women with a particularly aggressive type of advanced breast cancer. This drug could not have been developed without first researching and understanding the gene known as HER2-neu, which is involved in the progression of some breast cancers. In a DOD BCRP funded study, researchers found that over-expression of HER2-neu in breast cancer cells results in very aggressive biologic behavior. Most importantly, the same researchers demonstrated that an antibody directed against HER2-neu could slow the growth of the cancer cells that over-expressed the gene. This research led to the development of the drug Herceptin. Other researchers funded by the BCRP are currently working to identify similar kinds of genes that are involved in the initiation and progression of cancer. They hope to develop new drugs like Herceptin that can fight the growth of breast cancer cells.

Several studies funded by the BCRP will examine the role of estrogen and estrogen signaling in breast cancer. For example, one study examined the effects of the two main pathways that produce estrogen. Estrogen is often processed by one of two pathways; one yields biologically active substances while the other does not. It has been suggested that women who process estrogen via the biologically active pathway may be at a higher risk of breast cancer. It is anticipated that work from this funding effort will yield insights into the effects of estrogen processing on breast cancer risk in women with and without family histories of breast cancer.

One DOD IDEA award success has supported the development of new technology that may be used to identify changes in DNA. This technology uses a dye to label DNA adducts, compounds that are important because they may play a role in initiating breast cancer. Early results from this technique are promising and may eventually result in a new marker/method to screen breast cancer specimens.

Another DOD BCRP IDEA award has generated a new vaccine targeted against ductal carcinoma in situ (DCIS), a malignant, non-invasive lesion that can develop into an invasive breast cancer. The vaccine is being tested on mice that develop spontaneous mammary tumors that over express the HER2-neu protein. Mice treated with the vaccine show a markedly decreased rate of tumor development when compared to that generated for the prevention of tumor formation in women at risk for the development of HER2-neu expressing tumors.

Investigators funded by the DOD have developed a novel imaging technique that combines two-dimensional and novel three-dimensional digital mammographic images for analysis of breast calcifications. Compared to conventional film screen mammography, this technique has greater resolution. Ultimately, this technique may help reduce the number of unnecessary breast biopsies.

Despite the enormous successes and advancements in breast cancer research made through funding from the DOD BCRP, we still do not know what causes breast cancer, how to prevent it, or how to cure it. It is critical that innovative research through this unique program continues so that we can move forward toward eradicating this disease.

FEDERAL MONEY WELL SPENT

In addition to the fact that the DOD program provides desperately needed, excellent quality breast cancer research, it also makes extremely efficient use of its resources. In fact, over 90 percent of the funds have gone directly to research grants. The overall structure of the system has streamlined the entire funding process, while retaining traditional quality assurance mechanisms.

Since 1992, the BCRP has been responsible for managing \$1.2 billion in appropriations, which has resulted in 2,837 awards for fiscal year 1992–2000. The areas of focus of the DOD BCRP span a spectrum and include basic, clinical, behavioral, environmental sciences, and alternative therapy studies, to name a few. The BCRP benefits women and their families by maximizing resources; the program offers awards that fill existing gaps in breast cancer research. Scientific achievements that are the direct result of the DOD BCRP are undoubtedly moving us closer to eradicating breast cancer.

The outcomes of the BCRP-funded research can be gauged, in part, by the number of publications, abstracts/presentations, and patents/licensures reported by awardees, to date. There have been 2,300 publications in scientific journals, 1,800 abstracts and 30 patents/licensure applications.

The Federal Government can truly be proud of its investment in the DOD BCRP.

POSITIVE FEEDBACK ON THE DOD BCRP

The National Breast Cancer Coalition has been the driving force behind this program for many years. The success of the DOD Peer-Reviewed Breast Cancer Research Program has been illustrated by two unique assessments of the program. The Institute of Medicine (IOM), which originally recommended the structure for the program, independently re-examined the program in a report published in 1997. Their findings overwhelmingly encourage the continuation of the program and offer guidance for program implementation improvements.

The 1997 IOM review of the DOD Peer-Review Breast Cancer Research Program commended the program and stated that, “the program fills a unique niche among public and private funding sources for cancer research. It is not duplicative of other programs and is a promising vehicle for forging new ideas and scientific breakthroughs in the nation’s fight against breast cancer.” The IOM report recommends continuing the program and establishes a solid direction for the next phase of the program. It is imperative that Congress recognizes the independent evaluations of the DOD Breast Cancer Research Program, as well as reiterates its own commitment to the Program by appropriating the funding needed to ensure its success. The IOM report has laid the groundwork for effective and efficient implementation of the next phase of this vital research program, now all that it needs is the appropriate funding.

The DOD Peer-Reviewed Breast Cancer Research Program reported the progress of the program to the American people during two public meetings called the “Era of Hope” (one in 1997, and one in 2000). These have been the only times that a Federally funded program reported back to the public in detail not only on the funds used, but also on the research undertaken, the knowledge gained from that research and future directions to be pursued. These meetings allowed scientists, consumers and the American public to see the exceptional progress made in breast cancer research through the DOD Peer-Reviewed Breast Cancer Research Program.

At the first “Era of Hope” meeting in 1997, many scientists expressed their enthusiasm for the program and the opportunity to work substantively with consumers at every step of the research process. In fact, the scientists who have seen first hand the benefits of the DOD Peer-Reviewed Breast Cancer Research Program have issued a strong statement that in their scientific judgment the program should continue:

“ . . . we urge that this program receive ongoing funding. This program has been broadly defined such that the research performed will be of benefit not just for breast cancer, but for all cancers and other diseases.”

This enthusiasm was reiterated at the second Era of Hope in 2000. A third Era of Hope meeting has been scheduled for this year.

The DOD Peer-Reviewed Breast Cancer Research Program has attracted scientists with new ideas and has continued to facilitate new thinking in breast cancer research and research in general. Research that has been funded through the DOD BCRP is available to the public. Individuals can go to the Department of Defense website and look at the abstracts for each proposal.

COMMITMENT OF THE NATIONAL BREAST CANCER COALITION

The National Breast Cancer Coalition is highly committed to the DOD program in every effort, as we truly believe it is one of our best chances at finding cures and preventions for breast cancer. The Coalition and its members are dedicated to working with you to ensure the continuation of funding for this program at a level that allows this research to forge ahead.

In May of 1997, our members presented a petition with over 2.6 million signatures to the Congressional leaders on the steps of the Capitol. The petition called on the President and the U.S. Congress to spend \$2.6 billion on breast cancer research between 1997 and the year 2000. Funding for the DOD Peer-Reviewed Breast Cancer Research Program was an essential component of reaching the \$2.6 billion goal that so many women and families worked to gain.

Once again, NBCC is bringing its message to Congress. Just over a month ago, many of the women and family members who supported the campaign to gain the 2.6 million signatures came to NBCC's Annual Advocacy Training Conference here in Washington, D.C. More than 600 breast cancer activists from across the country joined us in continuing to mobilize behind the efforts to eradicate breast cancer. The overwhelming interest in, and dedication to eradicate this disease continues to be evident as people are not only signing petitions, but are willing to come to Washington, D.C. from across the country to deliver their message about our commitment.

Since the very beginning of this program, in 1993, Congress has stood in support of this important investment in the fight against breast cancer. In the years since then, Mr. Chairman, you and this entire Committee have been leaders in the effort to continue this innovative investment in breast cancer research.

NBCC asks you, the Defense Appropriations Subcommittee, to recognize the importance of what you have initiated. What you have done is set in motion an innovative and highly efficient approach to fighting the breast cancer epidemic. What you must do now is continue to support this effort by funding research that will help us win this very real and devastating war against a cruel enemy.

Thank you again for the opportunity to submit testimony and for giving hope to the 2.6 million women living with breast cancer.

Senator INOUE. This subcommittee is most pleased to have been your partner for over 10 years, and though we are not scientists, we have provided the funds to provide for scientists, and I think the total sum to date has exceeded \$1 billion.

Ms. VISCO. Yes, that is correct, more than \$1 billion.

Senator INOUE. Anyway, after having spent that amount, you do not think we are going to give up, do you?

Ms. VISCO. No, and we will not, either. The partnership will continue.

Senator INOUE. We will do our best.

Ms. VISCO. Thank you very much.

Senator INOUE. Thank you, and our next witness is a member of the National Prostate Cancer Coalition, Mr. John Willey.

STATEMENT OF JOHN WILLEY, MEMBER, BOARD OF DIRECTORS, NATIONAL PROSTATE CANCER COALITION

Mr. WILLEY. Mr. Chairman, my name is John Willey. I am a veteran of Vietnam. I served on a guided missile cruiser off the coast of North Vietnam, and also on river patrol boats along the Cambodian border. I am also a prostate cancer survivor, president of a small investment company here in Washington, as well as on the board of directors of the National Prostate Cancer Coalition.

I would like to thank you for the honor and opportunity to share my remarks on behalf of the National Prostate Cancer Coalition (NPCC). The NPCC is the largest grassroots advocacy organization dedicated to ending the devastating impact of prostate cancer on America's families. Our coalition includes patient advocates, research organizations, health professionals, minority groups, vet-

erans groups, survivors and families who are touched by and concerned about this debilitating and deadly disease.

Mr. Chairman, I am here today to request that the committee restore the Department of Defense congressionally directed medical research program to its fiscal year 2001 level of \$100 million. I would also ask you to maintain sufficient funding at the Center for Prostate Disease Research at Walter Reed, where many advances in fighting prostate cancer have been made.

Our Nation currently faces many challenges. While we fight a war on terrorism on many fronts, we must also fight a war on cancer in order to protect Americans against one of the biggest health challenges facing the Nation. About as many Americans will lose their lives to cancer this year as have lost their lives on all of the battlefields during the 20th century.

For the last decade, prostate cancer has been the most commonly diagnosed nonskin cancer of either sex, and the leading cause of male cancer death. As you know, about 85 percent of individuals in active and Reserve military service are men, about 2 million. If you apply the average risk to that group across the Nation, about 300,000 servicemen will be diagnosed with prostate cancer during their lifetimes. Men who have served in Korea and Vietnam when Agent Orange was used will have a proportionately higher risk of prostate cancer.

Prostate cancer research is vital to the future health and well-being of all American servicemen and, indeed, all Americans. The disease knows no bounds. It affects men of all races, ethnicities, economic backgrounds. Former New York City Mayor Rudy Giuliani, retired General H. Norman Schwartzkopf, baseball manager Joe Torre, Dusty Baker, even members of this committee have faced prostate cancer, and I deeply appreciate their willingness to raise the awareness about this disease by speaking out publicly and openly about their fights with prostate cancer and supporting efforts to escalate the war against prostate cancer.

Despite the prevalence of prostate cancer among men, there is hope that a cure will be found. Many advancements in prostate cancer research are being made by the CDMRP and at Walter Reed, which has helped to determine the efficacy of the prostate specific antigen blood test, the PSA blood test. This is important work. The team at Walter Reed has contributed significantly to the current evidence that suggests that early detection through PSA reduces prostate cancer mortality.

NPCC believes that PSA, along with the digital rectal exam, saves lives and we encourage all men over 50, younger if African American or if they have a family history of prostate cancer, to resolve to be screened annually. As a prostate cancer survivor, I firmly believe that screening and medical research save lives.

Mr. Chairman, because of you and your colleagues' attention to this matter, research continues to move forward. However, because of funding reductions in the prostate cancer research program we are unable to fund any clinical trials during fiscal year 2002. If funding continues to be less than \$100 million, the most valuable and crucial tool for getting research to patients will be nonexistent. By ensuring that the CDMRP is fully funded, we are confident that a cure for this disease can be reached.

As patient advocates, we strongly believe in making the most out of our finite resources, and hold the CDMRP accountable on how it manages taxpayers' dollars. The NPCC encourages accountability by making every dollar of your appropriation count towards life-saving research. Accordingly, research dollars can go further if you continue to reduce the 15 percent of the appropriation that is lost to departmental set-asides and overhead costs, ensuring more money for life-saving research.

From its inception, the DOD program has been the most efficient federally directed prostate cancer program by building accountability mechanisms into its basic operations. Its research is dedicated to increase evidence-based medicine, and it subjects itself to regular review efforts. The program is also dedicated to nonduplication.

Mr. Chairman, the leadership of the committee in the past has made a real difference in the lives of men like me, and more than a million men who are battling prostate cancer. I certainly do not envy your position in the choices you have to make, but I would urge you to fully fund the DOD appropriation for prostate cancer research.

If you have any questions, I would be glad to answer them.
[The statement follows:]

PREPARED STATEMENT OF JOHN WILLEY

Mr. Chairman and members of the committee, my name is John Willey, I am veteran of the Vietnam War, where I served on a Guided Missile Cruiser off the coast of North Vietnam and on River Patrol Boats in the Mekong delta along the Cambodian border. I am also a prostate cancer survivor, President of Chartered Investments here in Washington, and serve on the board of the National Prostate Cancer Coalition (NPCC). I would like to thank you for the honor and opportunity to share these remarks on behalf of the National Prostate Cancer Coalition.

The NPCC is the largest grassroots advocacy organization dedicated to ending the devastating impact prostate cancer has on America's families. Our coalition includes patient advocate groups, research organizations, health professionals, minority groups, veterans groups, survivors and families who are touched by or concerned about this debilitating and often deadly disease.

Mr. Chairman, I am here today to request that the committee restore the Department of Defense Congressionally Directed Medical Research Program (CDMRP) to its fiscal year 2001 funding level of \$100 million. I would also like to ask that you maintain sufficient funding for the Uniformed Services of the Health Sciences (USUHS) and Walter Reed Army Medical Center (WRAMC) program, Center for Prostate Disease Research (CPDR), at Walter Reed Army Hospital at which many advances in fighting the disease have been made.

Our nation currently faces many challenges. As President George W. Bush recognized in his State of the Union address earlier this year, providing homeland safety is built upon protection of the economic, educational, and health security of all Americans. While we fight the war on terrorism on many fronts, we must also fight the war on cancer in order to protect Americans against one of the biggest health challenges facing the nation. About as many Americans will lose their life to cancer this year as have lost their lives on the battlefields fighting for this country during the twentieth century. For the last decade, prostate cancer has been the most commonly diagnosed nonskin cancer, of either sex, and the second leading cause of male cancer death. It is no secret that prostate cancer is of serious concern to all American men, especially those who protect our country. Since 1996, the NPCC has been dedicated to ending to impact of this most silent killer in the cancer community, silent because it often has few, if any, visible symptoms and, until recently, was a disease men were ashamed to discuss in public.

Mr. Chairman, we know your committee understands the seriousness of this issue and shares the common concern that 189,000 men will be diagnosed with the disease, and 30,000 men will die from it this year. We both have a keen interest in ending this epidemic, and, on behalf of those whose lives have been devastated by this disease, we greatly appreciate your support for prostate cancer research.

While neither the NPCC nor I knows the full impact of prostate cancer among our men in uniform, we can offer some estimates. We know that about 85 percent of individuals in active or reserve military service are men, about two million individuals. If you apply the average risk to this group, more than 300,000 service men will be diagnosed with prostate cancer during their lifetimes. Prostate cancer is of serious concern to American veterans. As well, men who served in uniform in Korea and Vietnam, when Agent Orange was used, may bear an increased risk of prostate cancer. Prostate cancer research is vital to the future health and well being of all American servicemen—and all Americans.

This disease knows no bounds; it affects men of all races, ethnicities and economic backgrounds. Former New York City Mayor Rudy Giuliani and actor Barry Bostwick, who plays the mayor of New York on television; Denver Mayor Wellington Webb; retired General H. Norman Schwarzkopf; baseball managers Joe Torre and Dusty Baker and even members of this committee have all faced prostate cancer. I deeply appreciate their willingness to raise awareness about this disease by speaking publicly and openly about their fights with prostate cancer and supporting efforts to escalate the war against prostate cancer.

I am saddened to report that the number of men at risk of prostate cancer will likely continue to expand considerably. As baby boomers become seniors over the next decade, cancer incidence and mortality rates are expected to increase by as much as 25–30 percent. Without a significant investment in research, early detection and prevention, the impact on human lives will be devastating. Even more distressing is the unequal burden of this disease. The incidence of prostate cancer among African American men is up to 60 percent higher, and their mortality rate is double that of white males. The risk can be even greater in families with a history of the disease. One close relative with the disease doubles a man's risk and having three close relatives with prostate cancer virtually assures a diagnosis during his lifetime.

While these statistics are disturbing, there are signs of hope that we are entering an exciting and promising time for prostate cancer research. Opportunities in drug development and new treatments have expanded dramatically in the last few years. The recent mapping of the human genome and therapies targeted to molecular mechanisms in cancer cells almost certainly mean that we stand at the threshold of even more promising, innovative and life-saving advancements. Many of these advancements are being forged at the CDMRP and at the CPDR, which has also helped to determine the efficiency of the prostate specific antigen (PSA) blood test. Through its important work, the team at WRAMC has contributed significantly to the current evidence that suggests that early detection through PSA reduces prostate cancer mortality. NPCC believes that the PSA along with the Digital Rectal Examination (DRE) saves lives, and we encourage all men over 50, younger if African American or with a family history of prostate cancer, to resolve to be screened annually.

I was diagnosed with prostate cancer in 1996. As a survivor, I firmly believe that screening and medical research save lives. Mr. Chairman, because of you and your colleagues' attention to this matter, research continues to move forward. However, because of funding reductions, the prostate cancer research program was forced to discontinue all clinical trials in fiscal year 2002. If funding continues to be less than \$100 million, clinical trials, the most valuable and crucial tool in getting new treatment to patients, will be non-existent at the CDMRP. By ensuring that the CDMRP is funded appropriately, I am confident that a cure for this disease is in reach.

Allow me to provide some background on the CDMRP and its importance. The CDMRP prostate cancer research program is unique. Within the research resources of the Federal Government, it is the only program to offer organ site-specific research grants. If a researcher has a good idea, a funded grant at the DOD program is 100 percent dedicated to prostate cancer. The impact on solving the problem of prostate cancer is not subjected to the "fuzzy math" of other departments' calculations of organ site relevance.

As a businessman, I can also attest to the "good business sense" that the program incorporates. As stated in the CDMRP's Annual Report for 2001, the program has "challenged the scientific community to design innovative prostate cancer research that would foster new directions, address neglected issues and bring new investigators into the field." The cornerstones of the program's research efforts are the "Idea Development" and "New Investigator" grants. Both of these awards seek innovative and revolutionary studies that deviate from previous research. Their goal is to stimulate "venture research" projects that reward sometimes speculative but promising ideas that can and have lead to huge returns on investments. This system contrasts other departments' grant processes that tend to favor research in which "proof-of-principle" has already been established.

From its inception, the DOD program has been the most efficient Federally directed prostate cancer program by building accountability mechanisms into its basic operation. Its research is dedicated to increase evidence-based medicine, and it subjects itself to regular reviews of this effort. The program is also dedicated non-duplication of effort, investigating in projects that are unique and are not receiving funding from other sources. In addition, the DOD program has engaged survivors of prostate cancer into its accountability practices from the very outset of its development. I have several friends and colleagues that have the honor of sitting on the Prostate Cancer Integration Panel, joining other consumers and a diverse group of scientists in the oversight of the CDMRP program and its projects. This sort of consumer input helps drive the program to be more ambitious and creative in seeking out new areas of research, by keeping a focus on what is important to survivors, advocates, and researchers alike.

In one exciting study that is being conducted through the PCRCP, researchers at John Hopkins University, headed by Dr. Samuel R. Denmeade, are able to produce several chemicals, called prodrugs, that are activated to kill prostate cancer cells specifically. This promising research could lead to more effective prostate specific cancer drugs.

Unfortunately, the CDMRP is not always able to award grants to worthwhile projects. From fiscal year 1997 to fiscal year 2000, the CDMRP received approximately 1,900 proposals but was only able to fund roughly 440 of them, spending \$176.2 million in prostate cancer research compared to \$890.8 million spent on breast cancer research from fiscal year 1992-fiscal year 2000. Despite funding less than 25 percent of these proposals, the program has produced exceptional results. Over 370 research projects have been published in scientific journals and over 25 have received a patent or licensing.

Funding these programs, however, is not enough. As patient advocates, we strongly believe in making the most of finite resources and hold the CDMRP accountable for how it manages taxpayer funds. The DOD program is a model Federal effort that has set the standard for prostate cancer research. The program's innovative research has earned respect and recognition, especially for its success in translating basic research from the laboratory bench to the clinic, where new treatments do patients the most good.

The NPCC encourages accountability by making every dollar of your appropriation count toward life saving research. These research dollars can go further if you continue to reduce the 15 percent of the appropriation that is lost to departmental set asides and overhead costs.

Mr. Chairman, the leadership of this committee in the past has made a real difference in the lives of people like me—and the more than a million other men who are battling prostate cancer on a daily basis. I certainly do not envy the position you and your colleagues find yourselves in—there are some very hard choices to make in the process of allocating what is needed to protect Americans.

As the committee considers its fiscal year 2003 allocations, we ask you to remember to continue the war on prostate cancer as part of your guarantee of health security for all Americans. The NPCC asks you for the funds needed to help end prostate cancer as a health concern for America's families. Let Americans die "with the disease" rather than "from it," and provide the CDMRP prostate cancer research program with no less than \$100 million for peer review research in fiscal year 2003.

General Norman Schwarzkopf, a wise military leader and himself a prostate cancer survivor, recently discussed cancer research in the context of military strategy: "There always comes a time when you must get on with the battle. You cannot sit back and do nothing because you'll never have perfect intelligence on the enemy. Base your battle plan on the best information you have, and be ready to modify your strategy and line of attack. The important thing is just get on with it."

Your support will allow advocates, clinicians and researchers to do just that.

Mr. Chairman, I thank you and the committee for the opportunity to appear before you today.

Senator INOUE. During the last fiscal year, as you know, we had no choice because of the sudden urgency in fighting terrorism and in order to provide funds for that we were forced to make cuts. This time the moving force on this is the senior Senator from Alaska, Ted Stevens, and I am certain he is going to insist that we go as soon as possible to what you are seeking.

Mr. WILLEY. Thank you very much. The number \$100 million is critical for clinical trials, and clinical trials is critical for progress.

Senator INOUE. We will do our best.

Our next witness is the president of the American Chemical Society (ACS), Dr. Eli Pearce.

STATEMENT OF DR. ELI PEARCE, PRESIDENT, AMERICAN CHEMICAL SOCIETY

Dr. PEARCE. Mr. Chairman, good morning, and thank you for the opportunity to testify. My name is Eli Pearce, and I am the president of the American Chemical Society (ACS), a congressionally chartered organization comprising 163,000 chemical scientists and engineers. I am pleased to appear before you today on behalf of the society to share our views on the importance of strengthening the Nation's investment in defense research.

First, allow me to thank the subcommittee for the substantial increases it provided for defense research in fiscal year 2002. These funds are an important step toward reversing the declines in defense research programs experienced in the 1990's.

This year, the American Chemical Society urges you to increase the science and technology, or S&T program to \$11 billion, a growth of 11 percent from last year's level. This is not an arbitrary target. It is consistent with a longstanding recommendation reiterated last fall by the Department's own Quadrennial Defense Review, or QDR. This report called for 3 percent of annual spending to be devoted to S&T in order to achieve the Department's objectives.

The QDR states, and the ACS agrees, that a strong, steady investment in S&T is important to maintaining our technological edge over adversaries, and it is absolutely critical to the Department's efforts to transform the Armed Services. Revolutionary capabilities arising from the integration of new scientific discoveries and emerging technologies will require the best in scientific and engineering insight and skill.

For example, the Army imagines nanotechnology science leading to uniforms that can detect threats from chemical or biological weapons, render the wearer invisible to infrared detection, and change colors as needed. Equipment based on nanoscience could reduce the weight a soldier has to carry from up to 145 pounds to only 45 pounds.

While these technologies may be theoretically feasible, they will never exist without the fundamental scientific advances that can only come from a great deal of hard work, a few brilliant experiments, and the sustained robust investment in S&T. The long-term payoffs of investment in S&T are usually the most apparent, but research programs can also produce very rapid returns.

For example, following the September 11 tragedies, DOD established a counterterrorism technology task force to identify budding technologies that could be transitioned from the S&T program into the field in 30 days. The results of this effort included the thermobaric bomb recently deployed in Afghanistan. According to Dr. Ron Sega, Director of Defense, Research and Engineering, the product went from chemistry to weapon in just 3 months.

Although concentrated effort and extra funding were essential for rapid deployment in this case, the wealth of options available to DOD was the result of consistent long-term investment in S&T.

This new technology now joins the long line of successful innovations nurtured by DOD S&T programs, including night vision and global positioning satellites which have become central to military capabilities.

I would also like to say a few words about DOD's basic research program. DOD basic research not only supports mission-critical science, but also helps maintain the vitality of the many science and engineering disciplines essential to the military. In fact, 60 percent of DOD basic, or 6.1 research, is conducted in universities, engaging some of the Nation's best and most innovative scientific minds in the technical challenges posed by the Department's national security mission. Currently, DOD must decline almost as many highly rated grant proposals as it can fund. These are lost opportunities.

DOD-supported academic research also trains the next generation of scientists and engineers. Investing in young people, encouraging them to develop careers in military science and technology is just as important to our future national security as investing in new weapons systems. This should be considered when you work to establish adequate S&T funding levels.

Mr. Chairman, we fully recognize that crafting budgets with limited resources means difficult decisions. However, the ACS believes that a strong investment today in the defense science and technology programs, especially the 6.1 basic research accounts, can serve to protect the lives of soldiers and maintain our military's preeminent position both in the near and more distant future. In an environment where technology changes rapidly and future threats are uncertain, it is also an essential part of adequately managing risks to our national security. To meet the challenges of today and the transformation challenges of tomorrow, we simply have no choice but to invest in cutting edge science.

Thank you, Mr. Chairman, for your attention to this important matter. The American Chemical Society looks forward to assisting you in any way possible, and I would be happy to answer any questions.

[The statement follows:]

PREPARED STATEMENT OF ELI PEARCE

Chairman Inouye and Members of the Subcommittee. Good morning and thank you for the opportunity to testify. My name is Eli Pearce and I am the President of the American Chemical Society, a congressionally chartered organization that represents 163,000 chemical scientists and engineers.

I am pleased to appear before you today on behalf of the Society to share our views on the importance of strengthening the nation's investment in defense research. First, allow me to thank the subcommittee for the substantial increases it provided for defense research in fiscal year 2002. These funds are an important step towards reversing the declines the defense research programs experienced in the 1990's.

This year, the ACS urges you to increase the Science and Technology (or S&T) program again, to \$11 billion, a growth of eleven percent from last year's level. This is not an arbitrary target. It is consistent with a long-standing recommendation—reiterated last fall—by the Department's own Quadrennial Defense Review, or QDR. This report called for three percent of annual spending to be devoted to S&T in order to achieve the Department's objectives.

The QDR states, and the ACS agrees, that a strong, steady investment in S&T is important to maintaining our technological edge over adversaries, and it is absolutely critical to the Department efforts to "transform" the armed services. Revolutionary capabilities arising from the integration of new scientific discoveries and

emerging technologies will require the best in scientific and engineering insight and skill.

For example, the Army imagines nanotechnology science leading to uniforms that can detect threats from chemical or biological weapons, render the wearer invisible to infrared detection, and change colors as needed. Equipment based on nanoscience could reduce the weight a soldier has to carry from up to 145 pounds to only 45 pounds. While these technologies may be theoretically feasible, they will never exist without the fundamental scientific advances that can only come from a great deal of hard work, a few brilliant experiments, and a sustained, robust investment in S&T.

The long-term pay-offs of investment in S&T are usually the most apparent, but research programs can also produce very rapid returns. For example, following the September 11th tragedies, DOD established a Counter Terrorism Technology task force to identify budding technologies that could be transitioned from the S&T program into the field in thirty days. The results of this effort included the thermobaric bomb, recently deployed in Afghanistan. According to Dr. Ron Sega, Director of Defense Research and Engineering, the project went from “chemistry-to-weapon” in just three months. Although concentrated effort and extra funding were essential for rapid deployment in this case, the wealth of options available to DOD was the result of consistent, long-term investment in S&T. This new technology now joins the long line of successful innovations nurtured by DOD S&T programs—including night vision and global positioning satellites, which have become central to military capabilities.

I would also like to say a few words about DOD’s basic research program. Basic research supported by the Department not only supports mission-critical science, but also helps maintain the vitality of the many science and engineering disciplines essential to the military. In fact, 60-percent of DOD basic, or “6.1”, research, is conducted in our nation’s universities, engaging some of the nation’s best and most innovative scientific minds in the technical challenges posed by the Department’s national security mission. Currently, DOD must decline almost as many highly rated grant proposals as it can fund. These are lost opportunities. DOD-supported academic research also trains the next generation of scientists and engineers. Investing in young people, encouraging them to develop careers in military science and technology, is just as important to our future national security as investing in new weapons systems. This should be considered when you work to establish adequate S&T funding levels.

Mr. Chairman, we fully recognize that crafting budgets with limited resources means difficult decisions. However, the ACS believes that a strong investment today in the defense science and technology program, especially the 6.1 basic research accounts, can serve to protect the lives of soldiers and maintain our military’s pre-eminent position both in the near and more distant future. In an environment where technology changes rapidly and future threats are uncertain, it is also an essential part of adequately managing risks to our national security. To meet the challenges of today and the transformation challenges of tomorrow, we simply have no choice but to invest in cutting-edge science.

Thank you for your attention to this important matter. The American Chemical Society looks forward to assisting you in any way possible.

Senator INOUE. As you are aware, the administration is not supportive of the full amount. Notwithstanding that, I can assure you we will do our best to increase at least partially.

Dr. PEARCE. Thank you.

Senator INOUE. Thank you very much, sir.

Representing the Coalition for National Security Research, Dr. Allan Schell.

STATEMENT OF DR. ALLAN SCHELL, ON BEHALF OF THE COALITION FOR NATIONAL SECURITY RESEARCH

Dr. SCHELL. Thank you, Mr. Chairman. I am with the Institute of Electrical and Electronics Engineers United States of America (USA), and the former chief scientist of the Air Force Laboratory System, but I am here to testify on behalf of the Coalition for National Security Research (CNSR), which is a broadly based group of scientific, engineering, mathematical, and behavioral societies,

universities, and industrial associations committed to a stronger defense science and technology base.

We urge the subcommittee to approve robust and stable funding for the Department of Defense basic research, applied research, and advanced technology development elements in fiscal year 2003. Specifically, CNSR joins many other organizations in urging the subcommittee to increase the S&T program to \$11 billion in fiscal year 2003, which is 3 percent of the overall departmental budget, as recommended by the Defense Science Board, the Quadrennial Defense Review, the House and Senate Armed Services Committees, and other officials. CNSR strongly supports DOD's S&T programs across all defense organizations, particularly those supporting the Nation's universities.

We also want to express deep appreciation for the committee's past support and for the fiscal year 2002 funding approved for these programs. With consideration of the fiscal year 2003 budget, it is important to recognize the vital role DOD S&T plays in ensuring the Nation's future national security, and it also contributes, as has been mentioned by other speakers, to the education of tomorrow's scientists, engineers, and policymakers. It provides a critical investment in several areas and, in fact, many of the hard sciences, the DOD is funding the majority of the research programs.

As you are aware, previous investments in defense science and technology have led to breakthrough developments in areas such as thermobaric bombs, distributed networking, advanced materials, global navigation, precision guidance, and stealth technology. The challenges of a new era in homeland defense and asymmetric threats, infrastructure protection, among others, place an even greater emphasis on the need for forward-looking science and technology. When there are these big shifts in our concerns, that is the time when we need to strengthen the basic sciences that we do across the Nation, and the technology that transitions it, and the support of this subcommittee is critical to ensuring that we maintain a viable S&T base.

I would like to take a moment to highlight one specific example from a long list of technologies resulting from your investment in defense science and technology. The integrated high performance turbine engine technology program is a joint Department of Defense, National Aeronautics and Space Administration (NASA), and private industry R&D effort to develop more efficient and reliable engines for military aircraft by increasing engine thrust-to-weight ratio and, in fact, on the boards now is an improvement of 40 percent over the baseline engines of the thrust-to-weight ratio. This leads to potential savings estimated at over \$16 billion per year in operating cost. The impact of these engine improvements is enormous, and it spills over into the civilian sector as well in terms of the amount of fuel saved to deliver the same amount of cargo or passengers.

Despite substantial appreciation for the importance of DOD S&T programs on Capitol Hill, total research within DOD has declined in constant dollars. This decline is a real threat to America's ability to maintain its competitive edge, and the advantage for defense of our Nation. We strongly recommend that a small portion of proposed increases be directed for national security, be directed to the

core S&T research accounts to achieve the \$11 billion funding target.

In closing, I want to thank the subcommittee for its continued support of defense S&T, and for the opportunity to appear here today. The Coalition for National Security Research looks forward to assisting you in any way possible.

[The statement follows:]

PREPARED STATEMENT OF DR. ALLAN SCHELL

Good morning Mr. Chairman and Members of the Subcommittee, my name is Dr. Allan Schell. I am with the Research and Development Policy Committee at the Institute of Electrical and Electronics Engineers-USA and a former chief scientist of the Air Force laboratory system with over 30 years of experience in DOD research programs. I am here to testify today on behalf of the Coalition for National Security Research, a broadly based group of scientific, engineering, mathematical and behavioral societies, universities and industrial associations committed to a stronger defense science and technology base.

We urge the subcommittee to approve robust and stable funding for Department of Defense (DOD) basic (6.1), applied (6.2) and advanced technology development (6.3) elements in fiscal year 2003 (fiscal year 2003). Specifically, CNSR joins many other organizations in urging the subcommittee to increase the S&T program to \$11 billion in fiscal year 2003, or 3 percent of the overall departmental budget, as recommended by the Defense Science Board, the Quadrennial Defense Review, the House and Senate Armed Services Committees and numerous departmental officials. CNSR strongly supports DOD's S&T programs across all defense organizations, especially those defense research programs providing support to our nation's universities. These programs are the foundation of the Department's Research, Development, Test and Evaluation (RDT&E) activity. They feed our procurement needs, enhance our readiness and modernization efforts, provide technologies to protect our forces, and contribute to the most technologically advanced, best trained, lethal, fighting force in the world. I also want to express deep appreciation for the Committee's past support and for the fiscal year 2002 funding approved for these programs.

With consideration of the fiscal year 2003 budget, it is important to recognize the critical role DOD S&T plays in ensuring the future national security of the United States and the safety and effectiveness of our soldiers, sailors, airmen, and marines. Simultaneously, these defense science programs contribute to the research enterprise of the country and to the education of tomorrow's scientists, engineers and policy makers. The Department provides a critical investment in several disciplines—including engineering, physical, math, computer and behavioral sciences—vital to our future national security.

The challenges of a new era—in homeland defense, asymmetric threats, infrastructure protection, and disruptive technologies, among others—place an even more important emphasis on enhanced battlefield awareness and increased warfighter protection.

As you are aware, previous investments in defense science and technology have led to breakthrough developments in areas such as thermobaric bombs, distributed networking, advanced materials, global navigation, precision guidance, and stealth technology that have equipped America's men and women in uniform with the finest technologies in the world.

Current research in remotely-operated mini-robots, unmanned air, land and sea vehicles, remote medicine, chemical and mechanical sensors, large scale battlefield simulations and advanced data memory systems will protect the warfighters of the future by removing them from harm's way, providing on-site emergency medical care, identifying dangerous environments, improving training and speeding data availability and usability.

The support of this subcommittee is critical to ensuring that we maintain a viable S&T base to meet our future security needs on land, in the air, and at sea.

Now I would like to take a moment to highlight one specific example from a long list of technologies resulting from your investment in defense S&T. The Integrated High Performance Turbine Engine Technology (IHPTET) program is a joint Department of Defense, NASA and private industry R&D effort designed to develop more efficient and reliable engines for military aircraft by increasing engine thrust-to-weight ratio on military aircraft by 30 percent. DOD is citing potential savings of as much as \$16 billion per year in operating costs as a result. In addition, the spill-

over benefits are already evident, as the technology is currently being used by commercial airlines allowing for less expensive and more reliable civil air travel.

Some additional examples of the results of DOD S&T investments which have both national security and domestic applications follow.

The Applied Physics Laboratory of the University of Washington, Seattle, has developed under U.S. Navy sponsorship, a high resolution, imaging sonar for underwater mine detection and identification in poor visibility waters such as those commonly encountered in ports and harbors. The unique sonar, based on acoustic technology that mimics the optical lens and retina of the human eye, produces a picture-like image. One version of the sonar is designed to be the eyes' of the unmanned, autonomous, underwater vehicles being developed for mine clearance and special operations. A hand-held version enables a diver to easily and accurately distinguish between mines and false targets such as mine-like debris, and to identify specific mine types in zero-visibility water. It is intended to assist Special Forces and Explosive Ordnance Disposal teams and is presently being used in Bahrain.

In response to the need to deter and counter the use of biological and chemical weapons of mass destruction, the Applied Physics Laboratory of the Johns Hopkins University is working under DARPA sponsorship to develop and test new technologies that will protect both military and civilian populations. Advanced Time-of-Flight Mass Spectrometer instruments are being tested to rapidly detect a broad range of biological pathogens and chemical warfare agents. Background Environmental Characterization and Biosurveillance networks are being tested to measure anomalous behavior that could signal the terrorist use of biological and chemical warfare agents. These developments will give us the capability to deal with today's threat spectrum and future emerging threats.

The University of South Carolina, through its DEPSCoR supported Industrial Mathematics Institute (IMI), has developed algorithms and software that enable the rapid display, querying and registration of Digital Terrain Maps. This software is of potential value in mission planning, autonomous and semi-autonomous navigation, rapid targeting and post battlefield assessment.

A DOD-funded researcher at the University of California at Berkeley, using a pair of Plexiglas wings he called "Robofly," for the first time provided a comprehensive explanation of how insects fly. The research could lead to the development of tiny flying devices that could be dispatched in swarms to spy on enemy forces.

Improved energy efficiency throughout the Defense Department and its mission activities—testing, training, operations, facilities—has the potential to save the federal government, and in turn the taxpayer, millions per year. Fuel cells are among the most promising sources of clean energy needed for numerous civil and military devices. The development of efficient electrocatalysts is essential to the improvement of fuel cell performances. Researchers at the University of South Carolina, supported by DOD S&T funding, are applying theoretical and computational methods to the understanding of electrocatalysis, focusing on the electron reduction of oxygen on platinum electrodes.

No one foresaw the enormous range of applications and whole industries that have evolved from the Defense-sponsored discovery of lasers. The basic concepts leading to the development of the laser were discovered in a microwave research program at Columbia University funded by the three Services. Lasers were combined with transistors and the billion-dollar fiber optic industry resulted. Fiber optic communications, compact disk players, laser printers, procedures to reattach eye retinas and new cancer surgeries all exist because of these breakthroughs, the result of Defense Basic Research.

In response to threats due to inadequate or outdated mission terrain mapping tools, the Georgia Institute of Technology developed Falcon View, a laptop-mapping software. Designed for the U.S. Air Force, U.S. Special Operations Command and the U.S. Navy, Falcon View integrates aeronautical charts, satellite images and other data to provide detailed, up-to-date data imagery to flight crews conducting mission planning using relatively simple laptop computers. The system is credited with reducing typical mission planning time from seven hours or more down to twenty minutes.

DARPA and ONR-sponsored researchers at Duke University Medical Center and the Massachusetts Institute of Technology have tested a neural system in animals that utilizes implanted electrodes to assist brain signals in controlling robotics. Scientists transmitted the brain signals over the Internet, remotely controlling a robot arm 600 miles away. The recording and analysis system could form the basis for a brain-machine interface that would allow paralyzed patients to control the movement of prosthetic limbs. The finding also supports new thinking about how the brain encodes information, by spreading it across large populations of neurons and by rapidly adapting to new circumstances.

In the late 1960's, DOD-initiated research to explore linking computers in different geographical locations to improve communication between their users. The research produced the world's first packet-switched network, the ARPANET, which connected major universities. As a result, more and more people gained access to more powerful computers. Innovation in network design and improved research spawned a new breed of information scientists who expanded the network to every corner of the country and the world. Electronic mail, which was considered earlier to be of minor interest to users, has become the most used service of computer networks. Through ARPANET, Defense Basic Research made it possible to launch the National Information Infrastructure.

Despite substantial appreciation for the importance of DOD S&T programs on Capitol Hill, total research within DOD has declined in constant dollars during the last decade. This decline poses a real threat to America's ability to maintain its competitive edge and to pursue a capability-based—rather than a threat-based—defense as detailed by departmental leadership. We strongly recommend that a small portion of proposed increases for national security activities be directed to the core S&T research accounts to achieve the \$11 billion funding target, an increase which allows for both preparation and protection of the men and women in our future military.

In closing, I want to again thank the subcommittee for its continued support of Defense S&T and for the opportunity to appear here today on behalf of CNSR and its members. The Coalition for National Security Research looks forward to assisting you in any way possible.

ATTACHMENT: THE CASE FOR DEFENSE SCIENCE AND TECHNOLOGY FUNDING

A listing of recent report excerpts and statements by officials on the role basic research programs play in supporting national security missions and the appropriate level of funding for such activities.

In an increasingly demanding and unpredictable security environment, U.S. military forces must be ready to meet America's security obligations both at home and abroad. Future military capabilities depend on a higher level of investment in science and technology (S&T) funding. Further supporting this conclusion, the following is a list of findings from recent reports on S&T research:

"A robust research and development effort is imperative to achieving the Department's transformation objectives. DOD must maintain a strong science and technology (S&T) program that supports evolving military needs and ensures technological superiority over potential adversaries."—Quadrennial Defense Review Report, 2001 <http://www.defenselink.mil/pubs/qdr2001.pdf> (page 41)

"To provide the basic research for these capabilities, the QDR calls for a significant increase in funding for S&T programs to a level of three percent of DOD spending per year."—Quadrennial Defense Review Report, 2001 <http://www.defenselink.mil/pubs/qdr2001.pdf> (page 41)

"DOD S&T is vital to future of U.S. military balance of power. Over the past century, technical developments funded by the military have had an enormous impact on military capabilities and have been decisive in the outcome of conflicts."—Report of the Defense Science Board Task Force on Defense Science and Technology Base for the 21st Century, 1998 <http://www.acq.osd.mil/dsb/sandt21.pdf> (page 21)

"Tomorrow's military capabilities depend, in part, on today's investment in enabling technologies that can be integrated into new or existing systems and employed using new operational concepts."—2002 Annual Defense Report to Congress, DRAFT Report

"Our Armed Forces depend on the Department's S&T program to deliver unique military technologies for the combat advantage that can not be provided by relying on commercially available technology."—2002 Annual Defense Report to Congress, DRAFT Report

"The President should propose, and Congress should support, doubling the U.S. government's investment in science and technology research and development by 2010."—Road Map for National Security: Imperative for Change, Hart-Rudman Commission, 2001 <http://www.nssg.gov/PhaseIIIFR.pdf> (page 32)

"A strong Science and Technology (S&T) program provides options for responding to a full range of military challenges. Technological superiority has been a characteristic of our Armed Forces and one of the foundations of our national military strategy. It is through the Department's investment in S&T that we develop the technology foundation necessary for modernization efforts, discover new technologies that produce revolutionary capabilities, and provide a hedge against future uncertainty."—2002 Annual Defense Report to Congress, DRAFT Report

"In this Commission's view, the inadequacies of our systems of research and education pose a greater threat to U.S. national security over the next quarter century

than any potential conventional war that we might imagine. American national leadership must understand these deficiencies as threats to national security.”—Road Map for National Security: Imperative for Change, Hart-Rudman Commission, 2001 <http://www.nssg.gov/PhaseIIIFR.pdf> (page ix)

“The Commission supports the DOD goal to increase science and technology investment to 3 percent of the overall budget, and encourages continued progress toward this goal in the fiscal year 2003 budget.”—Commission on the Future of the U.S. Aerospace Industry, Second Interim Report, 2002 <http://www.aerospacecommission.gov>—Coalition for National Security Research—www.cnsr.org (202) 624-1426 SCIENCE AND TECHNOLOGY QUOTES—2002—Coalition for National Security Research—www.cnsr.org (202) 624-1426

“Science and Technology form the base for the second generation of transformation.”—Under Secretary of Defense (AT&L) Pete Aldridge, AIAA Conference, February 19, 2002.

“Our S&T investment is projected to increase over the FYDP, to approach 3 percent of the total DOD budget, as we invest more heavily in transformational technologies and transition those technologies out of S&T and into systems at a faster pace.”—Pete Aldridge—Under Secretary of Defense for Acquisition, Logistics and Technology, March 6, 2002, House Armed Services Committee Military R&D and Procurement Subcommittees Hearing

“The prerequisite to achieving the transformation force outlined in the QDR is our commitment to a strong Science and Technology (S&T) program. S&T is the critical link between vision and operational capabilities.”—Gen. John Jumper, Chief of Staff, United States Air Force, March 7, 2002, Senate Armed Services Committee Hearing on Defense Authorization.

“In the war against terrorism, S&T is the enabler which links innovative research to warfighter and homeland defense requirements.”—Rear Adm. Jay Cohen, Chief of Naval Research, Testimony to Senate Armed Services Committee Emerging Threats and Capabilities Defense Authorization Hearing, April 10, 2002.

“Many of the capabilities and systems that are in the field today are the result of a conscious decision, years ago, to invest in Science and Technology (S&T) programs. The future security and safety of our nation depends in part on a strong research and development foundation.”—Director of Defense Research and Engineering, Ron Sega, April 10, 2002 Senate Armed Services Committee Emerging Threats and Capabilities Defense Authorization Hearing

“The technological advantage we enjoy today is a legacy of decades of investment in S&T. Likewise, our future warfighting capabilities will be substantially determined by today’s investment in S&T.”—Air Force Written Testimony, April 10, 2002 SASC ETC Defense Authorization Hearing.

“Homeland security efforts will depend on technologies such as biometrics, next-generation detection devices designed to find traces of chemical or biological agents, dashboard electronics to ensure efficient border crossing for trucks and other vehicles, simulation software, and advanced encryption-standard codes.”—Office of Homeland Security Director Tom Ridge, at the Electronic Industries Alliance’s annual conference, 2001.

“The key to maintaining U.S. technological preeminence is to encourage open and collaborative basic research. The linkage between the free exchange of ideas and scientific innovation, prosperity, and U.S. national security is undeniable. This linkage is especially true as our armed forces depend less and less on internal research and development for the innovations they need to maintain the military superiority of the United States.”—National Security Advisor Condoleezza Rice, November 1, 2001 letter to Center for Strategic and International Studies Co-Chairman, Dr. Harold Brown.

“S&T programs constitute the basis for the technological superiority upon which our armed forces have established our nation as the world’s foremost military power. . . . Our present military strength is the result of substantial S&T investments made a generation ago. . . . In a similar vein, our nation’s prospective security and military dominance ultimately depends on its ability to perpetuate technological advantages over the next few decades. S&T programs will enable us to maintain this advantage. . . . It is imperative, therefore, that we act to fund S&T at 3 percent of the total defense budget.”—April, 2002 letter from Senate Armed Services Committee members: Joseph Lieberman, Rick Santorum, Susan Collins, Edward Kennedy, Wayne Allard, Bob Smith, Jean Carnahan, Ben Nelson, Pat Roberts, Jeff Bingaman, Jeff Sessions, Ben Dayton, Bill Nelson, and James Inhofe to Committee Chairman Carl Levin and Ranking Member John Warner.

“The committee commends the Department of Defense commitment to a goal of 3 percent of the budget request for the defense science and technology program and progress toward this goal. The committee views defense science and technology in-

vestments as critical to maintaining U.S. military technological superiority in the face of growing and changing threats to national security interest around the world, and believes that both the defense agencies and the military departments have vital roles in DOD's science and technology investment strategy."—House Armed Services Committee, report language in the fiscal year 2003 Defense Authorization Committee report, May 3, 2002.

"The Committee feels that a robust defense science and technology program is a requirement in order to develop the new systems and operational concepts that will enable transformation. . . . The Committee fully supports the Department's stated goal of investing 3 percent of the defense budget into science and technology programs. . . . The Committee urges the Department and each of the military services to achieve the 3 percent goal as soon as practicable."—Senate Armed Services Committee report language in the fiscal year 2003 Defense Authorization Committee report, May 15, 2002.

Senator INOUE. Thank you very much. As I indicated to Dr. Pearce, notwithstanding the opposition of the administration, we will do our best to increase the funding to whatever extent the committee can handle.

Dr. SCHELL. Thank you, Mr. Chairman.

Senator INOUE. Our next witness is the director of legislation of the Naval Reserve Association, Captain Marshall Hanson.

STATEMENT OF CAPTAIN MARSHALL HANSON (RET.), DIRECTOR OF LEGISLATION, NAVAL RESERVE ASSOCIATION

Captain HANSON. Thank you, Mr. Chairman. On behalf of nearly 88,000 naval reservists, the Naval Reserve Association would like to express our deepest appreciation to your subcommittee for your efforts over the last couple of fiscal years. In the next couple of months, a number of outcomes and events will be converging. Your allocation of appropriations and sage leadership will help set the backdrop.

The Secretary of Defense's Office is conducting a series of studies emphasizing transformation of the duty status and the roles of the Guard and Reserve. Additionally, the services are in the midst of budget planning for fiscal year 2004. Despite the projected increases in the defense budget being considered by Congress, force planners are tailoring the future more with pruning shears than by adding additional bolts of cloth. The cause of this may be the military's approach to do more with less. The reality is, the wear and tear is beginning to catch up on our Armed Forces equipment and the expensive needed procurements are still being pushed into the future to avoid visible cost.

The war is continuing to be waged and is expanding globally. Collateral effects have affected the peoples of Israel, Palestine, Pakistan, and India. Where our military will be in the coming month will be tolled by events yet to come.

The Naval Reserve Association has concerns for the future structure of the Naval Reserve force because of the possibility that portions of the Naval Reserve may become the bill-payer. We suspect that there are a number of people in planning who have their sites on the Naval Reserve hardware units. Decommissioning of a Reserve P-3 squadron, Reserve CB battalions, fleet hospital units, or naval coastal defense units would be a way to balance the Navy's budget. Personnel accounts could also be tempting. Comments have already been heard as to why so large a Reserve is needed, when only a small portion of it was mobilized.

What we request that your committee includes is language in the appropriations bill to direct DOD to cease further reductions in both active and Reserve component end strengths until the threats to our Nation are properly determined and a national defense strategy is clearly defined. The force planners for the active component have again failed to satisfy congressional wishes and include complete Reserve component needs in their Program Objective Memorandum (POM) budget.

Reserve equipment is being programmed into the outyears, if included at all. With the Future Years Defense Program (FYDP) that does not come close to meeting the current needs of equipment, ships, and aircraft, the naval requirements for the most part fall out of and off the table. We cannot count on the once-robust National Guard and Reserve equipment allowance to level the playing field, although last year's increased and unfunded appropriations helped, it just scratched the surface.

The Naval Reserve, like other Reserve services, is dependent upon Congress to provide for the reservist equipment needs. Over the last 50 years there has been a historical cycle in support of the Guard and Reserve. When money is tight, sentiments run against the Guard and Reserve components. DOD studies become plentiful, reviewing roles and missions, manpower utilization, and how the total force policy should be. The initial result seems always to suggest cutting back on the Guard and Reserve, yet historically, as the next crisis arises, it is always the Guard and Reserve that is called upon to help combat the new threat.

With 60 percent of the Navy's budget in manpower accounts, it invests only 3 percent of its total obligation authority to the resources and people of its Reserve. For this investment, it has a ready force of men and women with skills, talents, and motivation that are unique. The Naval Reserve, which represents 20 percent of the Navy, is a needed insurance policy at a very small price.

When reservists serve side-by-side with active duty, you cannot differentiate them, yet inequities still exist with assigned duty, allowances, benefits, and retirement. Your efforts in past fiscal years have helped bring remedy, but our common goal should be to continue toward parity both on the battlefield and at home.

Thank you for the opportunity to testify. I stand ready for any questions.

[The statement follows:]

PREPARES STATEMENT OF MARSHALL HANSON

INTRODUCTION

On behalf of nearly than 88,000 active Naval Reservists, we would like to express our deepest appreciation to each of you for your efforts over the last couple of fiscal years.

In the next couple of months a number of outcomes and events will be converging. Your allocation of appropriations and sage leadership will help set the backdrop.

Due this month to the Secretary of Defense is a review by the office of the Assistant Secretary of Defense for Reserve Affairs (ASD/RA) to define Reserve Roles and Missions. A further study has been contracted by ASD/RA on defining Reserve Component Duty Statues. The emphasis of each of these studies is transformation with a goal to suggest new designs.

Additionally, the Services are in the midst of budget planning for fiscal year 2004. Despite the projected increases in the Defense Budget being considered by Congress,

force planners are tailoring the future more with pruning shears, than by using additional bolts of cloth.

The cause for this may be the military's approach to "do more with less." Reality is that wear and tear is beginning to catch-up with our armed forces equipment, and the expense of needed procurements is still being pushed further into the future to avoid visible costs.

The War is continuing to be waged and is expanding globally. Collateral effects have affected the peoples of Israel, Palestine, Pakistan and India. Where our military will be in the coming months will be tolled by events yet to come.

The Naval Reserve Association has concerns for the future structure of the Naval Reserve Force because of the possibility that portions of the Naval Reserve may become the bill payer. We suspect that there are a number of people in planning who have their sights on Naval Reserve hardware units. Redistribution of a Reserve P-3 Patrol Wings, Reserve Seabee Battalions, Fleet Hospital units, or Naval Coastal Warfare/Littoral Surveillance units would be a way to balance the Navy budget.

Personnel accounts could be too tempting also. Comments have been already been heard, as to why so large a Reserve is needed when only a small portion of it was mobilized.

We request that your committee include language in the appropriations bill to direct DOD to cease further reductions in both Active and Reserve component end strengths until the threats to our Nation are properly determined and a National Defense Strategy is clearly defined.

The force planners for the active component have again failed to satisfy Congressional wishes and include Reserve component needs in their POM (Programs Objectives Memorandum) Budget. Reserve equipment is being slid into the out years, if included at all. With a FYDP that doesn't come close to meeting the procurement needs of equipment, ships and aircraft, the Naval Reserve requirements for the most part fall off (introduction continued) the table. We cannot count on the once robust National Guard and Reserve Equipment (NGRE) Allowance to level the playing field. Although last year's increase to \$10 million appropriation helped, it just scratched the surface.

The Naval Reserve, like other Reserve Services, is dependent upon Congress to provide for the Reservist's equipment needs. An equipment list is included with this report. Yet, if the Naval Reserve could spend added dollars on just one piece of equipment not funded in the Administrations budget, that next money would go to the C-40A logistics airlift. The Congress has provided the Naval Reserve with five of its six C-40A aircraft. The need is for twenty-one more aircraft.

Over the last fifty years, there is a historical cycle for the support of the Guard and Reserve. When money is tight, sentiments run against the Reserve Components. DOD studies become plentiful reviewing roles and missions, manpower utilization, and total force policy. The initial result seems always to suggest cutting back the Guard and Reserve. Yet, historically, as a crisis arises soon after these cuts are planned, it is the Guard and Reserve that are called upon to help combat the threat.

The Naval Reserve invests about three percent of its total obligation authority into the resources and people of its Reserve, and for this investment it has a ready Force of men and women with skills, talents and motivation that are unique, and that can be surged as needed. The Reserve is a needed insurance policy, at a small price.

When Reservists serve side by side with Active Duty, you can not differentiate them. Yet inequities still exist with assigned duties, allowances, benefits, and eventually retirement. Obsolete and aged equipment cause additional divergence. Your efforts in past fiscal years have helped bring remedy, but our common goal should be to continue toward parity both on the battlefield and at home.

Thank you, for the opportunity to testify.

ANTICIPATED FISCAL YEAR 2003 UNFUNDED REQUIREMENTS READINESS SHORTFALLS

RPN

Non-Prior Service (NPS) Bonus (\$2.5M).—This required funding would allow the Naval Reserve to implement the enlisted NPS bonus program, which is authorized by 37 USC 308c. As the Naval Reserve increasingly relies on the accession of NPS personnel, it is taking steps to increase recruiting goals that may not be achievable without these additional incentives. This is essential in order for Naval Reserve to be competitive among the services.

Individual Protective Equipment.—Procurement is needed to train and outfit reservists who will be going to a theater location where a threat of biological or chemical agents could be possible. Currently, while active duty members have equipment reservists are sent w/o protection. (e.g. Korea)

Annual Training (AT).—Continued funding to permit the (14) days A.T. as outlined by law, and (17) days for OUTCONUS, plus (2) days travel for over 84,000 SELRES.

Inactive Duty Training Travel (IDTT).—This is the primary vehicle which Naval Reservists travel to their gaining commands to perform high priority work meeting peacetime contributory support requirements and perform training required by Navy training plans. IDTT is used to provide airlift support missions, operational missions, aviation proficiency skills training, refresher skills training, exercises, and training at mobilization sites. Funding should support a minimum of two visits per year.

Active Duty for Training (ADT-FLEET SUPPORT).—Combat Commander requirements are greater than available funding. This will allow for greater direct and indirect support for Combat Commanders' requirements. It will allow Commander Naval Reserve to increase the amount of contributory support that can be provided to gaining commands for command exercises, mission support, conferences, exercise preparations, and unit conversion training. These funds also provides annual training for 4,500 members who "drill for points only" in voluntary training units (VTUs).

RECRUITING SHORTFALLS

Reserve Recruiter Support & Advertising.—Aggressive national recruiting advertising campaigns needs to be maintained. With higher retention rates in the active fleet, the Naval Reserve must rely on non-prior service recruits. Advertising campaign includes media and market research, and placement of advertising in television, print, radio, direct mail, and public service announcements.

OMNR

Reserve Ship Depot Maintenance.—Includes deferred maintenance to meet guidance levels.

Reserve Base Support, Real Property Maintenance.—Funds are needed to arrest growth of critical backlog and hold such backlog at fiscal year 2001 level. Most of the buildings were built back in the 1940s/50s. Additional funds are need for collateral equipment furnishings and vehicles to complete MILCON projects.

RPM funding is need for demolition in RESFOR projects.

CONTINUING NAVAL RESERVE MODERNIZATION REQUIREMENTS

The C-40 aircraft procurement is needed to replace the aging C-9 fleet. The Naval Reserve is the logistic airlift for the Navy. The Department of the Navy has a fleet of (28) C-9's needing replacement. The first twelve aircraft were purchased used from commercial airlines, and are older than the Air Alaska airframe that crashed off of California. Others are from the same manufacturing lot as the ill fated Air Alaska aircraft. While inspected, air safety is still an ongoing concern.

With six C-40's already authorized the Navy tried to sell its first C-9 aircraft, and was only offered \$200,000. Obviously, the commercial airline industry views these airframes as fully depreciated. Besides age, these aircraft are handicapped by noise and exhaust pollution. The sooner we replace C-9's, the less we will have to spend on C-9 upgrades.

The other argument for accelerated C-40 procurement is business-oriented. The aircraft is a cargo combo Boeing 737-700 with 800 style wings, providing an aircraft with more effective lift, and longer range. To buy single planes every other year maximizes the price. Further, the production line, with this model, will be run for only for eight to ten years, before Boeing changes model design. Extending the purchases of 737 cargo-combo model over a longer time horizon will mean mixing models. This will complicate ground support and aircrew training, and will also increase costs. With an extended procurement timeline the Navy may be forced to seek 737-700s from the used market, with a high cost of conversion to cargo-combo, and with a reduced airlift and range. The conversion cost might exceed the original purchase price.

An optimum solution would be purchasing three aircraft each year, over the next seven years. In the long run it will save money. With a larger order, Boeing will discount the price, and we would also have model consistency.

Money is also being requested for the CNRF Information Technology Infrastructure (IT-21). Different from the Navy/Marine Internet, this money would be earmarked to get the Naval Reserve out of the mire of DOS based systems, upgrading its legacy software. The Naval Standard Integrated Personnel System (NSIPS) was intended to eliminate the USNR legacy pay system. Problems arose because this conversion was attempted within the existing budget, with costs kept on the margin. The overall cost has ballooned with selected reservists missing pay. The Naval Re-

serve learned a hard lesson that upgrades in hardware, memory, software, data flow, and staffing are needed. This was an exercise that Corporate America has already learned, you can't upgrade computers on the cheap.

Funding is needed for the Naval Coastal and Expeditionary Warfare Forces, Seabees and MIUW's to provide CESE, communications, and field support equipment. Existing equipment is aged, and worn, often being to commercial specifications, rather than military. Active units for deployment overseas have borrowed some of this equipment. Naval Coastal Warfare is growing in importance with the Navy's focus on littoral operations. Home Defense multiplies the importance. Newer equipment needs to be procured in an ongoing schedule to be able to upgrade unit readiness.

Littoral Surveillance System, one is required per year for regional/port surveillance. This equipment has the capability to assist in waterside security of afloat units.

Also needed are P-3 Upgrades. The Naval Reserve P-3 aircraft and avionics are not as updated as those being flown by active duty are. A commonality with active P-3C UDIII squadrons must be achieved to help maintain the Total Force. Missions for the Lockheed P-3 Orion are being expanded to include counter drug counter drug capabilities, and ESM.

Upgrading the Naval Reserve F/A-18A with precision guided munitions capability is a requirement. With greater emphasis being placed on combat support and precision combat air strikes, there is a requirement to upgrade USNR capabilities to match the active squadrons.

The Naval Reserve needs to modernize the F-5. The F-5 role is as the Navy's adversarial aircraft. The Naval Reserve operates the only dedicated adversarial squadron with the mission of preparing the Navy's tactical pilots prior to deployment. The F-5 is twenty-five years old. Without upgrades in avionics, navigation, and radar detection, a keen edged adversarial performance can not be maintained and our deploying pilots would be less well trained.

The Naval Reserve has acquired C-130's over numerous budget years. Cockpit configurations differ between airframes. Funding is needed to standardize cockpit configuration of all NR/MCR C-130 T aircraft.

Upgrades for USNR helicopter forces will provide funding for infrared FLIR kits.

Projected costs—Unfunded equipment and training requirements

[In millions of dollars]

	<i>Amount</i>
PROCUREMENT:	
Airlift, C-40A Transport Aircraft (3), replacing aging C-9 aircraft	189.0
Coastal/Expeditionary Warfare, upgrade equipment and small boats	76.0
Seabees: Naval Construction Forces	27.0
C-130T Avionics Modernization, standardize cockpit configs of all N&MCR aircraft	3.5
FLIR Kits (AAS-51Q) for SH-60B, procure forward looking infrared	7.0
F/A-18A Mod, ECP 560, upgrade USNR precision munitions capability (6) aircraft	36.6
F-5 Radar Upgrade, replace existing radars	16.0
Individual Protective Equipment, to train units in gear required for CINC tasking	7.0
IT CNRF Infrastructure, upgrade network infrastructure not included in NMCI	17.0
Littoral Surveillance System, procuring (1) system for year for regional/port surveillance	30.0
Operational Flight Trainer upgrade/mod, to match current P-3C configuration	12.0
P-3C/BMUP Kits, to achieve commonality with Active P-3C UD III squadrons	27.0
P-3C CDU upgrades, to increase counter drug capabilities	3.0
P-3C/AIP Kits, to improve ASW capability/target sensing, enhance weapons suite	27.0
PERSONNEL FUNDING:	
Active Duty for Training, Fleet support funding to meet Combat Commander reqmnts	10.0
Active Duty for Training, Schools	4.0
Funeral Honors Support	2.0
Incentive Pay for Reserve Personnel (Medical Programs and others)	4.0

	<i>Amount</i>
Non-Prior Service Enlistment Bonus, NPS bonus program to compete with other RC's	2.5
OPERATIONS AND MAINTENANCE:	
Base Operation Support, equipment furnishings and vehicles to complete MILCON.	4.0
IT Legacy, Reserve sustainment, \$\$'s required to operate legacy IT systems a minimum	6.0
IT Reserve Modernization, upgrading existing legacy systems to perform new functions	8.75
NMCI, Naval Marine Corps Intranet, expanding system to SELRES and TAR personnel	33.0
Facility Sustainment, Restoration, and Modernization (including demolition)	20.5
MILITARY CONSTRUCTION:	
BEQ Naval Air Station Atlanta	6.75
Naval Reserve Center Montana w/land	6.0
Naval Air Station JRB New Orleans:	
Engine Maintenance Shop Addition	1.5
Hazardous Material Storage	2.7

Alphabetical listing, not in order of priority.

Senator INOUE. We will remember your profound words, when reservists serve side-by-side with active duty you cannot differentiate them. Thank you very much.

Captain HANSON. Thank you, sir.

Senator INOUE. Our next witness is the deputy director of the national security foreign relations division of the American Legion, Dennis "Mike" Duggan.

STATEMENT OF DENNIS "MIKE" DUGGAN, DEPUTY DIRECTOR, NATIONAL SECURITY—FOREIGN RELATIONS DIVISION, THE AMERICAN LEGION

Mr. DUGGAN. Good afternoon, Senator, and the American Legion, the Nation's largest organization of wartime veterans, welcomes and appreciates this opportunity to present its views on the fiscal year 2003 defense appropriations budget. We wish to continually thank you and your subcommittee for all you have done on behalf of the Armed Forces of the United States.

This budget is the first defense budget since 9/11. It contains some \$48 billion in defense spending than the current 2002 defense budget. It also represents 3.3 percent of our gross domestic product, up from 2.9 percent of gross domestic product in the fiscal year 2002 budget. Following some 5 consecutive years of small budget increases and some 13 years of underbudgeting, a decade of overuse of a small military will necessitate, in our view, sustained investments, but this is a good budget, we believe, and it is certainly a very good first step in that direction.

We believe that if we are to win the war on terrorism and defend the homeland in this decade and beyond, we must provide for the Department of Defense's greatest assets, namely, our men and women in uniform. They are doing us proud in Afghanistan and around the world. We have always asked our military, just as we were asked at one time, to risk our lives if need be, but we should not also subject military families to repeated unaccompanied deployment and substandard housing, if at all possible. Quality of life, we feel, for our servicemen and women are overall greatly enhanced by this budget, and we are grateful for that.

But as we know, there are currently over 80,000 mobilized reservists on duty, and the military stop loss policy is in effect. Our military, our view, has been stretched thin even before Operations Enduring Freedom and Noble Eagle. We also would encourage an increase in service end strength, as I believe a number of the services have already requested.

Modernization for the Armed Forces has been delayed and curtailed for a long time. Since 1990, the average age of our Air Force aircraft has increased from about 13 years old to currently about 22 years old. Today's Navy we understand has about 315 ships, but the rate of shipbuilding and retirement of ships in the fiscal year 2003 budget, it could shrink our fleet to fewer than 250 ships. Recognizably, modernization and transformation is a process, and it is an expensive process but it is one that must continue.

With regard to concurrent receipts, much has been said about that. We would only add our voice that we urge full concurrent receipt for all disabled military retirees.

Legislation, we would add, introduced in the House would allow reservists to begin receiving retired reservist pay at age 55 instead of 60. The American Legion supports that initiative.

The war on terror is highlighting a 10-year trend in increased reliance on the National Guard and Reserves. A full review, we believe a total force compensation equity is long overdue. Continuing mission requirements together with a small active force structure we believe called for that.

The American Legion also has deep concerns over the Defense Commissary Agency, or the proposal to abolish all full-time wage grade and GS positions and convert them to part-time positions while reducing war powers. We understand this reduction in force is taking place in most, if not all of the 280 commissaries. The impact on benefits and customer service will be deeply felt by these cutbacks. We adamantly oppose that proposal. Commissaries are a key component of the military pay and compensation package.

In closing, this budget we believe is a good budget. It supports and funds the war on terrorism, and our Armed Forces as well. More needs to be done, we believe, in the years ahead, and the American Legion urges the following as a minimum.

First of all, sir, continued quality of life improvements, second, defense spending as a percentage of gross domestic product still continue at the 3.3 or even higher percentage, thirdly, enhanced military capabilities with emphasis on modernization and transformation, and finally that the National Guard and Reserves must be realistically manned, resourced, structured, equipped, and trained, fully deployable, and maintained at high readiness levels in order to accomplish their indispensable roles and missions in today's military.

Mr. Chairman, this concludes our statement, sir. Thank you very much.

[The statement follows:]

PREPARED STATEMENT OF DENNIS M. DUGGAN

Mr. Chairman, The American Legion is grateful for the opportunity to present its views regarding defense authorization for fiscal year 2003. The American Legion values your leadership in assessing and authorizing adequate funding for America's Armed Forces. As history continues to demonstrate, it is important for Congress to

meet its constitutional responsibilities to provide for the common defense in an uncertain world.

On September 11, 2001, America was viciously attacked by terrorists destroying symbols of American strength and prosperity and killing thousands of Americans within a few short hours. Yet within weeks, the United States responded by positioning armed military forces in Afghanistan and attacking those responsible. As Secretary of Defense Donald Rumsfeld has noted, we are still in the early stages of what is predicted to be a long, dangerous global war on terrorism. This war has two fronts: one overseas, waged against armed terrorists and the second being fought here in the United States to protect and secure the Homeland. Indeed, the freedoms and liberties that form this nation are made possible by the peace and stability provided by the brave men and women of the U.S. Armed Forces.

The American Legion adheres to the principle that this nation's armed forces must be well manned and equipped, not to pursue war, but to preserve and protect peace. The American Legion strongly believes that past military downsizing was more budget-driven than threat focused. Once Army divisions, Navy carrier battle groups, and Air Force fighter wings are eliminated from the force structure, they cannot be rapidly reconstituted regardless of the threat or emergency circumstances. Military recruitment has also been sporadic in the face of obvious quality-of-life concerns, frequent and lengthy deployments, the recession and in spite of the patriotic American spirit which has followed the terrorist attacks of September 11th.

Mr. Chairman, the President's proposed budget contains funding to fight the war on terrorism and selectively modernize the existing force. A decade of overuse of the military and its under-funding, however, will necessitate sustained investments, and this budget proposal, in our view, represents a good first step. Still, this proposed budget does not address increasing the military endstrengths of the Services, accelerating ship production, or funding full concurrent receipt of military retirement pay and VA disability compensation for disabled military retirees.

If America's Armed Forces are to be successful in the war on terror, and remain prepared for the wars of tomorrow, adequate funding must be provided to take care of the Department's greatest assets, namely, our men and women in uniform. Today's active duty, Guard and Reserve personnel are accomplishing their mission in Afghanistan and around the world—and today, thanks to their accomplishments in the war on terrorism, morale appears to be high.

The American Legion National Commander Richard Santos has visited American troops in Germany, Kosovo, Macedonia and South Korea, as well as a number of installations throughout the United States. During these visits, he was able to see firsthand the urgent need to address real quality-of-life challenges faced by servicemembers and their families. He has spoken with military families on issues of concern to include Womens' and Infants' Compensation (WIC), quality of life issues for servicemembers, and the heightened operational tempo. These concerns play a key role in the recurring recruitment and retention woes and should come as no surprise. The American Legion supports a reduction in the high operational tempo and lengthy deployments by increasing military endstrengths. Military missions were on the rise before September 11th and deployment levels remain high, it appears the only way, to reduce repetitive overseas tours is to increase military endstrengths for the services.

Also, military pay must be on par with the competitive civilian sector. If other benefits, like health care improvements, commissaries, adequate living quarters, quality child care, and school systems are reduced, they will only serve to further undermine efforts to recruit and retain the brightest and best this nation has to offer.

MODERNIZATION

Modernizing and maintaining even today's smaller military forces takes the kind of sustained commitment and fiscal investment, in the future, that took place in the early 1980s. To those who would argue that the nation cannot afford such an investment, we must ask just what is the cost of freedom? What this nation really cannot afford is another decade of declining defense budgets and shrinking military forces. If America is to remain a superpower able to promote and protect its global interests and the home front, and deter and defeat terrorism, it must be capable of providing and projecting force with complete confidence, using state-of-the-art weaponry, in a timely manner.

According to the Commanders in Chief of the services, the U.S. military is not currently prepared to fight a war similar to the Persian Gulf War.

READINESS

In recent years, overly optimistic assumptions about actual funding requirements, coupled with multiple unbudgeted contingency operations, have resulted in a series of unit readiness problems. Training goals are not being met. Military readiness ratings have plunged due to reductions in operations and maintenance accounts as a result of extended peacekeeping operations and 13 years of reduced defense budgets. We have seen the 1st Infantry and 10th Mountain Divisions affected by the adverse consequences of peacekeeping operations on combat readiness. Recently, the 3rd Infantry Division was rated as less than combat-ready due to lack of combat-oriented training and personnel. Today, thousands of military personnel (both active and Reserve components) are deployed to about 140 countries around the globe. At any given time, 26 percent of the active-duty military force is deployed to overseas commitments. Junior officers are leaving the military in large numbers. Maintenance of equipment and weapon delivery systems is in peril because of limited spare parts inventories. Due to depleted supplies of parts, the cannibalization of parts and creative engineering has become a common practice. Manpower shortages have resulted in ships borrowing crewmembers from other ships in order to deploy. Back-to-back tours undoubtedly adversely impact crew integrity, morale, and readiness. Hands-on training, actual flying hours, and ammunition have been restricted based on available funding. When proficiency cannot be maintained, readiness is compromised and this places the nation's ability to wage high intensity conflict at risk. We salute the Administration for increasing readiness funding in this budget. Recognizably, many readiness problems are systemic and will require years to fix.

QUADRENNIAL DEFENSE REVIEW (QDR)

The American Legion supports the force structure proposed by the Base Force Strategy of the first President Bush administration, that is, maintain 12 Army combat divisions, 12 Navy aircraft carrier battle groups, 15 Air Force fighter wings and three Marine Corps divisions, and a total manpower strength of at least 1.6 million.

The American Legion believes America can no longer afford to become the world peace enforcer by dispatching forces on unbudgeted operations every time the United Nations passes a resolution to do so. The American Legion believes Congress needs to remain involved in the decision-making process regarding the commitment of U.S. military forces. These forces should be deployed only when the vital national interests of America are clearly at stake; the efforts are supported by the will of the American people and Congress; and a clear exit strategy exists. Congress needs to be involved in the policy of committing U.S. troops before troops are committed, not afterwards.

PROCUREMENT/TRANSFORMATION

Only a few major systems currently in production would be funded in the fiscal year 2003 defense budget. The funding level for procurement is improved but that improvement needs to continue. The American Legion fully supports the Army's Transformation Program. Major development programs that The American Legion supports include the Air Force F-22 fighter and C-17, F/A-18Es for the Navy and Joint Strike Fighters for the Air Force and Navy. Unquestionably, the Navy needs to upgrade its aging fleet and acquire more submarines. The American Legion strongly believes that the rate of annual shipbuilding needs to be increased so that at least 8-10 ships are built annually.

If left unadvised, omissions in DOD's modernization budget could have the following implications:

- They will result in the continued deterioration of the defense industrial base.
- The future technological superiority of American forces will be at risk thereby increasing the danger to servicemembers should they be called into combat, and
- The failure to replace and upgrade equipment in a timely manner will create a massive modernization shortfall in each of the military services and, possibly, lead to even more serious readiness problems in the long run.

America's winning technology in the Persian Gulf War, like its victorious all-volunteer force, did not develop overnight, but had its genesis in the decade of the 1980's. The modernization of the Armed Forces since the end of the Persian Gulf War, unfortunately, has been delayed. The 2003 budget request addresses each of the six transformational goals mentioned by the Secretary of Defense in his congressional testimony. It accelerates funding for the development of transformation programs as well as modernization. Recognizably, transformation is a process that must continue.

The Chairman of the Joint Chiefs of Staff during fiscal year 1998 defense budget hearings called for procurement budgets of \$60 billion annually, which for the first time was reflected in the fiscal year 2001 budget. Army procurement dollars alone have plummeted by almost 80 percent since the mid-1980's, and by 67 percent for all the services. Trade-offs to maintain readiness within budget constraints have caused the Services to cancel a number of weapons systems and to delay others.

A number of defense consulting firms have predicted that the Armed Forces are heading for a "train wreck" unless annual defense budgets called for procurement accounts in the \$118 billion range, rather than in the \$45-\$60 billion range.

In light of potential biological/chemical threats to our military forces, The American Legion further urges Congress to expedite the procurement of improved and sensitive equipment for the detection, identification, characterization and protection against chemical and biological agents. Current alarms have not been sensitive enough to detect sub-acute levels of chemical warfare agents. Improved biological detection equipment also needs to be expedited.

The American Legion urges Congress to preserve America's defense industrial base by continuing to fund research, development and acquisition budgets so as to retain its technological edge in the 21st Century and assure that military production can surge whenever U.S. military power is committed. Some of these capabilities, such as tank production and shipbuilding, need to be retained. Key industrial capabilities that preserve more of the defense industrial base need to be identified and retained.

The American Legion opposes termination or curtailment of essential service modernization programs, diminution of defense industrial capabilities, and rejects the transfer of critical defense technologies abroad.

The American Legion firmly believes with the continuing threat of nuclear proliferation, America should retain its edge in nuclear capabilities as represented by the TRIAD system, and the highest priority should be the deployment of a national missile defense. Although the development and deployment of advanced theater missile defenses to protect U.S. forward deployed forces is imperative; any dismantling of acquisition programs used to defend the American people is imprudent. America should focus on developing and deploying an anti-ballistic missile detection and intercept system that is capable of providing an effective defense against limited attacks of ballistic missiles.

QUALITY OF LIFE

A major National Security concern of The American Legion is the enhancement of the quality-of-life issues for service members, Reservists, National Guard, military retirees, and their families. During the first session of Congress, President Bush and Congress made marked improvements in an array of quality-of-life issues for military personnel and their military families. These efforts are much needed enhancements that must be sustained. The cost of freedom is ongoing, from generation to generation.

In the fiscal year 2002 defense budget, the President and Congress addressed improvements to the TRICARE system to meet the health care needs of military beneficiaries; enhanced Montgomery GI Bill educational benefits; and improved services for homeless veterans. For these actions, The American Legion applauds your strong leadership, dedication, and commitment. However, a major issue still remains unresolved: the issue of concurrent receipt of full military retirement pay and VA disability compensation without the current dollar-for-dollar offset. The issue of concurrent receipt appeared in the fiscal year 2002 Budget Resolution and the Fiscal Year 2002 National Defense Authorization Act but the administration did not include funding in the fiscal year 2003 defense budget to fund legislation ending this inequity. Every day, new severely disabled retirees are joining the ranks of American heroes being required, by law, to forfeit military retirement pay.

Recently, 14 soldiers and 2 airman were awarded Purple Hearts during the War on Terrorism. These newest American heroes would be the latest victims of this injustice should their war wounds result in debilitating medical conditions. During the State of the Union Address, one such future recipient, SFC Ronnie Raikes, was sitting next to the first Lady. Concurrent receipt legislation in both chambers (S. 170 and H.R. 303) has overwhelming support by your colleagues. Enactment of corrective legislation and fully funding concurrent receipt are actions to properly reward heroism and courage under fire for brave servicemembers such as SFC Raikes.

Military personnel and their families endure a life of service in the military in spite of salaries, living conditions, and forfeiture of personal freedoms that most Americans would find unacceptable. The American Legion applauds the President's

request of \$94.3 billion for military pay and allowances to help improve the quality of life for America's servicemembers.

Specifically, The American Legion recommends the following issues be addressed to improve the overall quality of life for America's men and women in uniform:

—*Closing the Military Pay Gap With the Private Sector.*—The previous Chairman of the Joint Chiefs of Staff stated that the area of greatest need for additional defense spending is “taking care of our most important resource, the uniformed members of the armed forces.” To meet this need, he enjoined Members of Congress to “close the substantial gap between what we pay our men and women in uniform and what their civilian counterparts with similar skills, training and education are earning.” But 11 pay caps in the past 15 years took its toll and military pay continues to lag somewhat behind the private sector. The American Legion applauds the proposed 4.1 percent military pay raise. With the new Administration pledging to significantly increase military pay raises above that dictated by the “ECI plus one-half of one percent,” there is continued excitement in the field. We urge you to support the Administration's proposed military pay and allowances increases.

—*Basic Allowance for Housing (BAH).*—The American Legion supports full funding of BAH, but maintains that it has created significant consternation among the military members because of the unrealistic standard used to determine where military members may live. Their allowance generally dictates the neighborhood where they reside and the schools their children may attend. Ironically, in order to protect their families from the limitations of the standard, the lowest ranking (who are obviously paid the least) must expend additional out-of-pocket dollars. Secretary of Defense Rumsfeld has established a goal of eliminating all out-of-pocket housing expenses by 2005. The President's proposal to reduce the servicemember's share of housing costs from 11.3 percent to 7.5 percent is a solid step toward reaching that goal. The American Legion fully supports the President's proposal and commends the Secretary for establishing such a goal.

—*Montgomery G.I. Bill Enhancements (MGIB).*—The American Legion applauds the improvements in the MGIB contained in Public Law 107–103, but more needs to be accomplished. Today's military educational benefits package directly competes with other federally funded educational programs, such as AmeriCorp, Pell Grants and others that offer equal or greater monetary benefits with less personal sacrifice and hardships. The American Legion believes the veterans' educational benefits package for the 21st Century must be designed to recruit outstanding individuals and to serve as a successful transition instrument from military service back to the civilian workforce.

The American Legion supports passage of major enhancements to the current All-Volunteer Force Education Assistance Program, better known as the Montgomery GI Bill (MGIB), to include the following:

- The dollar amount of the entitlement should be indexed to the average cost of a college education including tuition, fees, textbooks, and other supplies for a commuter student at an accredited university or college for which they qualify;
- The educational cost index should be reviewed and adjusted annually;
- A monthly tax-free subsistence allowance indexed for inflation must be part of the educational assistance package;
- Enrollment in the MGIB should be automatic upon enlistment, however, benefits will not be awarded unless eligibility criteria have been met;
- The current military payroll deduction (\$1200) requirement for enrollment in MGIB must be terminated;
- If a veteran enrolled in the MGIB acquired educational loans prior to enlisting in the Armed Forces, MGIB benefits may be used to repay existing educational loans;
- If a veteran enrolled in MGIB becomes eligible for training and rehabilitation under Chapter 31, of Title 38, U.S.C., the veteran shall not receive less educational benefits than otherwise eligible to receive under MGIB;
- A veteran may request accelerated payment of monthly educational benefits at any time after meeting the criteria for eligibility for financial payments;
- Eligible members of the Select Reserves, who qualify for MGIB educational benefits shall receive an appropriate amount of tuition assistance and subsistence allowance and have up to 5 years from their date of separation to use MGIB educational benefits.
- Commissaries.*—The American Legion urges Congress to preserve full federal funding of the military commissary system and to retain this vital non-pay compensation benefit. Furthermore, The American Legion fully supports the full-time usage of commissary stores by members of the Reserve components, that

the system not be privatized and that DECA manpower levels not be further reduced.

—*Improving Substandard Housing and Working Conditions in Europe and Korea.*—A large percentage of the military family housing and work facilities, particularly in Europe and Korea, are substandard and in need of extensive repair and modernization. The U.S. European Command Commander-In-Chief, General Joseph Ralston, said that working conditions at some bases in Europe were so bad that troops are better off deploying to Bosnia. The American Legion supports improvements to substandard housing and working facilities in Europe and Korea.

RESERVE COMPONENTS

The decreasing number of active duty personnel reinforces the need to retain combat-ready National Guard and Reserve Forces that are completely integrated into the Total Force. The readiness of National Guard and Reserve combat units to deploy in the War on Terrorism will also cost in terms of human lives unless Congress is completely willing to pay the price for their readiness. With only ten active Army divisions in its inventory, America needs to retain the eight National Guard divisions as its life insurance policy. Over 80,000 Guardsmen and Reservists have been activated for Operation Enduring Freedom.

The American Legion supports improved quality-of-life benefits such as those contained in the Soldiers and Sailors Relief Act for the 6–7,000 Guardsmen who are securing over 400 airports in America.

The American Legion is also supportive of all proposed quality-of-life initiatives that serve to improve living and working conditions of members of the Reserve components and their families, to include unlimited access to commissaries and lowering the eligible age for receiving military retirement benefits to age 55.

HEALTH CARE FOR MILITARY BENEFICIARIES

The creation of TRICARE for Life and a TRICARE Senior Pharmacy benefit in Public Law 106–398 was an historic triumph for Congress and those 1.3 million Medicare-eligible military retirees and dependents. While TRICARE for Life came with its own funding stream in fiscal year 2002, authorization must be budgeted to provide for the program in fiscal year 2003. The American Legion recommends that you continue to make this important program a reality by providing the necessary funding. The American Legion also applauds your work last year in eliminating TRICARE co-payments for active duty family members.

Earlier this year, The American Legion presented testimony before the Presidential Task Force to Improve Health Care Delivery to our Nation's Veterans. The following points were made with regard to the Military Health System (MHS) and the Veterans Health Administration and are included here for your consideration:

- The American Legion adamantly supports retaining the integrity of the separate MHS and VA health care delivery systems dedicated to their primary mission. Access to each system is an earned benefit resulting from honorable military service.
- The American Legion strongly recommends maintaining access for veteran and military beneficiaries, especially for specialized services in both DOD and VA systems.
- The American Legion advocates developing additional DOD–VA resource sharing joint ventures.
- The American Legion supports maximizing utilization of health care sharing partnerships between all regional VA and DOD/TRICARE providers.
- The American Legion supports improving information technology to include electronic medical records.
- The American Legion supports allowing Veterans Health Administration (VHA) to utilize Medicare reimbursement for enrolled Medicare-eligible veterans and TRICARE for Life retirees being treated for nonservice-connected conditions.
- The American Legion supports DOD and VA joint procurement ventures, expanding joint medical education, and training and improving relations between DOD and VA in Homeland Security emergency preparedness.

The American Legion urges Congress to resist any efforts to close the Uniformed Services University of Health Sciences (USUHS). The American Legion is convinced that the USUHS is an economical source of career medical leaders who serve this nation during peace and war and provide military health care consistency and stability. The American Legion urges the Congress to retain and fully fund USUHS as a continued source of career military physicians for the Army, Navy, Air Force and

U.S. Public Health Service. The American Legion also supports the construction of an Academic Center to accommodate the USUHS Graduate School of Nursing.

OTHER MILITARY RETIREE ISSUES

The American Legion believes strongly that quality-of-life issues for retired military members and families are important to sustaining military readiness over the long term. If the Government allows retired members' quality-of-life to erode over time, or if the retirement promises that convinced them to serve are not kept, the retention rate in the current active-duty force will undoubtedly be affected. The old adage—you enlist a recruit, but you reenlist a family—is truer today than ever before, as more career-oriented servicemembers are married or have dependents.

Accordingly, The American Legion believes Congress and the Administration must place high priority on ensuring that these long-standing commitments are honored:

—*VA Compensation Offset to Military Retired Pay (Retired Pay Restoration).*—

Under current law, a military retiree with compensable, VA disabilities cannot receive both military retirement pay and VA disability compensation concurrently. The military retiree's retirement pay is offset (dollar-for-dollar) by the amount of VA disability compensation awarded. The purposes of these two compensation plans are fundamentally different. Longevity retirement pay is designed primarily as a force management tool to attract high-quality members to serve for 20 years. A veteran's disability compensation is paid for a disability, injury or disease incurred or aggravated during active-duty military service. Monetary benefits are related to the residual effects of the injury or disease and subsequently reduced employment and earnings potential. Action should be taken to provide full compensation for those military retirees who served more than 20 years in uniform and incurred service-connected disabilities. Disabled military retirees are the only retirees who pay their own disability compensation from their retirement pay. The American Legion supports funding to provide full concurrent receipt to all eligible disabled military retirees.

—*Social Security Offsets to the Survivors' Benefits Plan (SBP).*—

The American Legion supports amending Public Law 99-145 to eliminate the provision that calls for the automatic offset at age 62 of the military SBP with Social Security benefits for military survivors. Military retirees pay into both SBP and Social Security, and their survivors pay income taxes on both. The American Legion believes that military survivors should be entitled to receipt of full Social Security benefits which they have earned in their own right. It is also strongly recommended that any SBP premium increases be assessed on the effective date or subsequent to, increases in cost of living adjustments and certainly not before the increase in SBP as has been done previously. In order to see some increases in SBP benefits, The American Legion would support a gradual improvement of survivor benefits from 35 percent to 45 percent over the next five-year period. The American Legion also supports initiatives to make the military survivors' benefits plan more attractive. Currently, about 75 percent of officers and 55 percent of enlisted personnel are enrolled in the Plan.

—*Uniformed Services Former Spouses Protection Act (USFSPA).*—

The American Legion urges support for amending language to Public Law 97-252, the Uniformed Services Former Spouses Protection Act. This law continues to unfairly penalize active-duty armed forces members and military retirees. The American Legion believes that the provision for a lifetime annuity to former spouses should be terminated upon their remarriage. Based on this current provision, monthly provisions for life are being granted to former spouses regardless of marital status, need, or child custodial arrangements. Judicial determinations of appropriate support should be determined on a case-by-case basis and not be viewed as an "entitlement" by former spouses as exists under current law. The American Legion urges hearings on the USFSPA.

CONCLUSION

Twenty-nine years ago America opted for an all-volunteer force to provide for the national security. Inherent in that commitment was a willingness to invest the needed resources to bring into existence a competent, professional, and well-equipped military. The fiscal year 2003 defense budget, while recognizing the War on Terrorism and Homeland Security, represents a good first step in the right direction.

What more needs to be done? The American Legion recommends, as a minimum, that the following steps be implemented:

- Continued improvements in military pay raises, equitable increases in BAH, BAS, military health care, improved educational benefits under the Montgomery G.I. Bill, improved access to quality child care, and other quality-of-life issues.
 - Defense spending, as a percentage of Gross Domestic Product, needs to be maintained between 3 and 4 percent annually which this budget begins to do.
 - The new Quadrennial Defense Review strategy needs to call for enhanced military capabilities to include force structures, increased endstrengths and improved readiness which are more adequately resourced.
 - Force modernization needs to be realistically funded and not further delayed or America is likely to unnecessarily risk many lives in the years ahead;
 - The National Guard and Reserves must be realistically manned, structured, equipped and trained; fully deployable; and maintained at high readiness levels in order to accomplish their indispensable roles and missions.
 - Legislation granting full concurrent receipt of military retired pay and VA disability compensation for disabled military retirees.
- Mr. Chairman, this concludes The American Legion statement.

Senator INOUE. Director Duggan, I am certain you are well aware the words of the American Legion are always seriously considered here.

Mr. DUGGAN. Thank you, sir.

Senator INOUE. Thank you.

Our next witness is a member of the board of directors of the National Brain Injury Research Treatment and Training Foundation, Mr. Martin B. Foil, Jr.

**STATEMENT OF MARTIN B. FOIL III, MEMBER, BOARD OF DIRECTORS,
NATIONAL BRAIN INJURY RESEARCH, TREATMENT AND TRAINING
FOUNDATION**

Mr. FOIL. Good afternoon, Mr. Chairman. Thank you for allowing me to be here today. My name is Marty Foil, and I am the brother of a young man with a severe brain injury. I serve as the vice chairman of the National Brain Injury Research, Treatment and Training Foundation, and as the executive director of Hines Farm, a facility in Huntsville, North Carolina, built to care for individuals like my brother who live with long-term disabilities as a result of brain injury.

You may be familiar with my father, Martin Foil, Jr., who comes each year to testify. He sends his regrets that he could not be here today, and we ask that his written testimony be submitted for the record.

Senator INOUE. It will be received, sir, with thanks.

Mr. FOIL. Thank you.

On behalf of the thousands of military personnel that receive brain injury treatment and services annually, I respectfully request that \$5 million be added to the DOD health affairs budget under operation and maintenance for the defense and veterans head injury program (DVHIP). The DVHIP is a significant contribution to the health of the United States military and veteran populations.

The DVHIP is a component of the defense military health system providing direct care at military treatment facilities and veterans' hospitals throughout the Nation. The primary purpose of the DVHIP is to provide state-of-the-art medical care to personnel sustaining concussions and more severe brain injury while on active duty so as to get them back to work or to appropriate rehabilitation as soon as possible.

As you know, brain injury is the leading cause of death and disability in young Americans. Almost 2 million brain injuries occur

each year, and of those approximately 90,000 lead to long-term severe disability as a result. Males age 14 to 24 have the highest incidence of injuries.

Brain injury is also a leading combat concern in modern warfare. Our written testimony includes an example of a Special Forces officer recently injured in combat who was cared for through the DVHIP program from acute care through rehab and community re-entry. Shortly after he began rehab, officials wanted to award him the Purple Heart, but the DVHIP doctors advised waiting until he had healed a bit from his injury, as he had little discretion over his speech and needed some time to recover. After 14 weeks of intensive treatment, he was able to monitor his thoughts, say what he chose, cook and care for himself, and travel independently on public transportation.

The DVHIP is prepared to provide a full continuum of care for troops sustaining brain injuries during this critical time in our history. Additionally, new research is needed to study the effects on the brain from chemical and biological threats in order to develop adequate responses and possible preventative efforts.

We are grateful for your support for the DVHIP over the years, and hope that you will again provide funding to help provide the best care possible to our Nation's men and women in uniform. We are also pleased that for the second year in a row some 20 members of the congressional Brain Injury Task Force and six Senators from both sides of the aisle sent letters to you and Chairman Lewis in support of funding the DVHIP.

I respectfully request your support for \$5 million in the DOD appropriations bill for the DVHIP, and I am happy to answer any questions you might have at this time.

Senator INOUE. I can assure you we will do our very, very best.

Mr. FOIL. Thank you, Mr. Chairman.

[The statement follows:]

PREPARED STATEMENT OF MARTIN B. FOIL, JR.

Dear Chairman Inouye, Senator Stevens and Members of the Senate Appropriations Subcommittee on Defense: My name is Martin B. Foil, Jr. and I am the father of Philip Foil, a young man with a severe brain injury. I serve as a volunteer on the Board of Directors of the National Brain Injury Research, Treatment and Training Foundation (NBIRTT)¹ and the John Jane Brain Injury Center (JJBIC).² Professionally, I am the Chief Executive Officer and Chairman of Tuscarora Yarns in Mt. Pleasant, North Carolina.³

On behalf of the thousands of military personnel that receive brain injury treatment and services annually, I respectfully request that \$5 million be added to the Department of Defense (DOD) Health Affairs budget for fiscal year 2003 under Operation and Maintenance for the Defense and Veterans Head Injury Program (DVHIP).

I appreciate the opportunity to provide testimony regarding this important program which is a collaborative effort among DOD, Veterans Affairs (DVA), the Henry M. Jackson Foundation for the Advancement of Military Medicine and the Uniformed Services University of the Health Sciences (USUHS).

¹NBIRTT is a non-profit national foundation dedicated to the support of clinical research, treatment and training.

²JJBIC in Charlottesville, Virginia, provides brain injury rehabilitation to military retirees, veterans and civilians through an innovative and cost effective day treatment program. JJBIC is a new lead DVHIP treatment site.

³I receive no compensation from this program. Rather, I have raised and contributed millions of dollars to support brain injury research, treatment, training and services.

THE DEFENSE AND VETERANS HEAD INJURY PROGRAM (DVHIP)

The DVHIP is a component of the military health care system that integrates clinical care and clinical follow-up, with applied research, treatment and training. The program was created after the Gulf War to address the need for an overall systemic program for providing brain injury specific care and rehabilitation within DOD and DVA.

The most critical component of the program to military readiness is the assessment of mild brain injury on combat performance. Working with paratroopers at Fort Bragg, North Carolina, Marines at Camp Pendleton, California and cadets at the U.S. Military Academy at West Point, New York, the DVHIP has developed basic combat casualty care protocols to ensure treatments for brain injury are available in the field. Early identification of injured soldiers not only assists in immediate readiness efforts, but facilitates long term management as well as the study of brain injury resulting from battlefield operations.

In addition to supporting and providing treatment, rehabilitation and case management at each of the 8 primary DVHIP traumatic brain injury (TBI) centers,⁴ the DVHIP includes a regional network of additional secondary veterans hospitals capable of providing TBI rehabilitation, and linked to the primary lead centers for training, referrals and consultation. This is coordinated by a dedicated central DVA TBI coordinator and includes an active TBI case manager training program.

DVHIP IN ACTION IN THE WAR ON TERRORISM

Head injury is a leading combat concern in modern warfare. Neurotrauma (traumatic brain and spinal cord injuries) accounts for almost 25 percent of combat casualties. In addition, secondary brain injuries—resulting from stroke, cerebral ischemia, seizures which are induced by radiation, exposure to ionizing or iron plasma, nerve agents, cyanide, toxic concentrations of oxygen, neurotoxicity due to central nervous system (CNS) malaria or treatment with antimalaria agents, and other CNS traumas, have a significant impact on the health and readiness of military personnel. Many of the currently feared terrorist threats would involve secondary brain injuries, particularly those involving chemical or biological neurological insults.

The DVHIP is prepared to provide a full continuum of care for military personnel injured during current and potential future hostilities. More research is needed, however, to study the neural pathways of neurotoxicity to develop adequate responses to and possible prevention of some of the more insidious terrorist potentialities.

One example of the scope of the DVHIP is the care of a Special Forces soldier recently injured in combat (Sgt. X). He suffered a head injury with both injury to his brain and skull, along with a neck fracture and amputation of several digits of his hand. Additionally, he sustained multiple shrapnel injuries. After evacuation and stabilization at the Landstuhl Army Medical Center, he was transferred to Walter Reed Army Medical Center, Washington, D.C. (WRAMC). While at WRAMC, DVHIP personnel worked with Neurosurgical and Neurology staff in caring for Sgt. X in the Intensive Care Unit (ICU). The effects of brain injury and sleep disruption from trans-Atlantic med-evacuation transport resulted in his disoriented and agitated state in the ICU. His day/night cycle was reestablished while the surgical teams rendered further care. When he was ready for transfer to acute rehabilitation, Sgt. X was transferred to the VA Palo Alto Health Care System in California (another lead DVHIP site).

Although high ranking military officials were interested in awarding Sgt. X a Purple Heart immediately, the DVHIP staff strongly advised this as Sgt. X was exhibiting many symptoms of brain injury which could potentially do harm to himself and his career. Consistent with the severity of his injuries, he spoke all his thoughts without regard to discretion, he was unable to problem solve and his memory for simple new material was very limited. In addition, his hand-eye coordination was greatly impaired such that he could not pick up objects, yet he felt compelled to act quickly "because that's what sergeants do." The highly trained brain injury specialist staff at the Palo Alto VA worked with Sgt. X in a coordinated, integrated manner. Each therapist received information about how the immediate preceding session went and could incorporate the information into the current session. This way they were able to confront the patient with evidence of both his problems and

⁴Walter Reed Army Medical Center, Washington, DC; James A. Haley Veterans Hospital, Tampa, FL; Naval Medical Center San Diego, San Diego, CA; Minneapolis Veterans Affairs Medical Center, Minneapolis, MN; Veterans Affairs Palo Alto Health Care System, Palo Alto, CA; John Jane Brain Injury Center, Charlottesville, VA; Hunter McGuire Veterans Affairs Medical Center, Richmond, VA; Wilford Hall Medical Center, Lackland Air Force Base, TX.

how to get around them, as well as show him areas of intact function. Sgt. X was taken out into the community in a closely supervised manner on a weekly basis to both teach and assess how he was doing in the “real world.”

After 14 weeks of intensive treatment (including 4 weeks of home convalescence to implement what he had learned in the rehabilitation unit), Sgt. X had improved to the point that he could be left at home alone, take public transportation independently, and was no longer ignoring the left part of space. He had normal hand-eye coordination; he could monitor his thoughts and say what he chose; and he had improved in problem solving to the point that he solicited advice from others about his plans. He could plan, shop for and prepare a meal for himself and others. He was still impulsive and made serious decisions too quickly. He had visual spatial problems which prevented him from working towards his hopes of becoming a mechanic and he lost his temper rapidly, but he was well on the road to recovery and independence. His extended family was kept informed by face-to-face meetings with the team, telephone conferences and supervised passes.

DVHIP Case Management was involved from the time of the initial referral, to assisting the Army with Sgt. X's medical retirement proceedings, to managing discharge arrangements. At the time of discharge, Sgt. X had developed plans for several months post discharge and was set up with VA outpatient services close to his local community.

This is just one example of what DVHIP does for thousands of military personnel each year—from being ready to care for injured troops in the acute care setting to neuro-rehabilitation involving the entire patient to full community integration.

DVHIP PROJECTS AND ACCOMPLISHMENTS

Combat Training and Sports

The combat training and sports TBI program identifies the impact of mild TBI on military performance and develops treatments to minimize its effects. Active programs are currently ongoing at Fort Bragg, North Carolina; West Point U.S. Military Academy, New York; and Camp Pendleton, California.

Fort Bragg Paratrooper Study

Over 5,100 paratroopers have been tested at baseline; 142 post injury; 11 both pre and post injury.

The analysis of symptom and cognitive reporting has led to the development of a clinical feedback form.

A concussion care clinic staffed with military and DVHIP personnel has been established that enhances the level of care for active duty personnel at Ft. Bragg.

A helmet study has been initiated regarding current Kevlar helmets which were designed only to protect from penetrating injury. This study will enhance protection from closed head injury, such as obtained during paratrooper maneuvers. Two helmet liners tested by Natick Labs will be compared with the current helmet. Based on laboratory testing, it is expected that both liners are to be at least as protective as the current model.

United States Military Academy at West Point

Approximately 2,000 cadets have been tested at baseline; 64 cadets studied post concussion; 28 uninjured controls.

Grade I concussion analysis results were published in the August 2001 issue of *Neurology*, demonstrating that reaction time abnormalities persist even after all symptoms of the concussion have remitted.

DVHIP personnel were invited to perform testing at the Armed Forces Boxing Championships at Fort Huachuca, Arizona. The work with all military boxing competitions is to enhance safety at these morale-building events.

Camp Pendleton Marine Protocol

A training project involving corpsmen and military medical providers on the specifics of concussion care was successfully completed.

The concussion care clinic has cared for and followed over 300 concussed Marines.

Neuro-rehabilitation

A third randomized trial is ongoing at Wilford Hall Air Force Medical Center focusing on military personnel with acute mild TBI. The study will compare a program of counseling and rest on convalescent leave plus graded return to work, versus counseling and graded return to work alone. Primary outcome measure will be post-concussion symptoms and work supervisor ratings.

The DVHIP site at the Naval Medical Center, San Diego provides outpatient evaluations and case management services to TBI survivors across the entire range of severity of injury.

The lead veterans' centers are conducting a randomized controlled study comparing in-hospital cognitive therapy to in-hospital functional rehabilitation for individuals with more severe TBI. The primary outcome measures are return to work and level of independence at one year post injury.

The John Jane Brain Injury Center in Charlottesville, Virginia, is now a core component of the DVHIP and provides intensive inpatient rehabilitation to active duty military personnel and veterans.

Pharmaceutical Interventions

The Tampa Veterans Hospital will evaluate the anticonvulsant medication, valproate, in the treatment of agitation following traumatic brain injury.

The use of a sertraline protocol for post-acute post concussive symptoms was initiated at WRAMC and is being extended to other DVHIP sites. This study will determine if treatment with sertraline, a serotonin selective medication, will decrease symptoms of post concussive syndrome, which often limits duty effectiveness. Such a treatment could be very beneficial to military personnel recovering from concussions.

Two proposals for multi-center randomized controlled trials are currently awaiting funding. One involves Donepezil treatment for memory problems after TBI, and the other uses Citalopram for treatment of generalized anxiety following TBI. Generalized anxiety is a component of many post-traumatic stress situations, as well as post-TBI. An effective treatment of these symptoms of irritability, sleep disorder, and excessive worry would be of great use to affected military and veterans with this disorder.

Data Management

Over the past year, the data management section has audited 28,471 evaluation forms. These forms represent approximately 5,170 evaluations on approximately 1,560 TBI patients. The DVHIP database represents one of the largest collections of data on TBI patients in existence.⁵ Follow-up data from several time periods post-injury is available on many patients. To move data tracking, entry and quality control processes into the 21st century, the data management section has been involved with the automation of many evaluation components. Many of these components are now ready for implementation. Paperless and web based data management systems are also being reviewed to enhance DVHIP databases for future studies.

Education and Training

DVHIP educational projects include a telemedicine initiative involving a fall prevention teleconference and regional video teleconference on mild TBI evaluation and management, and a telemedicine project to determine the ability to assess patients from afar regarding their development of post concussive symptoms following mild traumatic brain injury. In addition, DVHIP research findings were disseminated at eight renowned national and international professional meetings and conferences.

FISCAL YEAR 2003 PROJECTS

While funding is critical to continue the full spectrum of care for military personnel and veterans sustaining brain injuries, DVHIP investigators also plan to use the DVHIP Registry Data to follow up with individuals with mild TBI to determine the amount of persisting symptoms and their current functioning. Because most studies evaluate clinic or hospital samples, this unselected series could offer important information regarding recovery without complications compared with persisting difficulties.

Funding is also needed to compare two low-cost treatment interventions to enhance recovery. Both educational interventions and focused case management systems are believed to enhance recovery and appropriate utilization of medical resources. This study will compare individuals treated with standard of care discharge instructions with a population with enhanced provider and patient education re-

⁵The DVHIP maintains an extensive historical military TBI archive, including WWI, WWII (Okinawa Campaign), Korean War, Vietnam War and Gulf War TBI medical records. The Vietnam War data include paper and computerized records of Phases I and II of the Vietnam Head Injury Study (VHIS) that have led to numerous publications. The DVHIP also includes a simple, updated Head and Spinal Combat Injury Registry form similar to that used by the Vietnam Head Injury Study. The registry has been approved by the Joint Committee of Military Neurosurgeons of the American Association of Neurological Surgeons and Congress of Neurological Surgeons and is ready for deployment in time of war.

garding head injury; a system where enhanced case management has been implemented; and a population with both programs (focused education and enhanced case management). This four group design will permit identification of those components that are most helpful in after-discharge recovery from TBI.

CONCLUSION

The DVHIP is an integral part of the military health system, providing state of the art care and innovative treatments to our nation's military personnel and veterans sustaining brain injuries. The unique collaborative efforts of the DVHIP, combining clinical research, treatment, rehabilitation and training, contribute significantly to improving health care in the U.S. military.

The current hostilities significantly raise the risk of injury to our troops, and the DOD and DVA must continue to be prepared to provide the best medical care possible to our men and women in uniform. Sgt. X and his colleagues deserve no less.

I respectfully urge your support for \$5 million for the DVHIP in the fiscal year 2003 Defense Appropriations bill in the DOD Health Affairs budget under Operation and Maintenance to continue this important program.

Senator INOUE. Our next witness is executive director of the Illinois Neurofibromatosis, Inc., Ms. Kim Bischoff.

STATEMENT OF KIM BISCHOFF, EXECUTIVE DIRECTOR, ILLINOIS NEUROFIBROMATOSIS, INC.

Ms. BISCHOFF. Thank you, Mr. Chairman, for the opportunity to appear before you today to discuss the Army's neurofibromatosis research program. I am Kim Bischoff, the executive director of Illinois Neurofibromatosis, which is a participant in a coalition of neurofibromatosis, or NF advocacy groups, but more importantly, I am the mother of Jennifer, a young woman who has neurofibromatosis.

Let me first tell you about neurofibromatosis. It is a terrible genetic disorder involving uncontrolled growth of tumors along the nervous system which can result in disfigurement, deformity, deafness, blindness, it can cause brain tumors, cancer, and death. It is the most common neurological disorder caused by a single gene, afflicting approximately 100,000 Americans, but most strikingly, research has shown that NF is closely linked to cancer, brain tumors, learning disabilities, and heart disease potentially affecting 150 million Americans in this generation alone.

As you may recall, Mr. Chairman, NF research is directly related to military purposes because of its close implication with tissue degeneration and regeneration, and with the nervous system degeneration, deafness and balance. Indeed, this subcommittee in past report language has stated that the Army-supported research on NF includes important investigations into genetic mechanisms governing peripheral nerve regeneration after injury.

Thanks to this subcommittee's strong support for NF research, the Army's NF research program has been funded at increasing levels since fiscal 1996. In the past 7 years, Congress has provided funding for a total of \$90 million to the program, which has funded 80 awards to researchers across the entire country. These grants support innovative groundbreaking research which has been phenomenally successful in advancing our knowledge of NF faster than many scientists believed was possible. This program has produced critical breakthroughs in NF research such as the development of advanced animal models and clinical trials.

Mr. Chairman, with a proven track record of success, the Army's NF research program is now poised to fund translational and clin-

ical research which is both the most promising and the most expensive direction that NF research has taken. In the last 2 years, the program has granted its first two clinical trial awards, but because of limited funds had to decline other clinical trial applications that scored excellent in the peer review process. This is why scientists closely involved with the Army's program believe that the high quality of scientific application would justify a much larger program than is currently being funded. Therefore, I am here today to respectfully request an appropriation of \$25 million in your fiscal year 2003 Department of Defense appropriation bill for the Army's neurofibromatosis research program.

Mr. Chairman, in addition to providing a clear military benefit, the DOD's neurofibromatosis research program also provides hope for the 100,000 Americans like my daughter who suffer from NF, as well as the untold millions of Americans who suffer from NF's related diseases such as cancer, learning disabilities, heart disease, and brain tumors. Leading researchers now believe that we are on the threshold of a treatment and cure for this terrible disease. With this subcommittee's continued support, we will prevail.

Thank you for your support of this program, and I appreciate the opportunity to present this testimony to the subcommittee.

[The statement follows:]

PREPARED STATEMENT OF KIM BISCHOFF

Thank you, Mr. Chairman, for the opportunity to appear before you today to present testimony to the Subcommittee on the importance of continued funding for Neurofibromatosis (NF), a terrible genetic disorder directly associated with military purposes and closely linked to many common ailments widespread among the American population.

I am Kim Bischoff, Executive Director of Illinois NF Inc., which is a participant in a national coalition of NF advocacy groups. I have been actively involved in creating awareness of NF and promoting scientific research in this area since 1985, and I have a 18-year old daughter with NF. I am here on behalf of the 100,000 Americans who suffer from NF as well as approximately 150 million Americans who suffer from diseases linked to NF, including some of the most common forms of cancer, congenital heart disease, hypertension, and learning disabilities.

Mr. Chairman, I am requesting increased support, in the amount of \$25 million, to continue the Army's highly successful NF Research Program (NFRP). The program's great success can be seen in the commencement of clinical trials only ten years since the discovery of the NF1 gene. Now, with NF in the expensive but critical era of clinical and translational research, scientists closely involved with the Army program have stated that the number of high-quality scientific applications justify a much larger program.

WHAT IS NF?

NF is a genetic disorder involving the uncontrolled growth of tumors along the nervous system which can result in terrible disfigurement, deformity, deafness, blindness, brain tumors, cancer, and/or death. NF can also cause other abnormalities such as unsightly benign tumors across the entire body and bone deformities. In addition, approximately one-half of children with NF suffer from learning disabilities. It is the most common neurological disorder caused by a single gene. While not all NF patients suffer from the most severe symptoms, all NF patients and their families live with the uncertainty of not knowing whether they will be seriously affected one day because NF is a highly variable and progressive disease.

Approximately 100,000 Americans have NF. It appears in approximately one in every 3,500 births and strikes worldwide, without regard to gender, race or ethnicity. It is estimated that 50 percent of new cases result from a spontaneous mutation in an individual's genes and 50 percent are inherited. There are two types of NF: NF1, which is more common, and NF2, which primarily involves acoustic neuromas, causing deafness and balance problems, as well as other types of tumors such as schwannomas and meningiomas.

Most strikingly, research has shown that NF is closely linked to cancer, brain tumors, learning disabilities, and heart disease, potentially affecting over 150 million Americans in this generation alone.

NF'S CONNECTION TO THE MILITARY

NF research is directly related to military purposes because it is closely implicated with tissue degeneration and regeneration, to nervous system degeneration, deafness and balance. Indeed, this Subcommittee, in past Report language, has stated that The Army-supported research on NF includes important investigations into genetic mechanisms governing peripheral nerve regeneration after injury from such things as missile wounds and chemical toxins, and it is important to gaining a better understanding of wound healing. This subcommittee also stated that NF may be relevant to understanding Gulf War Syndrome because of the involvement of the nervous system.

THE ARMY'S NF RESEARCH PROGRAM

Recognizing NF's importance to both the military and to the general population, Congress has given the Army's NF Research Program strong bipartisan support. After the initial three-year grants were successfully completed, Congress appropriated continued funding for the Army NF Research Program on an annual basis. From fiscal year 1996 through fiscal year 2002, this funding has amounted to \$90.3 million, in addition to the original \$8 million appropriation. Between fiscal year 1996 and fiscal year 2001, 223 proposals have been received and approximately 80 awards have been granted to researchers across the country, with another 20 expected this year. This research has produced major advances in NF research, such as the development of advanced animal models and clinical trials.

In order to ensure maximum efficiency, the Army collaborates closely with other federal agencies that are involved in NF research, such as NIH and the VA. Senior program staff from the National Cancer Institute (NCI), for example, sit on the Army's NF Research Program's Integration Panel which sets the long-term vision and funding strategies for the program.

Because of the enormous advances that have been made as a result of the Army's NF Research Program, research in NF has truly become one of the great success stories in the current revolution in molecular genetics, leading one major researcher to conclude that more is known about NF genetically than any other disease. Accordingly, many medical researchers believe that NF should serve as a model to study all diseases.

FUTURE DIRECTIONS

The NF research community is now ready to embark on projects that translate the scientific discoveries from the lab to the clinic. This translational research holds incredible promise for NF patients, as well as for patients who suffer from many of the diseases linked to NF. This research is costly and will require an increased commitment on the federal level. Specifically, increased investment in the following areas would continue to advance NF research and are included in the Army's NF research goals:

- Clinical trials
- Development of drug and genetic therapies
- Further development and maintenance of advanced animal models
- Expansion of biochemical research on the functions of the NF gene and discovery of new targets for drug therapy
- Natural History Studies and identification of modifier genes—such studies are already underway, and they will provide a baseline for testing potential therapies and differentiating among different phenotypes of NF
- Development of NF Centers, tissue banks, and patient registries.

FISCAL YEAR 2003 REQUEST

Mr. Chairman, the Army's highly successful NF Research Program has shown tangible results and direct military application with broad implications for the general population as well. The program is now poised to fund translational and clinical research, which is both the most promising and the most expensive direction that NF research has taken. Increased funding is needed to continue to build on the successes of this program and to fund this translational research to continue the enormous return on the taxpayers' investment.

In the last two years, the program has granted its first two clinical trial awards but had to decline other clinical trial applications that scored in the "Excellent"

range in the peer review process because of limited funds. This is why scientists closely involved with Army program believe that the high quality of the scientific applications would justify a much larger program than is currently funded.

Therefore, I am here today to respectfully request an appropriation of \$25 million in your fiscal year 2003 Department of Defense Appropriations bill for the Army Neurofibromatosis Research Program.

Mr. Chairman, in addition to providing a clear military benefit, the DOD's Neurofibromatosis Research Program also provides hope for the 100,000 Americans like my daughter who suffer from NF, as well as the tens of millions of Americans who suffer from NF's related diseases such as cancer, learning disabilities, heart disease, and brain tumors. Leading researchers now believe that we are on the threshold of a treatment and a cure for this terrible disease. With this Subcommittee's continued support, we will prevail.

Thank you for your support of this program and I appreciate the opportunity to submit this testimony to the Subcommittee.

Senator INOUE. How is your daughter doing now?

Ms. BISCHOFF. She is doing quite well, thank you.

Senator INOUE. Well, if I had my way, I suppose we would give you everything you want. It sounds pretty good. I will do my best to convince my colleagues.

Ms. BISCHOFF. Thank you.

Senator INOUE. The next witness is the senior vice president for Government and international affairs for Cross Match Technologies, Mr. Bob Bucknam.

STATEMENT OF ROBERT B. BUCKNAM, SENIOR VICE PRESIDENT FOR GOVERNMENT AND INTERNATIONAL AFFAIRS, CROSS MATCH TECHNOLOGIES, INC.

Mr. BUCKNAM. Good afternoon, Mr. Chairman. Mr. Chairman, as you said, I am Robert Bucknam, senior vice president for Government and international affairs with Cross Match Technologies, Inc. I would ask respectfully, Mr. Chairman, that our prepared statement which was submitted be made a part of the record.

Senator INOUE. Without objection.

Mr. BUCKNAM. Thank you, and I can briefly summarize my remarks. Thank you for the opportunity to share our experience with you regarding the application of biometric finger print systems in ensuring the security of our personnel, facilities, and information in the Department of Defense. Cross Match Technologies, Mr. Chairman, is a privately held corporation located in Palm Beach Gardens, Florida, and is a leading global manufacturer and provider of forensic quality finger print capture and identification equipment and systems.

This technology was invented in the United States by Cross Match Technologies, an American corporation. In the past year, several criminal justice agencies have tested, evaluated, and operationally utilized the entirety of Cross Match Technologies' product line. Favorable results, in keeping with similar experiences throughout the Federal, State, and local law enforcement communities have led to a growing interest in existing and about-to-be-introduced technologies from Cross Match.

Cross Match employs over 150 professionals and our chairman and Chief Executive Officer (CEO), Ted Johnson, has built a quality team of experts in the field of optics, electronics, and manufacturing. Live scan systems, Mr. Chairman, are used to electronically create finger print records used to populate as well as search the

Federal Bureau of Investigation (FBI's) integrated automated finger print identification system and data base.

Cross Match leads the digital, inkless, live scan finger printing market in a number of respects. It was the first to achieve the highest FBI finger print image quality rating, the first and only to capture and store 1,000 dots per inch resolution, which is double the industry norm. It is self-calibrating, which is a key for mobile applications. First and only one to provide a submitting from Florida seaports. First to design a portable live scan system that is robust and durable for mobile use. First live scan provider to submit via the Internet, over the virtual private network, to the Office of Personnel Management and the American Association of Airport Executives for airport employee background checks, and our Verifier 300 single fingerprint reader meets strict standards, and has been implemented in numerous domestic and international border control sites.

Our commitment to innovation, precision, and strict customer requirements have resulted in continuous improvement to our fundamental designs and aggressive R&D programs, and an emphasis on interoperability and changing needs. Our biometrics systems provide unique accuracy, speed, and dependability, while constantly lowering cost.

Currently, Cross Match is engaged with the Navy to develop a cutting edge application of two new systems for purposes of credentialing and access control. To ensure success, Cross Match has created a team, working with the Navy, to develop a pilot program dedicated to supporting and responding specifically to unique requirements which can then be applied more widely throughout other DOD entities after appropriate testing and operational verification.

In addition to DOD, we have established a competitive advantage internationally, selling and installing and servicing our systems to over 200 customers in the United States and 34 countries worldwide, including airports and seaports, law enforcement and corrections, financial industry, Government assistance and welfare programs, children's services, immigration and Border Patrol and nuclear power plants.

Enhancing security with intelligent biometric finger print technology will minimize the cost and manpower needed to ensure the security of our personnel facilities and information domestically and around the world. Military biometrics systems which accurately identify and verify, as well as reduce manpower and cost, can be deployed in a timely fashion.

Biometric intelligence security systems are automated, flexible and thorough. They increase efficiency at high volume access points. Biometric intelligence systems can meet the needs of our intelligence forces, and is an effective method of identifying and verifying personnel and their security access authorizations.

Using each individual's unique finger print in either an intelligent card or a data base, a base-wide or asset-wide biometric system would provide a security net. Through authorization coding you can protect those valued assets with higher levels of security than that for less demanding access. An access can be dynamic. It can be changed centrally, related to different threat situations.

The variety of our products, Mr. Chairman, include everything from the Identification (ID) 1000, which is a 10-print live scan system, to the ID 1500, which is a palm print system, live scan system that captures forensic quality images, our MV-5, which is a portable forensic quality fingerprint capture device, which is used also—it has on it a 2-D or smart card reader for on-the-spot mobile verification, and our Verifier 300, which is a single print.

We also have a number of new products coming online, Mr. Chairman, including a four-slap live scan system, which is a low cost alternative to the ID-1000, and a credentialing and access system.

In sum, Mr. Chairman, our products are robust, reliable, durable, mobile, efficient, and cost-effective, and our biometric fingerprinting systems can be an important asset in protecting our personnel facilities and information in the Department of Defense.

Thank you very much, Mr. Chairman, for this opportunity to testify before the subcommittee.

[The statement follows:]

PREPARED STATEMENT OF ROBERT B. BUCKNAM

Mr. Chairman and distinguished members of the Senate Subcommittee on Defense Appropriations: Thank you for the opportunity to share our experience with you regarding the application of biometric fingerprint systems in ensuring the security of our personnel and facilities in the Department of Defense (DOD). Cross Match Technologies is a privately held corporation located in Palm Beach Gardens, Florida, and is a leading global manufacturer and provider of forensic quality fingerprint capture and identification equipment and systems. This technology was invented in the United States by Cross Match Technologies, an American company.

In the past year, several criminal justice agencies have tested, evaluated and operationally utilized the entirety of Cross Match Technologies' product line. Favorable results, in keeping with similar experiences throughout the federal, state and local law enforcement communities have lead to a growing interest in existing and about to be introduced technologies from Cross Match Technologies. The following is an overview of the company, its products, and our plans to keep pace with the growing number of applications for digital fingerprint technologies as required by the Department of Defense, as well as many other federal agencies.

Cross Match was founded in 1996 for the purpose of designing and manufacturing forensic quality opto-electronic devices for the biometrics community. Cross Match employs over 150 professionals. Chairman and CEO Ted Johnson has built a quality team of experts in the fields of optics, electronics and manufacturing, committed to making Cross Match a world-leading supplier of fingerprint-based, biometric solutions. As demonstrable proof of the company's intent, its founding engineers hold many key worldwide patents in the fields of optics and opto-electronics.

Live-Scan systems are used to electronically create fingerprint records used to populate as well as search the FBI's Integrated Automated Fingerprint Identification System (IAFIS) database. Cross Match leads the digital, inkless, Live-Scan fingerprinting market:

- First to achieve the highest FBI fingerprint image quality rating "Appendix F".
- First and only to capture and store 1,000 dots per inch resolution, double the industry norm.
- First and only Live-Scan system that self calibrates (key for mobile applications).
- First and only Live-Scan provider submitting from Florida seaports.
- First to design a "portable" Live-Scan system that is robust and durable for mobile use.
- First Live-Scan provider to submit via the internet over Virtual Private Network to the Office of Personnel Management and American Association of Airport Executives for airport employee background checks.
- Our Verifier 300 single fingerprint reader meets strict American National Standards Institute—National Institute of Standards and Technology (NIST) requirements and implemented in numerous domestic and international border control sites.

Our commitment to innovation, precision, and strict customers' requirements have resulted in continuous improvement to our fundamental designs, an aggressive R&D program, and an emphasis on interoperability and changing needs. Cross Match is committed to value, and does so without compromise. Its biometrics systems provide accuracy, speed and dependability, while constantly lowering the cost of ownership.

An example of Cross Match's dedication to innovation is reflected in a recently received \$2 million award from NIST for an ATP (advanced technology program) to develop an innovative, non-optical very low cost high resolution fingerprint capture technology with far reaching potential impact on the industry.

Currently, Cross Match is engaged with a major Department of Defense agency to develop a cutting edge application of two new systems for purposes of credentialing and access control. To ensure success, Cross Match has created a team working with the customer to develop a pilot program dedicated to supporting and responding specifically to unique requirements—which can then be applied more widely throughout other DOD entities after appropriate testing and operational verification.

In addition to its Department of Defense customers, Cross Match has established a competitive advantage internationally, selling, installing and servicing its systems to over 250 customers in the U.S. and 34 other countries worldwide. These include:

- Airports and Seaports
- Law Enforcement/Corrections
- Financial
- Government Assistance/Welfare
- Children's Services
- Immigration/Border Patrol
- Nuclear Power Plants

Enhancing security with intelligent biometric fingerprint technology will minimize the cost and manpower needed to ensure the security of our personnel and facilities domestically and around the world.

Strategic decisions must be made to ensure cost-effective force protection for the entire DOD community.

Cross Match's technology currently exists to meet critical needs. Its commercial, off-the-shelf products have proven to be effective in local criminal, investigation, and driver license identification systems. Military biometric systems, which accurately identify and verify, as well as reduce manpower and costs, can be deployed in timely fashion. Biometric intelligent security systems are automated, flexible, and thorough; they increase efficiency at high volume access points. Cross Match's biometric security systems efficiently and cost-effectively identify and verify access authorization for large numbers of people so military personnel can carry out core military missions and focus on breaches of security.

The need for heightened security has focused our personnel and financial resources on checking and double-checking large numbers of people. Some security processes currently in use are labor intensive, able to be compromised, and costly. To maintain an acceptable level of force protection, military personnel and financial resources have been diverted from core military missions to security. Automating security with intelligent technology will minimize the cost and manpower needed to track large numbers of people; those resources can then be deployed against the few, who are threatening our security and our way of life.

There are several factors that make security for the U.S. Military more costly and labor intensive than most other government or industry needs:

- The U.S. military has such a high volume of personnel that it is imperative they have a cost-effective, non-labor intensive, and reliable method of identifying and verifying that people are actually the individuals who have authorization to enter bases, access buildings, participate in training, deploy on missions, maintain military equipment and highly valued assets, and for other purposes.
- Unlike other security applications, military activities operate and deal with high volumes of personnel 24-hours-a-day, 7-days-a-week.
- There is a wide range of security authorization levels throughout the military personnel, and access authorization is dynamic.
- Military assignments and deployments continuously change personnel and locations. The opportunity for human error is significantly greater than in a more stable environment.

A biometric intelligent system provides an automated method of identifying and verifying personnel and their security access authorizations. Using each individual's unique fingerprint and either an Intelligent Card or a database, a base-wide or asset-wide biometric system would provide a security net. The authorization information and fingerprint records stored on an Intelligent Card or in a database would identify personnel; identity is verified by comparing an individual's fingerprint with

the stored fingerprint record. Through authorization coding, the military services would be able to protect their most valued assets with a higher level of security than that required for less demanding access control. In addition, access authorization data is dynamic—it can be changed centrally in reaction to changing threat status, troop movements, and other circumstances. Human error and other breaches of security can thereby be minimized.

Manpower requirements and related funding for DOD installation and personnel security are extremely high because the military must maintain round-the-clock access control and large numbers of personnel must pass through check points at each security authorization level. In addition to being costly and diverting military personnel from core mission activities, there can be extensive delays and human error with a labor-intensive security plan. Employing biometric intelligent systems automatically provides access to large numbers of people and requires security personnel for non-matches. In addition to being more cost-effective and allowing military personnel to return to their critical mission assignments, a biometric system also minimizes access delays and associated inconvenience to personnel.

Biometric systems are cost-effective, efficient, and dynamic. In addition to access control applications, they can be used to track and monitor military personnel as well as allied or enemy personnel. An example of such an application is recording and/or identifying battlefield casualties.

The following describes our vast array of products that may be of interest:

—*ID 1000 10 Print Live Scan System.*—The first and only FBI approved livescan system that is portable, rugged, self calibrating and low in cost. It is now the only livescan product to achieve 1,000 dots per inch.

—*ID 1500 Palm Print Live Scan System.*—The ID1500 Palm Image capture device is able to acquire high quality, forensic quality images which can be used in forensic and criminal investigations.

—*MV5 Fingerprint Capture Device.*—Our portable forensic quality fingerprint capture device, the MV5, is used by the CJIS section of the FBI to train users of the NCIC 2000 single finger identification system. This product has numerous security applications and with the addition of a built in “2-D” or Smart Card reader can do “on-the-spot” ID verification.

—*Verifier 300 Fingerprint Capture Device (USB, Video and Ethernet).*—Our forensic quality single fingerprint readers are fully compatible with the requirements of the FBI for image size, quality and 500 dpi resolution and have applications in Registration for National ID, Employee/Passenger ID badges, Immigration, welfare, and Drivers license ID. and can be used for high security Physical as well as Information/Network Access Control.

We also introduce three new products created to meet immediate security demands:

—*Four Slap Live Scan System.*—Low Cost alternative to ID1000. Provides for the creation of a livescan fingerprint record using flat instead of rolled prints. Result is a very fast easy to use and affordable livescan system

—*Credentialing System.*—Employee ID badges can be made from the fingerprint and picture record collected from the livescan record. These cards will contain biometric fingerprint information

—*Access Control System.*—With the Cross Match Access control reader, the ID badge (from above) and your fingerprint become the key for physical Photo ID record or information access.

In summary, Cross Match’s attention to detail is important in a developing industry. High quality and customer satisfaction is Cross Match’s highest priority. Cross Match concentrates its technologies in compliance to national industry standards. This provides the ability to share data between disparate databases. Precision is coupled to customer needs by continuous close dialog. Cross Match Technologies’ biometric fingerprint systems can be an important asset in protecting our personnel and facilities in the Department of Defense.

Thank you for the opportunity to testify before the Subcommittee today.

Senator INOUE. Are your systems at the present time operational within the Department of Defense?

Mr. BUCKNAM. We have some that are currently operational in the Department of Defense.

Senator INOUE. What type of systems do you have?

Mr. BUCKNAM. The basic system, Mr. Chairman, is the ID 1000, as I described, which is the 10-print live scan system, which again has the benefit of interoperability. As you well know from your

many years in Government, and from my almost 27 years in Government, the worst thing you can do is create smokestacks that do not communicate with one another. Our system is a system that is, as I say, completely interoperable. It communicates with other systems, the data bases, and when you have it you can build up from it, so we are currently in use in DOD, and hoping to increase that usage far and wide.

Senator INOUE. Thank you very much, sir.

Mr. BUCKNAM. Many thanks, Mr. Chairman.

Senator INOUE. Our final witness is a professor of electrical engineering at the University of Tennessee, Dr. Mongi Abidi.

STATEMENT OF DR. MONGI ABIDI, PROFESSOR OF ELECTRICAL ENGINEERING, UNIVERSITY OF TENNESSEE, KNOXVILLE, ON BEHALF OF THE UNIVERSITY PROGRAM IN MOBILE ROBOTS FOR NUCLEAR, BIOLOGICAL, AND CHEMICAL THREAT DETECTION

Dr. ABIDI. Thank you, Mr. Chairman. I appreciate the opportunity for your allowing me to testify before your committee.

Senator INOUE. Thank you for your patience.

Dr. ABIDI. Honorable members of the committee, ladies and gentlemen, my name is Mongi Abidi. I am a professor of electrical engineering of the University of Tennessee, testifying on behalf of the university program in mobile robots for nuclear, biological, and chemical threat detection.

Long before September 11, the Army Tank Automotive and Armament Command, or TACOM, in Warren, Michigan, Wayne State University in Detroit, and the University of Tennessee at Knoxville were independently but actively developing crucial robotic and sensing technologies to detect nuclear, biological, and chemical agents, NBC for short.

The most challenging task in preventing NBC attacks is to detect, identify, and contain these deadly agents. However, because of the threat, they pose to soldiers, first responders, security, and emergency personnel and the population at large, the only safe way known to man to handle such threat situations is to use remotely operated robots equipped with intelligent sensors that can identify these agents before humans are exposed.

This Army program has already developed robotic prototypes which can perform under-vehicle inspection. All of us know that vehicles entering the Capitol premises today, for instance, are still inspected using a mirror on a stick. The technologies integrated by the Army TACOM are at least one order of magnitude safer, faster, and more accurate in detecting NBC threats.

These robotic systems can be used also for the detection of ordinary explosives and other contraband hidden under vehicles entering secure facilities like military bases, large Federal buildings, nuclear power plants, Federal laboratories housing large nuclear and/or biological weapons, and/or nuclear waste material, one of the components of a dirty bomb, if I may add.

This technology has broad civilian use as well, at airports and shopping malls, and during events involving a large number of vehicles like sporting events. It is a vast improvement in homeland security over the current method of using the mirror-on-a-stick approach which we presently use to inspect cars coming into the Capitol.

Technologies needing further development include imaging, sensors, and robotic mobility for on-road and off-road inspection in order to provide the added intelligence and agility for these systems.

To expedite the development of these robots, a multidiscipline, multiuniversity program in coordination with selected Government agencies and potential vendors of nuclear, chemical, and biological sensors is an efficient combination to achieve this goal. Appropriate funding to integrate these technologies should lead to the rapid deployment of complete robotic systems that can address both military and homeland security needs.

I thank the committee for the opportunity to speak before you on such an important matter to us all, and I appreciate it.

[The statement follows:]

PREPARED STATEMENT OF MONGI ABIDI

Honorable Members of the Committee, Ladies and Gentlemen: My name is Mongi Abidi, I am a Professor of Electrical Engineering at the University of Tennessee, testifying on behalf of the of the University Program in Mobile Robots for Nuclear, Biological, and Chemical Threat Detection.

Long before September 11, the Army Tank Automotive and Armament Command (or TACOM) in Warren Michigan, Wayne State University in Detroit, and the University of Tennessee in Knoxville, were independently but actively developing crucial robotic and sensing technologies to detect nuclear, biological, and chemical agents: NBC for short.

The most challenging tasks in preventing NBC attacks is to detect, identify, and contain these deadly agents. However, because of the threat they pose to soldiers, first responders, security and emergency personnel, and the population at large, the only safe way known to man to handle such threat situations is to use remotely operated robots equipped with intelligent sensors that can identify these agents before humans are exposed.

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I thank the committee for the opportunity to speak before you on such an important matter to us all.

Senator INOUE. Doctor, is your under-vehicle inspection system operational at this time?

Dr. ABIDI. At this time, there are several prototypes that were developed by the Tank Automotive Command, and the Tank Automotive Command have sought independently on their own the expertise that we have at the University of Tennessee to add the sensors to allow it to navigate independently, because it will not be

feasible to let a human being drive this vehicle. You need to operate it from a distance.

Senator INOUE. About how much would this cost?

Dr. ABIDI. These devices presently are developed at a cost of about \$10,000, to be able to do simple visual inspections, but the addition of sensors like chemical, biological, nuclear sensors will probably double or triple the cost, but the modularity of the concepts that we are providing will allow for a system or a person to again choose what sensors to use, so the cost would vary, but this is the future, in my view, for detecting serious threats like the threats that they mention in my report.

Senator INOUE. I thank you very much, sir.

Dr. ABIDI. Thank you. I appreciate your patience.

CONCLUSION OF HEARINGS

Senator INOUE. I want to thank all the witnesses who testified, and as noted at the outset, this will conclude our hearings for the fiscal year 2003 budget. Now we will begin our work.

Thank you very much.

[Whereupon, at 1:15 p.m., Wednesday, June 12, the hearings were concluded, and the subcommittee was recessed, to reconvene subject to the call of the Chair.]

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UNITED STATES MILITARY ACADEMY, U.S. ARMY

UNITED STATES NAVAL ACADEMY

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