DEPARTMENT OF DEFENSE APPROPRIATIONS FOR 2009

HEARINGS

BEFORE A

SUBCOMMITTEE OF THE

COMMITTEE ON APPROPRIATIONS

HOUSE OF REPRESENTATIVES

ONE HUNDRED TENTH CONGRESS

SECOND SESSION

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SHERRY L. YOUNG, *Administrative Aide*

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Printed for the use of the Committee on Appropriations

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DEPARTMENT OF DEFENSE APPROPRIATIONS FOR 2009

WEDNESDAY, MARCH 12, 2008.

FISCAL YEAR 2009 ARMY POSTURE

WITNESSES

HON. PETE GEREN, SECRETARY OF THE ARMY

GENERAL GEORGE W. CASEY, JR., CHIEF OF STAFF, UNITED STATES ARMY

INTRODUCTION

Mr. MURTHA. We will come to order. This is another open hearing that we have had in a series of open hearings that we have had this year. I just want everybody to know that. I don't know who the hell is running the Pentagon, because you have got them all over here, for crying out loud. And General Melcher——

General CASEY. They don't let us out alone, Chairman.

Mr. MURTHA. And General Melcher, who has spies every place. He doesn't miss a trick. Anything that happens, he knows and he has cause to make sure that we know that he has been around, that he understands what is going on. But we want to welcome Secretary Geren, former Member of Congress, who does such a good job as Secretary of the Army, and General Casey, one of our premiere commanders in the history of the Army. We welcome you to the Committee and look forward to your testimony. Mr. Young.

REMARKS OF MR. YOUNG

Mr. YOUNG. Mr. Chairman, I do have a very long opening statement, but I am going to just say welcome to our distinguished witnesses today. But I would like to explain, Mr. Chairman, the fact that there are many hearings taking place and most of our members on this subcommittee are senior members, meaning they are either chairman or ranking member on other subcommittees that are meeting today. So at least for a while, you are going to have to put up with just a few of us. But welcome. We look forward to your testimony.

Secretary GEREN. Thank you, Mr. Chairman. Congressman Young. We have a full statement that we have submitted for the record and I would like to just offer some summary comments.

Mr. MURTHA. Without objection.

[CLERK'S NOTE.—The Fiscal Year 2009 Army Posture Statement for the Secretary of the Army and the Chief of Staff of the Army is printed at the end of this hearing.]

SUMMARY STATEMENT OF SECRETARY GEREN

Secretary GEREN. It is an honor for General Casey and me to appear before you and talk about our Nation's Army. It is an Army that has been built by partnership between the Army and this Congress and it is a partnership that is older than this country and a partnership that is affirmed by our Constitution. The President's budget for 2009 is before the Congress, $141 billion for the Army. As is always the case, the Army budget is mostly about people and operations and maintenance to support people. Our 2009 budget, two-thirds of it, our personnel, operations and maintenance to support those people.

Creighton Abrams told us people aren't in the Army, people are the Army. And this budget reflects that reality. Today, we are an Army long at war. We are in our 7th year in Afghanistan, and shortly we will have been 5 years in Iraq. It is the third longest war in American history, behind the Revolutionary War and the Vietnam War, and it is the longest war we have ever fought with an all volunteer force.

Our Army is stretched by the demands of this long war, but it remains an extraordinary Army. It is the best led, best trained and best equipped Army we have ever put in the field with Army families standing tall with their soldier loved ones, soldiers that re-enlist and families that re-enlist with them, an Army of volunteers, volunteer soldiers and volunteer families.

SOLDIERS DEPLOYED

Mr. Chairman, we have 250,000 soldiers deployed to 80 countries around the world as we sit here today with over 140,000 deployed to Iraq and Afghanistan. And our 140,000 in harm's way are our top priority. We never take our eye off of that ball, and this budget and our supplementals ensure that we provide those soldiers what they need when they need it. And today and over the last 6 years, our reserve component, our Guard and Reserves, continue to carry a very heavy burden for our nation. Since 9/11 we have activated 184,000 reservists and 268,000 guardsmen in support of the global war on terror, and they have answered the call to respond to domestic crises here at home time and again.

ARMY FAMILIES

And as you well know, we are one Army today. The active component cannot go to war without the National Guard and Reserve. And the challenge before us is to continue the transformation of the Reserve component into an operational reserve and this budget helps further that goal. And the strength of our Army, Active Guard and Reserves comes from the strength of Army families. Our Army families are standing with their soldier loved ones, and we owe them a quality of life that is equal to the quality of their service.

Over half of our soldiers today are married. The other day when we testified in front of Senator Inouye's Committee, he said the unit he was in in World War II, 4 percent married, 96 percent single. Today, over half are married. It is a very different Army. When a married soldier deploys, he or she leaves behind a single parent

household and all the challenges of that family dynamic. When a single parent deploys, he or she leaves a child in the care of others. And today nearly half, 48 percent of all of our soldiers who deploy have a child age 2 or younger.

FAMILY PROGRAMS

In the 2009 budget, we are doubling funding for family programs. We are adding 26 new child-development centers to the 35 that Congress gave us last year, thanks to the leadership of this Committee. And over the past year, with your strong support, we have expanded the availability and reduced the cost of child care for Army families. We have asked much of volunteer spouses who carry the burden of family support programs. And that burden grows heavier with each deployment.

With this budget we provide them help and full-time support in family readiness support systems and other full-time support for those spouses. In late 1990s, Congress launched the privatized housing initiative, something that the military didn't embrace fully. Congress led the way and today that is one of the most successful initiatives we have in the Army, providing quality of life for our soldiers. We have replaced housing with homes and housing with great neighborhoods in the residential communities initiative.

MEDICAL PROGRAMS

In 2008, you gave us resources to hire needed medical personnel and to do research in the signature wounds of this war, TBI and PTSD. And we have stood up 35 warrior transition units around the country to serve our wounded, ill and injured. And we continue to make progress on that front. And we will continue to grow our knowledge and prove our care for those that have mental challenges that come from the wounds of this war.

ACQUISITION

In our budget, we also look to the future. We never want to send our soldiers to a fair fight and the budget continues our investment in the programs of tomorrow, future combat systems which will not only shape the future of our Army, but it is spinning out technologies in today's fight. The Army reconnaissance helicopters, the UAVs, light utility helicopter and the joint cargo aircraft, we thank you all for your support in the past. It is an important part of the future of this Army.

Mr. Chairman, we are a Nation long at war and we are an Army out of balance. But our Army remains strong, it remains resilient. Those who look to find the hollow Army that we experienced in the 1970s will not find it in this Army. Every year, 170,000 men and women join our Army. Every year 120,000 proudly re-enlist. They are proud of who they are and they are proud of what they are doing. Mr. Chairman, members of this Committee, thank you for your support of those soldiers in uniform and the support of those families. With the partnership we have with this committee and with this Congress, we are a strong Army. Thank you, Mr. Chairman.

SUMMARY STATEMENT OF GENERAL CASEY

General CASEY. Thank you, Mr. Chairman. Congressman Young, members of the Committee, it is my first appearance before this Committee as the chief of staff. So I welcome the opportunity to provide some context for the 2009 budget. I do have a long opening statement, but I really would just like to leave five points with you here. Let me just hit those five points and I will say a few words about each one.

ARMY BALANCE

First of all, as we think through this 2009 budget and the supplementals that accompany it, we have to do so with an eye on the futuristic strategic environment, which I see as one of persistent conflict and one in which uncertainty is the only certainty. Second, I worked hard to define the right words to describe the Army. And what I will tell you, today's Army is out of balance and out of balance is not broken or hollow. The Army is an extremely resilient, competent, professional combat-seasoned force. But we all know that we can't do the things that we know we need to do right now.

Third, we have a plan, which with your help can put the Army back in balance over the next 3 or 4 years. And it is centered on 4 imperatives. Sustain, repair, reset and transform. And I will talk about those in a second. Fourth, as we work to put the Army back in balance, we cannot take our eye off the future. And to ensure that we have a versatile, agile, campaign capable Army to deal with the uncertainties of the future environment.

PERSISTANT CONFLICT

And lastly, I just want to make sure everyone understands that the Army is not standing still and we are moving out on the most ambitious transformation program all the while that we are fighting today's battles and I will give you a little status report on where we have come over the last few years. So let me just say a few words about each of those. First of all, as I said, I see the future as one of persistent conflict. And I define persistent conflict as a period of protracted confrontation among State, nonstate and individual actors who are increasingly willing to use violence to accomplish their political and ideological objectives. And against that background, the global trends that I see are pushing things in the wrong direction. I think it is going to exacerbate and prolong that period of confrontation. What am I talking about? Globalization. Globalization is going to have positive and negative effects, clearly it is enhancing the quality of life all over the world, but the distribution of those effects are uneven and if you look south of the equator, primarily and South America, Africa, Middle East, South Asia, Southeast Asia. What you see are the beginnings of a have and have not culture that can be exploited by the different terrorist groups. Technology is another double edged sword. The same technology that is bringing knowledge to anyone with a computer and hookup is being used by terrorists it export terror around the globe. Demographics, some of the populations of these developing countries where the terrorist groups have their roots are expected to

double in the next couple of decades. And the two that concern me most, weapons of mass destruction in the hands of terrorist and safe havens where they can plan and export with impunity because local governments can't or won't take care of them.

ARMY BALANCE

So as I said, against that backdrop, I see a future where the only certainty is uncertainty. Second, we are out of balance. And what do I mean by that? We are consumed by the current and we are deploying to support the current conflict in a way that is just not sustainable for us over the long term. And we need to continue to work to do that. And as a result, we can't do other things as rapidly as we would like. Our soldiers and family support systems are being strained, our Guard and Reserve are performing magnificently, but in a way that they were neither designed or resourced for.

So we have a lot of work to do to put ourselves back in balance, and that is my third point. Sustain, prepare, reset and transform, our four imperatives. Sustain, we must support and sustain our soldiers and families. They are the heart and soul of this Army. And they are our ultimate asymmetric advantage over any enemy that we face and we must continue to support and retain them so this force can remain as viable as it is in the future. Prepare. We cannot back off our commitment to send soldiers into combat with the best equipment, training and manning. And we are absolutely committed to working with you to do that we have made great strides in this regard thanks to your help, but we cannot slack off for a minute on that.

RESET

Third is reset and reset applies to both our soldiers and to our equipment. And reset is another area with your help we can make great strides. $17 billion in the 2007 supplemental reserved the downward spiral we are in. But we need to continue to reinvest in our reset if we are going to sustain a versatile force for the future. In my view, the money that you are giving us for reset is the difference between a hollow force and a versatile force for the future.

TRANSFORMATION

And lastly, transform. And as I said, we can't take our eye off the future and our transformation is a holistic effort. We need to transform how we train, fight, modernize, and support our soldiers and families. We are looking broadly across the Army at transforming ourselves and all those efforts. Number four, I said you can't take your eye off the future, and we have recently published a new capstone doctrinal manual, Field Manual 3 (FM–3), Operations. And it is the first major doctrinal publication since September 11th, and it is designed to put us on a track to take advantage of the lessons that we have learned in the last 7 years at war and to build the type of Army we are going to need for the future.

STABILITY OPERATIONS

A couple of points in this. It describes the future security environment that I talked to you about briefly in my opening statement. Most importantly, I think it raises stability operations to the level of offense and defense. And there is—it is designed around an operational concept that says Army formations will simultaneously apply offense, defense and stability operations to seize the initiative and achieve decisive results, it is a big step for us.

Third, it elevates the commander's role in battle command and in solving the complex security problems we are going to face in the 21st century. Fourth, it elevates information operations and recognizes the importance of information in winning 21st century wars.

MODULAR CONVERSION

And lastly, it reinforces that despite all this futuristic talk and discussion, the soldier remains the centerpiece of our formations. And lastly, just on my fifth point, we are not standing still. I know you have been—we have been talking to you over the past several years about what we are doing with modular organizations. We are 70 percent of the way through modular conversions. That is the largest organizational transformation of the Army since World War II. We are about 60 percent of the way through what we call rebalancing, taking soldiers who had cold war skills that weren't as necessary as some of the skills we need for the 21st century and converting them.

GROW THE ARMY

So that process has gone forward. We have accelerated the growth of the Army that you see in this year's budget from fiscal year 2012 to fiscal year 2010. We have reset over 120,000 pieces of equipment. Our Army medical action plan and soldier and family action plan are greatly increasing what we are doing for our wounded warriors and our families. And our depots, your depots have been recognized by industry with 12 shingo awards for effectiveness and efficiency.

SERGEANT GREG WILLIAMS

So, yes, the Army is stretched. Yes, we are deploying at unsustainable rates. But, yes, we are also not standing still, but moving forward with your help. And I will close, Mr. Chairman, with the story about the quality of the soldiers that I see around our Army. I was in Alaska before Christmas, and I was asked to present a distinguished service cross to Sergeant Greg Williams. Sergeant Williams was on a patrol in Baghdad in October 12, 2006 with his squad. They were ambushed from three directions, and the ambush was kicked off by four explosively-formed penetrators all aimed at this one vehicle. The blast knocked him out. It set the vehicle on fire. He woke up with a broken eardrum, his legs were on fire. He put his fire out. He grabbed the aid bag, ran off the track, began treating his fellow soldiers. He realized the lieutenant was still in the burning vehicle.

He ran back on the burning vehicle, grabbed the lieutenant, dragged him to safety and began treating him. He recognized that

because they were still taking fire no one was on the 50 caliber machine gun on the Stryker. He ran back in the burning vehicle, which, by the way, contained about 30 pounds of TNT, and explosive detonating cord, got on the 50 caliber machine gun, brought it to bear on the enemy and broke the ambush.

That is the kind of soldier that we have in today's Army. They are men and women that you can all be proud of. So I would just say that I thank you for your support and what you have done for the Army here over the past several years. We are on our way to putting ourselves back in balance. This 2009 budget, the rest of the 2008 supplemental and the 2009 supplemental that will accompany it, will take further steps on a continuous road to progress. Mr. Chairman, thanks very much.

TIMELY FUNDING

Mr. MURTHA. When Mr. Young was chairman, we put a lot of money into reset because we knew there was an immediate problem. We realized it was absolutely essential to get the equipment rehabilitated and we got it out as quickly as we could. We are trying to convince our leadership to get the supplemental—this supplemental out sooner rather than later and I think they are amenable to that. It is just a matter of timing and getting the—other than the defense part of the supplemental ready.

FIFTEEN-MONTH TOURS

The thing I worry about the most, the thing that—Mr. Young and I go to the hospitals all the time. I saw four young soldiers yesterday, one woman who was a gunner, and she couldn't stand up because she had a head injury, but she was very enthusiastic. Three others, one had lost a leg, one was in a wheelchair and the other was with them. But I am inspired by them. Every time I go to the hospital, I am inspired by their ability to overcome all the difficulties they put up with in combat. But this 15-month tour, this morning I had breakfast with a group of people, this fellow said he lost his son on a 15-month deployment. The 15th month he lost his son. But he was upbeat about it. He said his son was a PFC and he was a hero to him. And I think that is the way most of the families feel, that these young folks who are doing their work, it takes a lot of courage and dedication and it is inspiring to me to see them. But also I saw a woman in the hallway not long ago. She stopped me. Her husband is in the Army and she had a son in the Army that was killed in Iraq, and she had a son in the Army who committed suicide. These 15-month deployments are too long. General, when can we see that being reduced? When can we see it is so hard on the family, so that this extra 3 months, what is your goal in these deployments?

General CASEY. Thanks, Mr. Chairman. We recognize this, and in fact, we have sent a team under a brigadier general to visit each of the brigade units deploying from 15 months. They tell us three things, just as you said, 15 months is too long, 12 months home is too short and you need to show us a little daylight here about how this is going to get better over time.

So our goal is that when the force levels in Iraq get down to 15 brigade combat teams in July as is programmed, we at that time

will be able to shift back to 12-month tours. And I fully expect that we will be able to accomplish that. The next thing we have to do is increase our dwell time at home and that will increase as we continue to grow this force over the next several years.

MILITARY FUNDING

Mr. MURTHA. One of the things that I have stressed, and I have talked to both of you privately about this, as this war winds down, whoever is elected President, there is going to be less money available for the military because the public is demanding that—there is more money spent on infrastructure, we have bridges that are deficient, all of these problems that domestically are going to be competing with the military. So I think we have to speed up the program that we are talking about for the future of—any of the systems as you are working on them. We think last year we started changing direction of some of the programs like the Navy, we put a few more ships in. We will put more ships in this year. We are looking at trying to get this thing moving as quickly as we can before the money runs out.

So I think it is imperative that you keep looking, you keep studying what we can offset some of these things with. And I hope you would come forward to the Committee before we pass our base bill. And we intend to offer the supplemental with the base bill this year. So I am hopeful that—the 2009 bill I am talking about. We are hopeful that you will give us some suggestions before May when we mark up the bill, at least that is when I anticipate marking up the bill. I don't know if we will get a bill this year. I don't know if the bill will be signed into law this year.

Just because of the political situation, the new President going to be elected and so forth. So we are going to do everything we can to get it passed. A continuing resolution is the worst thing we could do because it just completely ties our hands in doing anything that is visionary and focuses on the future. But I would predict it is going to be very hard to pass legislation—not only domestic legislation, but a defense bill this year. But we are going to go forward. We are going to get it over to the other body and do the best we can in this Committee. But my advice is think about what you said, the future, but think about what we can do to readjust the requirements and recommendations you are making so we get an opportunity to digest them before we mark up our bill.

General CASEY. We will do that.

Mr. MURTHA. Mr. Young.

ARMY BUDGET REQUEST

Mr. YOUNG. Mr. Chairman, thank you very much. General Casey, your comments on the Army being unbalanced and we are needing to fix this by 2011 is very timely. Chairman Murtha and I have been talking about this for months, the fact that we need to look ahead and we need to be able to rebuild whatever—rebuild, reset, recapitalize, whatever, or rebalance our military after we are basically finished with Iraq and Afghanistan. But you talk about a $265 billion a year to accomplish this. How did you arrive at the $265 billion? What would you do with that $265 billion?

General CASEY. I am not familiar with the $265 billion number, Congressman. It is not a number that I have used. If you look at what our base program is and the supplementals that accompany that base program over the last year or so, it basically comes out to about the number that you just mentioned. And that is just a fact. To fight the war and to continue to sustain the force over time and to prepare for the future, that is about what it takes.

Now, I think you know in the supplementals, about 70 percent of the supplemental is spent in the theater on people and operations. And so that part of that $265 is really the cost of the war. The other 30 percent of that is reset and procurement for things like force protection and MRAPs and those kinds of things. So that number you mentioned is about the number that is based on supplemental that we need here over the next several years to fight the war and to continue to prepare for the future.

RESET AND GROWTH

Mr. YOUNG. Do you have an indication of how much of that is for replacing or resetting equipment? How much it of is growth and the end strength of the Army? Do you have a breakdown for that?

General CASEY. I can tell you that these numbers I am going to give you are spread over a period of time. But we started off before our modular conversions here with about $56 billion—my predecessor Pete Schoomaker used to call them holes in the yard. And the modular conversions, which converted our brigade combat teams and our brigades to the types of organizations we need in the 21st century, and also to sustain the war effort added about—again, this is over 5 or 6 years—$100 billion or so of equipment requirements.

And by and large, we have funded the bulk of that through base and supplemental funding, primarily base funding, over the last several years. I mean, this really started in 2004. So we are making progress in the direction that we need to be going. It is just going to take us a few more years to finish it up.

MINE RESISTANT AMBUSH PROTECTED VEHICLES

Mr. YOUNG. I understand it is not going to be done overnight, and we are talking about a major rebalancing. When you mentioned MRAPs, General—and just a short time ago we were pushing really hard to get as many MRAPs as we could into the theater and we appropriated a lot of money for MRAPs and then the Marines recently came out with a position statement announcing they were going to reduce their MRAP requirement by about 40 percent. Does the Army have a similar—I think General Odierno was quoted in a USA Today story, said the Army's requirement for 10,000 MRAPs would probably drop. Is that accurate?

Secretary GEREN. Right now we are funded for 10,000 MRAPs. Our estimate right now, we have a range that we will need will be somewhere between 10 and 15,000. The JROC just recently approved 12,000 for the Army. We are still fine tuning the final number. But we are not going to drop below where we are now. The theater is looking at what the proper ratio—I think initially there was a thought that we would replace all up-armored HUMVEEs with MRAPs. A year ago General Odierno talked about replacing

all 19,000 or 17,000 at the time with MRAPs. I think what we have learned since then is that there remains a role for the up-armored HUMVEE. It is lighter, it offers some tactical advantages over the MRAP in certain situations.

So we are still trying to work out what the proper ratio is. Is it two-thirds MRAP, one-third up-armored HUMVEEs? But we are going to have in theater by the end of the year about 10,000 and by early February we will have another 1,500. The MRAPs have performed very well. We have had 48 MRAPs that have been hit with IEDs or EFPs. We have only had one KIA as a result. So they are an important part of the Army presence in Iraq and we are going to be moving the RG–31s into Afghanistan. And as we look to the future, we are trying to assess what the role is long term. But the Army will not drop below the 10,000 that we already have programmed, and we will likely go above that probably closer to 12.

Mr. YOUNG. Well, I appreciate the information you gave on the success of the MRAP. And it is still, as you said, of the 48 IEDs or roadside bombs, only one casualty, which is a pretty good record.

Secretary GEREN. And the soldier that was killed was actually on top—he was a gunner. So we have not lost a single soldier that actually was in the protection of the MRAP body itself.

Mr. YOUNG. Well, that is a good news story.

Mr. MURTHA. Mr. Young and I are going to have to go vote. We have less than a minute left. So, Mr. Moran.

ADMIRAL FALLON STATEMENT

Mr. MORAN. It's just a motion to adjourn that we are going to have all day long, Mr. Chairman. That is all it is. It is just a motion to adjourn. You just called on me, right? General Casey, Admiral Fallon was just forced to resign. He was head of the U.S. Central Command. So I got a copy of the quote that led to that resignation. He said that—and I am quoting—this constant drumbeat of conflict with Iran is not helpful and not useful.

I expect that there will be no war and that is what we ought to be working for. We ought to try to do our utmost to create different conditions. "What America needs," Fallon said, "is a combination of strength and willingness to engage." Do you agree with Admiral Fallon?

General CASEY. Of course, Congressman, I have known Admiral Fallon and his wife, Mary, for years.

Mr. MORAN. I know that. That is why I asked.

General CASEY. He really worked hard to do what is right for this country.

Mr. MORAN. He is a great American.

General CASEY. He is a great American. And both he and his wife Mary have given a lot to this country. Now, you are asking me if I agree with the statement that you just read. I mean, that is very much in the policy realm, far beyond my current job as the Chief Staff of the Army.

Mr. MORAN. You know, Admiral Fallon and you are four-star generals and it doesn't seem to me this is all that controversial a statement, frankly. It should be consistent with American foreign policy as well as our military policy which ought to be integrated, I think. But I was interested to see how you would respond.

IRAN

General CASEY. Well, I would give you my personal view here since you have asked for it on our dealings with Iran and I will say first Iran is clearly being unhelpful in our efforts in Iraq and they are supporting sectarian groups who are using equipment supplied by Iran to target our soldiers. And I have a problem with that. Now, that said, we need to continue our efforts to get them to stop doing that, and I do believe, as I think your quote said, it will take both primarily diplomatic, but also strength on our part to ensure that they stop undermining our efforts there and providing material that is killing our soldiers.

OUTSOURCING REPORT

Mr. MORAN. But our mission vis-a-vis Iran is primarily a diplomatic one at this point more than a working toward any kind of military confrontation. But I don't want to put words in your mouth and I understand you have that statement now on the record. I appreciate that, General. General, this subcommittee has been beside itself because of the outsourcing of much of this conflict in Iraq, it is nice to see you, Mr. Secretary. It is nice to have a friend, a Secretary of the Army. But that doesn't mean I am going to be any lighter on you, of course, as you would expect. We have determined not only because we have basically been badgering the witnesses now for 3 years, that there are about 140,000 contractors in Iraq. About the same number of uniform personnel.

Now, you were required—the DoD is required to come up with an interim report that is due this year in October. That has to provide us with the number of contracts, the number of contractor personnel, the dollar value of contracts, the use of competitive procedures, the number of contractors providing security services and a number of areas of significant concern. Have you put in place a structure for—to acquire that information that you can give it to us in an understandable fashion?

Secretary GEREN. We have devoted a great deal of time over the last several months focusing on the whole contractor issue in Iraq and Afghanistan. And our latest estimate on the number of contractors in Iraq actually is considerably up over the number that you quoted. We have around 190,000 contractors.

Mr. MORAN. You have 190,000. Mr. Chairman, I just wanted to underscore that there are now 190,000 contractors in Iraq. Thank you.

Mr. MURTHA. Let me ask you. Would you break that down—is that worldwide 190,000 or just in Iraq.

Secretary GEREN. That is Iraq.

Mr. MORAN. It is almost twice the numbers we had last year.

Secretary GEREN. I believe that is Iraq alone, but it may include Afghanistan, which is a much smaller number.

Mr. MURTHA. Please break it down for the record because the contractors cost a lot more per individual. So the Committee needs—I cut back on contracting money last year and the Senate wouldn't go along as much as I wanted to—at least the Committee recommended to the Senate. So this really worries me that we are doing so much with contractors and I would like to know generally

what—specifically what we are doing? In other words, some categories of how they are working. I understand food services, I understand some of these different areas, but break it down for us. You are talking about more contractors than you are talking about troops on the ground.

Secretary GEREN. We do. And we will break it out for you. Many of them are in troop support, they are food service, laundry, transportation and many of the basic support services that before we downsized the military as much as we did in the 1990s many of those functions we kept in house, but now we do contract them out. Many of those are lower paid contract employees in the food service industry. Some are high paid. The security contractors tend to be higher paid. But when you are comparing the cost of the contractor to a soldier, those contractors obviously are employed for a limited term. They don't have the full range of benefits of a soldier, nor do they have the extended employment. But Dr. Gansler did——

Mr. MURTHA. Mr. Secretary, draftees are employed for a limited amount of time also.

Mr. MORAN. And they don't get paid a lot either.

Mr. MURTHA. They don't get paid near as much. I think we really need to get our handle on this contracting thing because we get the impression there are less troops but then we are increasing the number of contractors which is why I need to see the categories to.

Secretary GEREN. I will provide that to you, as well as third party nationals and how many Iraqi nationals, we will provide that full information.

Mr. MURTHA. Also, are these sole source contracts? We need to see how many times we have competed and who were competing—who were competing for the contracts.

[The information follows:]

There are approximately 163,591 Department of Defense contractor personnel in Iraq and 36,520 in Afghanistan for a total of 200,111. The services being provided in support of our mission in Iraq and Afghanistan include the following categories: base support (43 percent), construction (28 percent), security (7 percent), transportation (4 percent), communication support (4 percent), translator/interpreter (5 percent), and others (9 percent).

In fiscal year 2007, the Joint Contracting Command—Iraq/Afghanistan (JCC–I/A) executed 2,477 contract actions (which included the issuance of task and delivery orders, purchase orders, modifications, and contract awards) totaling $7.5 billion. Of the total contract actions 2,269, or 92 percent, were competed using full and open competition for a total of $7.3 billion. A total of 208 contract actions, or 8 percent, were not competed, totaling $157 million. Of those 208 contract actions, 32 were based on "only one responsible source" authority, and 104 cited the "unusual and compelling urgency" exception to full and open competition which is used when the agency's need for the supplies or services is of such an "unusual and compelling urgency" that the Government would be seriously injured, unless the agency is permitted to limit the number of sources.

RECYCLED WATER

Mr. MORAN. That means we have got about 350,000, about a third of a million Americans there in Iraq. And oftentimes, they don't distinguish the difference between a contractor and a uniform person who is acting under orders and conducting themselves with discipline. I want to ask you about the fact that Kellogg Brown & Root/Halliburton has been providing our soldiers with recycled sewer water and it has caused disease according to investigations that have been conducted.

Do you have an ability either of you, General and Mr. Secretary, to call those people before you and dress them down? Tell them that this is unacceptable, that we don't pay for sewer water that is going to cause disease among our soldiers? Do you have any way of holding these guys accountable?

Secretary GEREN. We do. And the report that you referred to was done by the Department of Defense. That matter has been corrected. That was back in 2004, unacceptable. They understand that and we rarely check the quality of the water. One of the things we have learned over the last year is we were not where we needed to be as far as providing contract oversight.

As a result of the task force we started last summer, we have hired a considerable number of additional contract officer representatives to manage these contracts, make sure we are getting what we ask for. We are doing a better job of supervising all of the contract operations in theater, got more personnel, more oversight and more accountability.

DINING FACILITIES

Mr. MORAN. Well, let me ask you because, you know, I know it may seem to be a small matter. But the Army requested more than a billion dollars and then another billion dollars, $987 million. So basically, $2 billion in supplemental funds for subsistence for DoD civilians in the global war on terrorism. Ice, food and water for authorized DoD civilians and contractors. Now, they eat in DoD facilities. A reasonable estimate would be that the per person cost is $14,000 per person to eat in DoD mess facilities.

Now, I think it might be useful to find out how many civilians are fed in Army messes in Iraq. Does the Army track who is eating in these mess halls? Do we track the contractors that are eating there, or do we charge back the cost of the food that they consume? You know, when you are talking about almost 200,000 people, these kinds of things become pretty darn expensive. And I think—I was told by somebody that had just got back from Iraq, and in fact, I saw some of this, we were—there was a long line in the morning when we were going into the green zone.

And then I saw other people coming around the line and going in another entry gate who looked like civilians. You couldn't distinguish them and I asked who are those people who don't have to wait in this long line? And they said, oh, they are from Halliburton. They run the place. So they don't have to, you know—they take that for granted, that nobody is going to delay them and they take for granted that they can eat in the Army mess and they can use these other amenities and we are paying for it, and then paying them through the nose for the contract services that they are supposed to be providing.

We only find out after the fact, maybe 3 years after the fact the kind of service, the quality of services or lack of quality that they are actually providing. Do you have any way of accounting how this money is being used or how many of them are using Army messes and do you charge back to the contract for that cost?

Secretary GEREN. Let me get you the detailed information on the mess hall issue. We have looked into that in great detail over the last couple of years and I will provide that for the record. Let me

just real quickly make one other correction. I am afraid I misunderstood. Most of those contract employees we talk about are not American nationals. And so it is close to half are from the region. You don't have all of those civilian contractors subsisting on our subsistence system.

[The information follows:]

Department of Defense (DoD) employees are authorized logistics (such as food, water, billeting, etc.) and security support privileges when deployed with the Armed Forces. Logistic and security support for contractors authorized to accompany the force are addressed in the contract and are priced and negotiated before the contract is awarded. It costs approximately $23.00 daily per person for food. This does not include related transportation, storage, or labor costs, but does include six liters of water per day. Meals being provided in support of our mission in Iraq and Afghanistan are prepared by Kellogg, Brown and Root (KBR) under the LOGCAP III contract. KBR is required to keep records of the number of meals served and the government is authorized to audit such records.

DoD also has implemented the Synchronized Predeployment and Operational Tracker (SPOT) system to account for and provide visibility of all DoD contract personnel within the contingency operations battlespace. The Joint Asset Movement Management System (JAMMS), a component of SPOT, will also enhance visibility. The JAMMS will be able to scan the contractor personnel's Letter of Authorization to identify any additional authorizations, privileges or government support that contractor personnel are entitled to under the contract.

LABOR COST

Mr. MORAN. Mr. Secretary, that is the last and then we will move to the next question. But that is the last thing I wanted to get to. Because the other thing we have here is that they are hiring people, people from the Philippines, wherever they can get cheap labor because they make a higher profit margin, the cheaper the labor they bring in. And a lot of these contractors are not making the effort to provide employment in a country where you have got almost 65 percent unemployment, real unemployment and yet they are bringing in all these workers from other parts of the world who are willing to perform the labor at the cheapest rate possible and the—it matters not to the contractors that you see all these Iraqis looking for work and, of course, a lot of these young kids we are not members of al Qaeda and Iraq, but they are looking for to make a few hundred bucks by planting an IED or something because they have no other means of subsistence.

Are we aware of the problem of bringing in all these foreign workers that cause even further resentment on the part of the Iraqis who don't have any jobs?

OVERSIGHT OF CONTRACTORS

Secretary GEREN. We oversee those contracts. We do employ many Iraqi nationals in our subsistence programs over there. And I will get you the full detail and the breakdown, how many come from out of country and how many come from in country. When you look over all at the performance of the contractors it has overall been good, taking these type of services to remote areas and building the support systems from scratch. But it is not to say there haven't been some terrible abuses. We have had people go to jail. There will be more people to go to jail there have been problems.

But overall, they have provided good quality support to our soldiers for the most part. The soldiers are satisfied with the food sup-

port, the other type of creature comforts that are able to be provided in a very office tier environment. But it is not to say on the margins we haven't had some serious problems, and we are more aggressively trying to root those out and long term it is a big challenge for us. The size of the Army we have today, we had Dr. Gansler, who did a thorough analysis for us and helped us look to the future in the area of contracting. He was the Under Secretary for Acquisition under President Clinton. A distinguished academic in this area.

And he said with the size of our military today, when we consider ourselves as an expeditionary Army, we have no choice but to go to war one half khaki, one half contractor, and one half uniform military. That is what is takes to deploy our Army today with the size of Army that we are. As we try to move more people from tail to tooth. And more people into operational positions. We relied more heavily on contractors. So we have really accepted that as the future and we are trying to do a better job of preparing the contracting oversight within the Army.

I will tell you one quick thing and then I will stop. But we saw in the 1990s and into this last decade, the number of contract personnel in the Army, both civilian and military, declined dramatically. Then we saw this major ramp up in the need of contracting. We didn't have the full-time personnel in positions to properly manage it. We didn't and a lot of probabilities we have today are a result of that.

We had people leaving the Army because there was no future in the contracting field. We have instituted reforms now. Tomorrow at Fort Belvoir, we are going to stand up the Army Contracting Command, a two-star command. We are going to have two one-stars under it. We are going to have seven contracting brigades. Commanded by colonels.

So we are going to start rebuilding that bench and rebuilding the professionalism in the contracting workforce not only in the military but in the civilian workforce. It is not only a military problem across our government. We have really lost a huge percentage of our contracting workforce at a time when the demand went up precipitously. And so we have got a lot of work to do in that area. But we are moving in the right direction. We will provide better oversight.

[The information follows:]

According to a recent U.S. Central Command quarterly contractor census, there are 163,591 total DoD contractor personnel in Iraq. Of this total, 31,325 are U.S. citizens; 56,368 are third country nationals; and 75,898 are local national Iraqis who make up a majority of our contracted workforce.

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Mr. MURTHA. Ms. Granger.

QUALITY OF RECRUITS

Ms. GRANGER. Thank you. Back home the folks, when I go home every weekend, always ask about you and send their best and are very appreciative of what you are doing. Tammy Schultz, who stud-

ies ground forces for the center for new American security—I think you know that is a think tank that works with security and studies defense policies and he stated in January that Army recruiters were signing up—signing up the required troops each year but to grow the force, they are doing this by allowing less qualified recruits with lower test scores, raising the maximum enlisted age and making other concessions to depth and quality.

I would like you to address that and say is that true. And if so, of course what that—I would say General Casey would probably be the one. I don't know whichever one will answer that. But have we lowered our standards and how do we answer that question?

General CASEY. I will start off here and then let the Secretary add a few words. As I indicated with the story about Sergeant Greg Williams, we are getting very committed, very capable men and women into the Armed Forces. Now, as you look at the standards, our own metrics by which we measure quality, primarily high school diploma graduates, the top three mental categories and the bottom—the fourth mental category, the lowest. And in two of those three, we are meeting our standards. We are meeting them in the top three mental categories and in a very low percentage in the bottom mental category.

We are taking in now less than 90 percent high school diploma graduates. And that is a degradation that I believe is acceptable to increase the size of the force. Now, that is the only degradation and we are committed not go below 80 percent which is where we were in 2006. So I believe that we are——

Mr. MURTHA. Will the gentlewoman yield?

Ms. GRANGER. Yes.

Mr. MURTHA. I think I saw figures down to 79 percent.

General CASEY. We were at 79 in 2007, that is correct.

Mr. MURTHA. And also that the waivers were twice as many with drug-related and—felony and misdemeanors.

General CASEY. Waivers is a different story. I don't know if you want to talk about that one.

Secretary GEREN. I can speak to the waiver issue. And we have seen an increase in waivers. We have gone—I think they have tripled in over the last 6 years. But the waiver process has actually been a great success. It is a very labor-intensive process. If we could choose a whole Army that way with that kind of scrutiny, we would have a better Army. But it is too labor intensive to do that. The waiver process is a 10-step process. When a candidate comes up that needs a waiver for whatever reason, it goes through 10 steps in the approval process finally with a general officer signing off on that waiver candidate. And we found—we did a study of the 17,000 we brought in under waivers from 2003 through 2006. They actually scored higher on the aptitude tests. They had higher promotion rates, they had higher retention rates, and actually had higher awards for valor.

But again it is too labor intensive. You can't recruit an entire Army that way. But it is a program that has brought good quality soldiers into the Army. But we are concerned about those issues. Recruiting an Army in the middle of a war is hard. We have never done this before. We have always had a draft to be able to fall back on. But intangibles are as important as these objective metrics in

telling you whether or not you have got somebody that wants to serve in the military. The fact that 170,000 young men and women are raising their right hand and joining the Army, I mean, you consider Active Guard and Reserve. We have 170,000 men and women join our Army every year, the size of the entire Marine Corps and it tells you a lot about a young person that going to join the Army in the middle of a war knowing full well he or she is going into combat.

It tells you something about the heart and sense of mission. So we feel good about the men and women that are joining. Their performance has been excellent. We have got some long-term issues and you as a teacher appreciate some of these challenges. As a Nation, high school diploma grads are shrinking. In certain parts of the country, we have a very low percentage of high school diploma grads. We have got an increasing problem with obesity. Only three out of 10 young people made all of our objective criteria for joining the United States Army. Three out of 10. That is a national problem.

So we take from that top 30 percent, and we as a Nation and we as an Army are trying to reach out and try to figure out how we get the rest of those 70 percent to be better qualified to join the Army, better qualified to be a better citizen and contributing citizens. But it is a tough environment. But we do have young men and women who are willing to join in the middle of a war and they are fine young people.

Ms. GRANGER. I completely agree, they are fine young people. And I have had exactly the same experience as the chairman. I have lost 22 from my district in Iraq and I visited personally or spoken to every—the parents of all of those. And without a single exception they said how proud they were and that they are—it has all been sons, that their sons or husbands were doing exactly what they wanted to do and were trained to do and were very proud of what we are doing.

So you are doing a wonderful job, and I have had that experience in every base that I have visited. But it is a tough one to keep those standards up. I agree exactly with what you said, and I remember as a high school teacher having students who really didn't know what they were going to do, where they were going to go and hadn't had a lot of discipline and went in the service and were completely different people in a very short period of time. Better spouse, better parent, better employees, better citizens.

MENTAL HEALTH

Let me ask you something, Mr. Secretary. We talked about this before and that is mental health issues with those who are serving and those who have served and how do we make sure that they get the health care that they need. And we had a hearing here on this committee that was disturbing because some of the plans were hiring mental health care professionals and how many that we were going to need to deal with, you know, when you come back from combat or these long deployments, which was literally impossible because they don't exist, all those mental health care professionals.

So what are we doing for those who are currently deployed and engaged in combat actions and then for those who have served that

may have problems that may come back that may not show up for some time?

Secretary GEREN. The issues that you raise in that are addressed on a very broad front in the military. And major challenges. The shortage of mental health professionals, it is a problem across the country and it is a problem in the military. It is a problem that is particularly acute for the Army because so many of our installations are in rural areas. You have a higher percentage of mental health workers in large urban areas than you do in the Killeen, Texases or the Lawton, Oklahomas or the Fayetteville, North Carolinas. So it is a problem for the country and it is a problem for the Army because of where we are located.

This Committee has been a great help to us in providing us additional resources to try to attract mental health professionals into the Army. We are——

FUNDING FOR MENTAL HEALTH

Mr. MURTHA. Let me interrupt the gentleman. We put $900 million last year in the subcommittee. And I suggested to them that they should hire a cadre of mental health professionals all over the country. And they are doing that. They are going to hire not necessarily—not like contractors—we are talking about folks that are contracting for this particular reason because they are available. I think one agency said they had 50,000 health psychological—psychiatrists and so forth and they are working their way through that. So it will be a competitive process.

So I think if this works the way I hope it will work, we will have the people available in the rural areas which will be able to take care of them. Because you and I see the same problem.

So consequently, those people come home and they have no place to go. They have nobody to talk to and they have a hard time adjusting. Well, I think the combination of what we have done is going to make a big difference for the National Guard as well as the Reserve or anybody that gets out on a discharge. I think we are making some progress in there and I appreciate what you are asking for.

MENTAL ILLNESS STIGMA

Secretary GEREN. This Committee—you have really led the way in that regard for us out of that—$300 million of that is going into research. We have $261 million of it that has gone into actual care in the Army system. I would like to mention one other initiative that I think has made great progress in this area for the Army, and I think it will end up benefiting the whole country. One of the biggest challenges in mental health area is to get people who need it to come forward and get it. And it is a stigma, it is a stigma in private life and it is even more of a stigma in the Army.

The middle of last year we started a program to teach every single soldier, all one million soldiers and make this same training available to families, teach them how to spot the symptoms of post traumatic stress, traumatic brain injuries, how to identify those problems and where to go and what to do about it, and we have now taught that program to about 900,000 soldiers, still working to get the last 100,000.

Every new soldier that comes in, we call it a chain-teach program. But it is a program where they actually have face-to-face teaching. And it has already shown results that—we do these mental health tests every year. We just finished the fifth one, MHAT–5, and it showed that the stigma is going down. More people feel comfortable coming forward in dealing with mental health issues.

Secretary GEREN. That will be one of our biggest issues, because mental health issues addressed early are so much easier to treat than mental health issues that become acute.

So we are working to address the stress. We are hiring more personnel. We are developing innovative programs. We are trying to train all the leaders in the Army to be better at spotting mental health issues before they become problems.

But it is a challenge for us, and it is a challenge that the military has always struggled with in wartime. The experience people are having is not something that you get anyplace else other than war, and they bring a lot of mental and emotional problems with them. And those also spill over and affect the families. And so we are working to try to address it with the soldier and with the families.

Ms. GRANGER. Thank you.

Thank you, Mr. Chairman.

Mr. MURTHA. Okay.

Another thing that we are working on—and as good a job as anybody I have seen. They are sensitive to the stigma that is involved in PTSD. Commanders understand, and they reach out to the soldiers and say, "Look, don't worry about being afraid. Don't worry about it." I was really impressed by the counseling, the screening and so forth.

We are going to go vote, and we will be right back.

[Recess.]

QUALITY OF RECRUITS

Mr. MURTHA. Before I go to Mrs. Kaptur, I just want to make sure—I heard so often from the Army about high school graduates. I voted against a volunteer Army; I voted for a draft. I think everybody ought to have a chance to serve. Less than 1 percent of people in this country are making sacrifices, including the families. I mean, the families are making sacrifices with the troops. So I was for a draft, because I think everybody ought to be involved.

But the point is, the Army used to come over here and say, "We have to have high school graduates. That is the reason we have a volunteer Army that is doing so well." Now you are saying you accept—I mean, I know what happens. I know that you can't get them, so you have to rationalize in your own mind.

But I hope we are not going down the road we went after Vietnam, where we had to dump thousands of troops out because they weren't physically fit and they weren't qualified. And I remember going to the leaders, and I was Chairman, I said, "These guys cannot handle the job, and you had better get rid of them, and they did." And you were probably a captain or a major, at the time.

General CASEY. Or a lieutenant.

Mr. MURTHA. And you got rid of a lot of people. You remember that. Charlie Horner remembers it.

General CASEY. Charlie was a captain, yeah. [Laughter.]

Mr. MURTHA. Ms. Kaptur.

COST OF ELECTRIC POWER

Ms. KAPTUR. Thank you, Mr. Chairman. I always enjoy listening to what you say.

Welcome, Mr. Secretary. Welcome, General. Thank you very much for being here today.

Let me ask for the record, Mr. Secretary, could you provide the amount of funds that the Department of Army spent in the year 2007 on power, an aggregate number for all the utility expenses at your various bases, and then for your fuel costs in 2007. Could you have your accounting people provide that to the record?

Secretary GEREN. We will certainly provide that.

Ms. KAPTUR. And could you let me know, compared to 2006 and your projections for 2008, are those numbers likely to go up or down? And I am looking at your domestic as well as global costs.

Secretary GEREN. We will provide you that.

[The information follows:]

The Army spent $617 million on electric power purchased from utility suppliers in fiscal year (FY) 2007. In addition to purchasing electricity, the Army operates three plants that generate electricity. The cost to fuel those plants in FY07 was $24 million.

Despite the fact that the Army met the reduction goal in the Energy Independence and Security Act of 2007 by increasing efficiency and reducing energy use per unit area by 8.4 percent from the 2003 baseline to 2007, the total cost for energy utilities at Army installations increased from $753 million to $1.099 billion over the same period. In addition to energy utilities, we spent $1.539 billion on fuel for vehicles in FY07, of which $1.421 billion was used in tactical vehicles.

Due to increases this year in the cost of fuel and other energy commodities such as electricity and natural gas, total costs for 2008 are likely to go up both domestically and globally.

RESERVE COMPONENT HEALTH CARE

Ms. KAPTUR. All right, thank you.

I wanted to ask your help, Mr. Secretary and General Casey, if you could, on the issue that Congresswoman Granger referenced, and that is the health of our soldiers. And I would invite you, as I did the medical witness panel that we had about 2 weeks ago, to look at the health concerns of the 983rd Combat Engineering Unit in my district, whose commanding officer sits in Chicago.

This unit was deployed to Iraq. It sustained at least one loss and several injuries. And what is happening to those soldiers is that, as they come home for care, because it is in a more suburban or rural area and they come from all around—they come from deep in the rural counties of Ohio; I think we have even got a couple Hoosiers in there up in Michigan—what they come home to is a place, a unit, a building with trucks and equipment, but no medical care around there.

There is a clinic, a VA clinic, in the city of Toledo. There is a VA hospital up in Ann Arbor, Michigan. There is a state nursing home 2 hours away, hour and a half east, that is partly VA-run and partly State-run. And most of the psychiatric issues that come to rest often go to the chaplain at the nursing home or a group of VA people who aren't trained for that necessarily in the city of Toledo. But, for the most part, these people are not served properly.

What I am looking for is a model. If you could use this area, which has no big base like Fort Bliss, we don't have a mother hospital—we are trying to link our VA system to our medical college now. It has never been done that way. But these poor soldiers, many of whom came up to me and told me they had problems, some with traumatic brain injury, plus PTSD—it is all disorganized. The care is disorganized.

I think it would be very helpful, at the same time as we work at the national level, to find some prototypes at the local level, where the pieces don't fit together, and then ask ourselves, how to we fix this? Because if we can fix this, then how do we use that model in other places?

So I would really invite you to come, to take a look. These are really good soldiers. It is a reserve unit. You know, again, it is not regular, it is not active duty. There has just got to be a better way to do this. There has to be a better way to pool those dollars and make this work for those soldiers.

We have tried to work with the State of Ohio—General Wayt, the head of our guard in Ohio, a wonderful person. We have tried to work with some of our hospitals in the State of Ohio, who are the best in psychiatric care. They have said to me, "Marcy, the worst experience of our careers has been in trying to work with the Department of Defense." I said, "It is the biggest bureaucracy in the world." And they said, "Boy, you don't say." I said, "Don't give up. Don't give up. We are going to get this done."

And so I just suggest to you, come down to where we live. Turn the hour-glass upside down, come down to where we live and are trying to care for these folks coming home. So, I invite you.

And I don't want to get anybody in the 983rd in trouble. That is not my purpose here today. It is a great unit. All their soldiers need is care.

General CASEY. No, Congresswoman, you are identifying something that we are seeing in a lot of different places with our guardsmen and reservists as they come home. And, as you suggest, with the dispersed nature of how these folks live and where they are based, it is a much more difficult problem.

And I would like to take you up on your offer, because I think—we are working hard on this. The Secretary and I have issued a family covenant that recognizes the five greatest needs of our families, both active and reserve component. But we acknowledge that it is a much more difficult challenge in effectively implementing that with the Guard and Reserve.

And even though we are working toward an integrated family support network—we have an actual program where, ultimately, you will be able to plug in a zip code and get the different kinds of services that are available to you there.

But I would like to take you up on that. Let's get some folks together and take a look at this and maybe, as you suggest, use this as a way to look at rurally based units and figure out how we can do better at providing them the care and services they need to recover from extended deployments.

Ms. KAPTUR. You know, General, thank you for that.

You just reminded me, in the middle of all of this, then the Veterans Department sends in a veterans center, and I meet the guy.

I said, "Where did you come from?" He said, "Oh, they just sent me up here from Cincinnati." I said, "Well, where is your office?" He goes, "I live out of my car." He says, "I go from place to place."

I thought, okay, so there is another stream of money coming in here. But it is really not very well-organized at the local level, and so I would appreciate your assessment.

Right across the street from this particular facility is a Guard tactical fighter squadron for F–16s, a huge complex. No medical care there. When we welcome our MP units back home from Iraq, they come to that base because they fly them in, you know, and then they are just scattered all over the place.

I need your experience and would value how we get the VA and the DOD and our local people to work together with our State. You know, how do we structure this differently for this set of returning vets?

For the record, I was going to ask the Secretary, can you also provide for me, for the years 2006, 2007 and your projections for 2008, how many psychiatrists were on the payroll for the DOD hospital system or any contracted services and how many psychiatric nurses? Is it going up? Is it going down? Is it staying the same? I am very interested in those numbers.

[The information follows:]

I am only able to address the number of psychiatrists and psychiatric nurses employed by the Army. The overall number of Army psychiatrists has remained relatively constant over the last three years while the number of psychiatric nurses has been steadily increasing. In addition to filling positions in our military treatment facilities, about 20 psychiatrists and 20 psychiatric nurses deploy with each Operation Iraqi Freedom/Operation Enduring Freedom rotation.

In 2006, the Army employed 181 psychiatrists and 161 psychiatric nurses. This consisted of 127 military and 54 civilian psychiatrists and 96 military and 65 civilian psychiatric nurses.

In 2007, the Army employed 171 psychiatrists and 179 psychiatric nurses. This consisted of 120 military and 51 civilian psychiatrists and 94 military and 85 civilian psychiatric nurses.

Currently, the Army employs 178 psychiatrists and 196 psychiatric nurses. This consists of 125 military and 53 civilian psychiatrists and 87 military and 109 civilian psychiatric nurses.

In June 2007, the Army Medical Department initiated contracting efforts to hire an additional 64 psychiatrists and 31 psychiatric nurses to fill recognized shortages that created gaps in service delivery. As of March 21, 2008, we have been able to contract for 25 psychiatrists and 13 psychiatric nurses to meet this need. In addition, to meet emerging behavioral health workload requirements generated by the Global War on Terror, the Army has committed to growing military behavioral health specialties including 24 additional military psychiatrists and 15 additional military psychiatric nurses beginning in 2008 and 2009.

FOOD FOR IRAQIS AND AFGHANIS

And, finally, my last question is, for the people of Iraq or Afghanistan, for the soldiers that are out there in the field, are we feeding the Iraqi people in any way? Are we literally handing out meals to the Iraqi people at any place? Or are they food self-sufficient in both Afghanistan and in Iraq?

General CASEY. From my experience, we have only on occasion had to provide food, and that was usually after a major military operation—in Iraq. I can't speak to Afghanistan. But my impression is that we don't have any kind of a military program that routinely feeds Afghanis and Iraqis. But I am a little dated.

Ms. KAPTUR. Is sustenance an issue, with everything that is going on there? Is this an issue for the Iraqis?

General CASEY. I will tell you, Iraq is the land between two rivers. It has some of the most fertile land that I have ever seen. And they do fairly well at feeding themselves.

[The information follows:]

It is not generally the mission of U.S. Armed Forces to feel civilian populations. Department of State officials typically provide this function using pre-configured humanitarian rations that they procure separately from military rations. The Department of Defense (DoD) feeds any host nation detainees in its custody and on isolated occasions has fed military members of Iraq and Afghanistan who were training with U.S. forces. However, the DoD is not and has not been engaged in any significant feeding of the general populace of either country.

Meals being provided in support of our mission in Iraq and Afghanistan are prepared by Kellogg, Brown and Root (KBR) under the LOGCAP III contract. Current information indicates that there is no known instance of Iraqi or Afghanistan civilians being fed by KBR, unless they are being deployed to support a mission by U.S. or Coalition Forces or are direct employees of either KBR or one of its subcontractors. Today, KBR and its subcontractors employ over 7,200 local nationals to accomplish the LOGCAP mission. Currently there is no existing policy which requires the feeding of Iraqi or Afghan civilians other than detainees.

Mr. MURTHA. Mr. Kingston.

BUDGET PROCESS

Mr. KINGSTON. Thank you, Mr. Chairman.

Mr. Secretary, General, it is good to see you.

I have a question on the supplemental budget. I am very frustrated with these emergency supplementals because there is nothing emergency in the nature of so many of them. Certainly, there is an urgency, but it appears to me that we have gotten in a habit of doing very, very large supplemental budgets as a way of getting around normal budget procedures.

And I wanted to hear your comments on that and see what could be left out of a supplemental that should be in the regular order, normal budget process.

Secretary GEREN. Well, in this budget, we are working to try to migrate the costs that are predictable into the base budget. This 2009 budget has 43,000 soldier end-strength moved from the supplemental into the budget for the first time. So where we see these as ongoing costs or expenses, we are working to migrate them.

There are other areas that we know that we are going to have. The MRAPs are going to be part of the inventory for a long time. Looking to migrate some of the support costs there.

But from the Army perspective, we are trying to look down the road and anticipate a future in which there will be increasing pressure on these supplementals. And where we do have predictable and ongoing costs, we are looking to try to migrate them into the base budget.

But the way we are operating today, there is no way that we could provide the support to the soldiers within the base budget. But it is a long-term issue that we are working to address.

COST OF WAR IN IRAQ

Mr. KINGSTON. There was an article the other day that came out that said that the cost in Iraq is $12 billion a month. And then there was a subtitle that says, GAO I think says, it is $7 billion

to $6 billion a month. So probably somewhere between $6 billion and $12 billion for the costs in Iraq, and I am not sure what was included in that.

Do you know how much Iraq is costing the Army a month? Do you have a number like that?

Secretary GEREN. We have used the estimate in the O&M area and personnel of—well, let me get that for the record. I don't want to—I am afraid I will get it wrong, so I will get back with you.

Mr. KINGSTON. Well, your portion of that probably is the lion's share anyhow, I would imagine.

Secretary GEREN. It is.

Mr. KINGSTON. And then would you have it broken down as to what you would anticipate and what would be in the regular budget request versus in the supplemental?

I mean, just to kind of play with some numbers, let's just say the Army's portion of that is $5 billion a month, and maybe $2 billion in equipment, $3 billion in personnel. I don't know how it would easily break down. But you know that if we stay in Iraq, you are going to have a continued expense of that $5 billion at some level, right?

And is that in the Pentagon budget request, or is that kind of held for the supplemental?

Secretary GEREN. Largely in the supplemental.

Mr. KINGSTON. Well, isn't it time to stop doing that?

Secretary GEREN. Last year——

Mr. KINGSTON. And one other the question. Is that an OMB call or a Pentagon call?

Secretary GEREN. That would be an administration call.

Mr. KINGSTON. So it is OMB.

Secretary GEREN. Yes.

Last year, the President's budget and the supplemental were forwarded through the Congress at the same time. You know, obviously they won't be this year.

But how the supplemental is actually managed through the Congress and whether it is handled differently than the regular budget request for funding is a congressional decision rather than an OMB decision or administration decision.

Mr. KINGSTON. So if Congress decides to take that supplemental and put some of it into the general budget, then the Pentagon is okay with that?

I am not asking you to speak on policy there. But I think one of the problems that most members have is we know, or we tend to know—we will be voting on the budget today, and we will tend to have some general breakdowns of what it is for Medicare, what it is for education, what it is for defense, whatever. But then when it comes to a supplemental, we don't pay as much attention to it, because it usually has the word "emergency" in it, and it always does have a few genuine emergencies in it. But it seems to me that we are really not watching the fiscal dollars here as much as we should.

And when you think about the great challenges that you have on reset and some of the other things that you had already pointed out, if it wasn't for the Chairman and Mr. Young and some great allies here, you would not have that.

But it also seems to me a little bit maybe disingenuous on the part of the administration to count on friends in Congress to take care of the resets through the supplemental process when you know, as you have testified, General, that it is a huge expenditure and a huge challenge. And it seems like whatever budget is submitted, therefore, is, sort of, not really the real picture.

You know, it is so important that the supplemental is no longer just an add-on for emergencies but it is part of the bread and butter of what you need to operate. Is that right, or have I grown cynical?

General CASEY. No, you are right. In fact, in response to Congressman Young's question, I said that we need around $100 billion a year in addition to the base program to take care of the costs of the war and the supplemental. So, yes, I mean, there are significant costs to us that are not in the base program.

The only thing I would say—and some of them are costs that we can't know 18 to 20 months in advance. You know, for example, the numbers of brigades that are in Iraq, that will change, that will affect costs. Probably not immediately, but over time it will gradually affect costs.

[The information follows:]

The cost of the war in Iraq averaged $7 billion per month for the Army last fiscal year. This cost equated roughly to $1 billion for military personnel, $4 billion for operation and maintenance, and $2 billion for procurement.

Mr. KINGSTON. Well, Mr. Chairman, I will yield.

Mr. MURTHA. I think what the gentleman is saying is so important. If you remember, last year the subcommittee asked Secretary Gates to put it in, the supplemental, the supplemental in the base bill. He nodded his head because he agreed with us. That didn't mean he could do it.

But there is no question they can't plan, we can't plan, when they just put a supplemental out which is supposedly emergency funding. We know very well what it is going to cost, within reason. It used to be supplementals were a few billion and we dealt with them very expeditiously. Now, they have become part of the process.

We have to get back to budgeting. And if you don't count supplementals, you don't do any legitimate budgeting. For instance, a little item like re-enlistment bonuses and re-enlistment pay went from $157 million to over $1 billion, a 537 percent increase. Those are the kinds of things that—reset, put all the reset in the supplemental.

So you are absolutely right. We have to get back so we can get this thing under control, so they can plan and we can know what the costs are.

Mr. Bishop.

EQUIPMENT READINESS

Mr. BISHOP. Thank you, Mr. Chairman.

I think the Chairman and Mr. Kingston are really on to something. I recall when the subcommittee organized last year, one of the things that the Chairman indicated was that it was very, very important for us to try to get control of this budgeting process so that we could get away from putting so much stuff in the

supplementals so we could actually plan for the war, and that it was actually publicly disclosed.

I want to go to another subject. You know, we understand that the equipment readiness is really a function of both procuring equipment in desired quantities and maintaining that equipment in acceptable operational status. And, of course, the combat operations in Afghanistan and Iraq have resulted in high usage rates under very demanding environmental conditions, which has resulted in the loss of significant—excuse me—under difficult conditions, and a lot of it has been destroyed as a result of combat.

What are the most serious equipment shortfalls, in terms of equipment on hand and equipment maintenance, ground combat vehicles, support vehicles, aviation and communications? And what is the Army doing to reduce the equipment shortfalls and to speed the repair of equipment?

And, of course, with the 15-month deployments, who takes care of the equipment that is left back home? Is that equipment that is left back home state-of-the-art, or is it mostly obsolete equipment? And if it is, what are we going to do about it?

And how are you inventorying the equipment left back home and equipment that is being destroyed? I know at one point you had—I think Dimensions International was contracted, they were doing some of the work. I think that company has now been bought by Honeywell. But they were inventorying stay-at-home equipment. And it is my understanding a lot of that equipment is obsolete, so that when units come back, when they are in that dwell time, they really can't train on that equipment when they are back at home station.

And the other question with regard to the inventory process is whether or not you all have implemented the RFID bar code technology for utilization in conducting the inventories and keeping up with the equipment.

Secretary GEREN. I don't know the answer to your—I know we do use bar code. I don't know how widely we do use it. I will have to get back to you for the record on that question.

If we have used up equipment at a rate because of the war, not only in equipment that is destroyed in combat but equipment that is just being worn out at four and five times the rate that we planned—so we are certainly stressing the system, not only to produce it but to keep it fixed and keep it operational. We use the reset budgets in the supplemental that you all have given us. The depots are operating at about twice the capacity that they were in peacetime. So that is a big part of our effort to keep the equipment ready and available to soldiers.

Every unit that we send into combat has the equipment that they need. All of our nondeployed units have some challenges when it comes to having the right equipment.

[The information follows:]

The Army has no immediate plans to implement RFID technology (passive/active) for conducting inventories. However, the Army uses RFID technology to track the location of equipment while in-transit. By October 1, 2008, we will have fielded handheld devices to operators of the Property Book Unit Supply Enhanced system (PBSUE).

PBUSE is the Army's web-based, state-of-the art, combat service support property accountability system for garrisons, program managers, and tactical environ-

ments. PBUSE's enterprise asset database has improved asset visibility and accountability by providing "any time, any place" data access for property accountability users. For example, for the commander, it provides a real time view of assets and allows the commander to access the system for queries without having to depend on the PBO and multiple sources to gather, prepare and present the information. These handheld devices are capable of reading printed barcodes and unique item identifiers placed on supplies and equipment.

EQUIPMENT FOR TRAINING

Mr. MURTHA. Will the Secretary yield?

I mean, let's go back here. When they are in the United States, they are not training on the same equipment that they, when they go to war, that they have once they go overseas. I mean, we have been through this over and over and over again. We know the shortages. I know that there is only one armored Humvee in some bases. I know there are all kinds of shortages where they don't have the equipment to train on in the United States that they are going to go to war with.

So, you know, we need to hear the facts so that we can try to help correct this thing.

Secretary GEREN. I hope I didn't say anything that would contradict what you just said. Our nondeployed troops do not have their equipment fill. We train using, in some cases, shared equipment. And there are some items of equipment, up-armored Humvees and now MRAPs, that they train in-theater on those. We don't have them back here on the training base.

So, because of the equipment shortfalls, we share among units. As a unit gets closer to deployment, they have more of their equipment filled. And some of it, they pick it up in theater. And some of it is left behind in theater that they fall in on.

READINESS IMBALANCE

Mr. MURTHA. Well, I think that falls in line with what General Casey said earlier: imbalance. For instance, if we wanted to deploy, we not only would not be able to deploy because we don't have the equipment, we wouldn't be able to sustain the deployment at all. I am talking about deploying outside of Iraq or Afghanistan. That is the thing that concerns me the most, because it is so uncertain.

Our intelligence wasn't right with the wall coming down. Our intelligence wasn't right in Iraq. Our intelligence is not right over 50 percent of the time. I used to have, in my district, the guy, Phil the Groundhog, that predicted the weather. He is more accurate than the intelligence agencies are. [Laughter.]

But you can see why we are so concerned about the future of the Army, because we know the circumstances, and we have been trying to fix it.

General CASEY. If I could, just to piggyback on what the Chairman said, and I did talk about it a little bit earlier, but you already have invested in fixing the equipment problem. We are not finished yet, but, as you know, it takes about 2 years from the time you give us the money until that equipment is in the hands of a soldier. And so that process has started, but it needs to continue here for the next several years until we can get ourselves back in balance.

The other thing I just mentioned is that we have made huge strides on equipment accountability. And we have both in theater

and at home. And we have put our Army Materiel Command in charge of the stay-behind equipment that you talked about several years ago. And we are getting much more efficient in getting that equipment to the right place and, if it needs to be refurbished while the unit is gone, getting it into a depot to get it fixed up.

So I think we are doing much better on property accountability and on the management of the stay-behind equipment.

EQUIPMENT FOR HOME STATION TRAINING

Mr. BISHOP. The visit that I made to see some of that stay-at-home equipment and the refurbishing, none of the refurbishing was up-armoring. Well, if so, it was very little of it. So that what they were actually refurbishing back on base, as I understand it, was not the same equipment that is up-armored that is being used in theater.

And, of course, you know, that is a concern, because whenever they come back to train, with the parts of the units that are in dwell time, you know, they won't be able to actually work on what they will have to deal with if they have to go back to theater or deploy someplace else.

Secretary GEREN. There are certain important parts of the equipment set that we don't have back here in the training base. And the training takes place with that real equipment in theater. MRAP is a great example, where every MRAP we can produce we are putting in theater, so there is not an opportunity for soldiers to train on MRAPs in the United States.

Mr. MURTHA. Mrs. Kaptur, we are going to finish up before this vote ends, so if you have any additional questions.

Secretary GEREN. No, but I was just agreeing with your point. We are working to fill those, but there are certain types of equipment that we have not been able to fill all the need in theater. And that requires us to do work-arounds through shared equipment and training in theater to make sure that the soldiers get the training that they need on that type of equipment.

COST OF RESET

Mr. BISHOP. What is your current estimate of the total reset requirement for fiscal year 2008 for operation and maintenance and procurement funds? Does the fiscal year 2008 wartime supplemental funding request, as amended in October, fully fund the Army's reset requirements for 2008? What is your estimate for the reset requirement for 2009? And how has the surge affected the reset?

Secretary GEREN. The funding that we have in 2008 does cover our estimate of the reset costs for this year. We are still working on the estimates for the 2009 reset number. I would estimate that it would be somewhere in the same range.

But we are spending about $18 billion, $17 billion to $18 billion a year on reset. You all gave us that in 2007. We have asked for that in 2008.

In the supplemental that you all passed in December, you gave us $10 billion of the $18 billion that we needed, and we are still waiting on the $7-plus billion. And if we get past Memorial Day, that is going to start causing us a problem in purchasing long-lead

items. So that is an area, when considering the 2008 supplemental, that the need is about to become urgent. The money is in the request, but only $10 billion out of $18 billion has been approved by Congress. And that, very soon, will be a problem for us.

Mr. BISHOP. If there is a pause in the drawdown of the Army units in Iraq, how will that impact reset?

Secretary GEREN. Well, the longer the equipment stays in theater, the less demand we have on the depots here at home. And we have tried to anticipate, as the surge does draw down, anticipate that equipment coming home, making sure we have the capacity in the depots in order to handle it, as well as the funding to handle it.

But the projections that we are developing for 2009 take into consideration the surge drawing down.

Mr. MURTHA. The time of the gentleman has expired.

We have talked about this. We want to look to the future. We want to make sure we balance out reset with the future.

Mr. Kingston, do you have any more questions?

Mr. KINGSTON. I might submit some.

Mr. MURTHA. Okay.

Do you have any discussion, Ms. Kaptur?

LONG TERM CARE

Ms. KAPTUR. Thank you, Mr. Chairman, very much.

Very quickly, General Casey, there are two young men from my district who are terribly wounded, Army. One is Matthew Keil, K-E-I-L. I understand he is somewhere outside of Fort Bliss, Texas, now in some type of care facility. And also Matthew Drake, who—no, wait, that is wrong. Matthew Keil is somewhere in Colorado in some type of private facility. I might be getting this wrong. I am not sure where they are. That is one of my questions. Matthew——

General CASEY. That is okay. We will get the details from your staff.

Ms. KAPTUR. And they are both terribly wounded.

My question really is, is the family satisfied with what the military did? Because one of these young men, Matthew Drake, is not in a military facility. He needs 24-hour-a-day care, and he became suicidal, and he cannot handle some of his limbs.

And so my question is, what went wrong? Did anything go wrong? Are we doing everything we can for these young men?

Okay, so those two. And then——

General CASEY. We will have somebody get with your staff and get their names, and we will follow up with you.

ATTEMPTED SUICIDE RATE

Ms. KAPTUR. Thank you very much.

And then I would like to know what the attempted suicide rate is for people in service 2006, 2007, 2008, and also upon discharge, wherever they are, out there in the system, what do you see happening to folks once they come home, as you track those numbers?

[The information follows:]

Suicide attempts are among the most difficult events in mental health on which to obtain statistics because there is a spectrum of suicidal behavior that ranges from thinking about suicide, to non-life threatening gestures (i.e. superficial lacerations),

to more serious attempts and to actual death. Researchers define what constitutes an "attempt" differently, which leads to significant reported variations in suicide attempt rates, even within the same population.

In 2007, the Army standardized the reporting of suicide attempts by clarifying the definition of an attempted suicide as an event which causes a person to be hospitalized for the behavior. Our older data (2006) is not directly comparable with data from 2007 and beyond because it includes attempts that did not result in hospitalization. At the end of 2008, we will be able to more directly compare 2007 and 2008 data on attempted suicides.

The Army does not track the behavioral health status of Soldiers once they are discharged. We do not have any record of suicide attempts by former Soldiers following their separation from service.

My second question, very quickly, relates to contracting. Kellogg Brown & Root is doing all of the food, ice and water that is being served in Iraq. And do they make the decisions on the subcontracts?

Mr. MURTHA. We asked about those questions, Ms. Kaptur. We want a detailed list of the parameters of the contracting, how they handle it, where the different money is spent and so forth.

Ms. KAPTUR. Mr. Chairman, did they ask about Agility, the companies Agility and Supreme, whether they are a prime contractor and where they are headquartered? Those are two separate companies.

General CASEY. Agility, and what was the second one?

Ms. KAPTUR. Agility and Supreme.

General CASEY. Supreme.

Ms. KAPTUR. And are they a prime contractor, and where are they headquartered?

General CASEY. We will.

Ms. Kaptur. Okay.

[The information follows:]

Agility (formerly Public Warehousing Company) is a prime contractor, headquartered in Kuwait. Supreme Food Services, Inc., is a prime contractor, headquartered in Switzerland. Agility and Supreme are the two prime contractors for food in Iraq, Afghanistan, and Kuwait. Agility serves Iraq and Kuwait; Supreme serves Afghanistan.

CONTRACTORS IN IRAQ AND AFGHANISTAN

Secretary GEREN. If I could correct the record, I was in error earlier, Mr. Chairman. That 196,000 contractors is the entire theater: 155,000 in Iraq and 30,000 in Afghanistan. I would just like to stand corrected.

Ms. KAPTUR. Thank you, Mr. Chairman.

Mr. MURTHA. Thank you very much.

If you will get those questions back for the record.

Secretary GEREN. We certainly will.

Mr. MURTHA. The Committee now adjourns until 1:30.

[CLERK'S NOTE.—Questions submitted by Mr. Young and the answers thereto follow:]

STABILITY OPERATIONS

Questions. The Army recently released the latest updated version of its operations manual—the first update since 9/11. The manual, for the first time puts stability operations—or nation building—on the same level as combat. The Army states that this reflects the past six years of fighting the Taliban and Al Qaeda Afghanistan and insurgents in Iraq, as well relief efforts after hurricanes Katrina and Rita. It requires Army leaders to think and act flexibly, with the understanding that operations may require initiatives that do not require combat.

What does this change mean for the troops in the field? What, if anything, will be done differently?

Answer. Soldiers in operational units can expect their leader to be better prepared for the diverse set of missions they will be asked to execute. Commanders and their staffs will approach their missions more aware of the non-combat ways and means to success and plan accordingly. As Soldiers receive professional military education throughout their careers, they can now expect to see concepts regarding non-combat approaches integrated into the curriculum. This will infuse an understanding of the full spectrum of conflict throughout the force and enhance the capabilities of our Soldiers to operate across the spectrum of conflict.

Question. How will this be reflected in soldier training?

Answer. Training for Army forces deploying to Operation Iraqi Freedom and Operation Enduring Freedom currently prepares them to perform stability operations tasks (in addition to offense and defense tasks), to apply lethal and non-lethal capabilities, and to respond to exigencies arising from mission circumstances. Training and mission rehearsal/readiness exercises for deploying units are focused on the mission they will perform when deployed and on the operational conditions they will face when deployed.

The Army is developing, and will soon publish, standardized lists of mission essential tasks based on the operational construct described in Field Manual (FM) 3–0, Operations. These standardized lists will formally establish the offense, defense, and stability tasks on which units are expected to train before shifting, when required, to a specific directed mission.

The Army has revised, and will soon publish, FM 7–0, Training the Force. This training doctrine will reinforce the precepts in FM 3–0. In particular, FM 7–0 will emphasize that units must prepare to conduct full spectrum operations (a mix of offense, defense, and stability operations) for any assigned mission. Additionally, the Army is working to identify and distinguish levels of training capability for stability operations that are possible, desired, required, and critical to ensure continuing readiness of Army forces for stability operations in the future.

Question. As you know, you serve side by side with other Services. To the best of your knowledge, have they adopted a similar strategy?

Answer. The other Services have adopted similar or complementary stability operations strategies. In August 2007, the Air Force published their Irregular Warfare doctrine and revised their Foreign Internal Defense (FID) doctrine to address the requirement to support friendly foreign governments prosecute their own counter insurgency campaigns. This tenet of stability operations is also in Army doctrine. The Marine Corps teamed with Army doctrinaires to write and publish the current Army counter insurgency doctrine. As a result, the guiding principles of both services stability operations doctrine are nearly identical. Finally, Joint doctrine, to which all Services adhere, addresses stability operations in the same manner as each of the other Services.

FUTURE COMBAT SYSTEMS

Question. When Secretary Gates testified before the Senate Armed Services Committee he stated that growing costs of the Army's Future Combat System, makes it "hard for to see how that program can be completed in it entirety". He went on to say that "in light of what are inevitably going to be pressures on the defense budget in the future, I think that that one is one we will have to look at carefully".

Is it the Army's intent to continue FCS as it is currently defined, or can we expect major changes to the program?

Answer. The Army is committed to funding and delivering the very best capabilities to the Soldier. Continued investment in FCS is essential to providing these critical capabilities our Soldiers need today and in the future. Investments in FCS have produced technologies that are making a difference in combat today and will continue to make a difference tomorrow. The Army continues to adapt and mature the brigade's requirements to reflect lessons learned from Iraqi Freedom, Operation Enduring Freedom, as well as our own results from the Army Evaluation Task Force. As Soldiers adapt to these new technologies and the enemy adapts new strategies, we anticipate that our requirements will continue to mature.

Question. How are we to balance the competing pressures of Growing the Force and resetting/recapitalizing equipment with the funding demands of FCS? Are there any other tradeoffs to be made?

Answer. FCS is part of a comprehensive modernization strategy—a strategy that takes a balanced approach between the current and future force. FCS is less than three percent of the current budget. FCS is projected to be a third of the Army's base investment program at its peak in fiscal year 2015, which is in turn about one-

fourth of the Army's base budget. The Army requires adequate resources to meet current commitments and prepare for future threats; we must do both to sustain dominant landpower.

Question. As you know, FCS was downsized about two years ago from 18 to 14 systems. There are now rumors that yet another major restructuring of the FCS program is in the works.

Is another restructuring in the works?

Answer. Future Combat Systems will remain the cornerstone of Army modernization. The Army is currently building the Program Objective Memorandum (POM) for fiscal years 2010–2015. Through this process, the Army will review requirements from the Soldier, Global War on Terror, and current programs of record, striking a balance within the available resources. The Army will formally deliver its POM requirements to the Office of Secretary of Defense by mid-July 2008.

Question. Has the Army begun to look at any alternatives to FCS, such as upgrades to legacy systems? If not, why?

Answer. We have examined the feasibility of upgrading current platforms, and we have found that current platform upgrades are vital to current operations but are not a suitable alternative to FCS. Current platforms are severely challenged to accept newer technologies due to space, weight and power constraints resulting from incremental modernization over time. Continued investment in current platform upgrades, however, ensures the viability of future technology insertions to include FCS Spin-outs.

FCS is the right solution for the future which impacts the entire Army. Five years of requests from combatant commanders confirms what the Army needs: increased lethality, survivability, battle command on the move, battlefield awareness, and sustainment. FCS best fills these needs. Further, FCS technologies are validated in the hands of combat experienced Soldiers from the Army Evaluation Task Force, Fort Bliss, Texas.

[CLERK'S NOTE.—End of questions submitted by Mr. Young. Questions submitted by Mr. Murtha and the answers thereto follow.]

REPORTED READINESS

Question. Virtually all of the Army's major combat units are either currently deployed to Iraq or Afghanistan, recovering from such a deployment, or preparing for another such deployment. Because of this, essentially all non-deployed major combat units report low readiness scores.

Many defense policy experts and some military officials have expressed concern that with so much of the U.S.'s ground forces committed to existing operations, it would be very difficult for the U.S. to respond to a new crisis. At the same time, the very high level of commitment to existing operations features prominently in justifications for increasing the size of the Army and Marine Corps.

Gentlemen, the Committee understands that units deploying to Afghanistan and Iraq are reported to be well equipped and well trained. However, in a similar hearing last year at this time we were told that the Army was almost totally focused on the Iraq and Afghanistan missions and that generating equipped, trained and ready forces for any other contingency would be very challenging.

Other than the wars in Iraq and Afghanistan, what is the threat that you are preparing the Army to deter or defeat?

Answer. In addition to preparing forces for counterinsurgencies in Iraq and Afghanistan, the Army must also prepare for contingencies that require forces to operate across the full range of military missions. Current operational requirements for forces and limited periods between deployments necessitate a focus on counterinsurgency to the detriment of preparing for the full range of military missions. The Army is consumed with meeting the demands of the current fight and is unable to provide for other contingencies as rapidly as we would like. With your support we will continue to rebuild readiness, achieve balance, and restore strategic depth for future challenges.

Question. Does the Army currently have a strategic reserve?

Answer. Yes, the strategic reserves are those formations which are not deployed or next to deploy. The Army Force Generation (ARFORGEN) model synchronizes the planning, prioritization, and resourcing for sustainable force generation, to include adding depth for strategic needs.

Question. Given the state of the Army's combat units today, how well prepared would the U.S. be to respond to any new military crisis that might occur?

Answer. We are a combat-seasoned force with the best current forces in the world. We would respond with our sister services to other crises, but not as rapidly as we would like.

FUTURE COMBAT SYSTEMS (FCS)

Question. The Army capstone acquisition program is the Future Combat Systems. It is 14 systems including eight manned ground vehicles, unattended ground systems, the Non-Line of Sight Launch System, two unmanned aerial systems, plus the soldier and high speed wireless communications.

The FCS request for fiscal year 2009 is $3.6 billion (RDTE = $3,272M; Procurement = $331M). Procurement funds are requested to spin out maturing technology to the current force brigade combat teams.

The FCS program will field a total of 15 brigades, by fielding one brigade a year starting in 2015. FCS brigades will comprise 15 of the Army's total of 76 combat brigades. The Army's will add a new set of complex vehicles to an already burdened system that currently supports Abrams Tanks, Bradley Fighting Vehicles, Strykers and Paladin Artillery. General Casey, will FCS, when fielded, only add to the Army's logistical complexity?

Answer. FCS is being built to enable more efficient logistics support in the future. We have intentionally designed the FCS systems to realize 70 percent commonality between systems to reduce the number of unique components that will require support by the logistics systems. The FCS systems are also being designed with three to four times the reliability of the current force systems, thus helping to reduce the logistics burden through fewer parts required, fewer mechanics to install them, and fewer mechanics to install them, and fewer trucks to carry them. The FCS network fully integrates the logistics software applications with battle command to allow Soldiers logistical decision support concurrently with battle command. This network enabled logistics capability will require smaller stockages of spare parts to achieve required readiness.

Question. FCS is expected to cost a total of $160 to 200 billion. Can the Army afford FCS?

Answer. The Army can afford FCS. FCS is currently less than three percent of the Army's base budget. At its peak, in fiscal year 2015, FCS is projected to be less than a third of the Army's investment account. As the investment account is about a quarter of the total budget, FCS procurement cost is unlikely to exceed eight percent of the Army's budget in any year.

Continued investment in FCS is essential to deliver the capabilities the Army needs. Investments in FCS have produced technologies that are making a difference in combat today. These include advanced vehicle armor being used to protect Soldiers in High Mobility Multipurpose Wheeled Vehicles; precursor FCS Unmanned Aerial Vehicles; and robotics being used to locate and defeat Improvised Explosive Devices. We are leveraging the FCS investment to provide capabilities to the current force through Spin-outs, but we need to get these capabilities to our Soldiers faster.

Question. Can the Army accelerate the FCS program, given additional resources?

Answer. Yes. Currently the Army plans to begin fielding the Future Combat Systems Brigade Combat Team in 2015 with the first-half of a brigade. Thereafter, a brigade will be delivered each year until 15 brigades have been fielded. The delivery rate of brigade combat teams is governed by available funding. Additionally, the delivered quantity of the spin out maturing technologies we deliver through spin outs and the congressionally mandated fielding of Non-Line of Sight-Cannon is directly correlated to funding.

MODULARITY

Question. The Army is in the process of converting to the modular brigade structure, while fighting a war, with approximately half of the active component brigades deployed to the combat theaters. In fiscal year 2006, the Army had 51 brigade combat teams. By the end of fiscal year 2008 the Army plans to have 69 brigade combat teams.

What are the key differences between a modular brigade combat team and the previous brigade structure?

Are modular brigades smaller than the previous brigades?

Answer. Modular Brigade Combat Teams (BCTs) are larger than previous brigades because structure that had been previously task-organized from the division base is now organic, enabling modular BCTs to train as they will fight. Key differences between previous brigade structure and modular BCTs are: (1) modular BCTs are designed with organic combined arms battalions and organic combat sup-

port and combat service support; (2) the number of maneuver companies in each brigade increases from 10 to 11; (3) modular BCTs include a reconnaissance squadron to provide a more robust suite of intelligence, surveillance and reconnaissance capabilities; (4) battalion and brigade staffs are more robust and include organic psychological operations (PSYOP), civil affairs, and public affairs capabilities; and (5) command posts are satellite based, more robust, and linked to national assets. Any modular BCT can be attached to any division, corps, or joint headquarters without extensive augmentation or reorganization to any operation across the spectrum of operations.

Question. Please discuss the utility of adding an infantry battalion to each of the modular brigades. The idea is to increase combat power without requiring a significant increase in command and logistical functions. Does this make sense and is the Army exploring such an idea?

Answer. The Army continually assesses the utility of the modular force designs and applies changes based on lessons learned and operational experience. The Army must balance the strategic risk of preserving the All-Volunteer Force in persistent conflict, the operational risk of providing sufficient capacity to support joint force rotational requirements, and the tactical risk of maintaining sufficient capability within the brigade combat team (BCT) to conduct successful full spectrum operations. The current BCT design includes one reconnaissance and surveillance squadron with three troops and two maneuver combined arms battalions with four companies each.

Question. What is the impact of modularity on equipment requirements? If additional equipment is needed, is that equipment fully funded?

Answer. The transformation of our force has driven up the requirements for equipping. From 2005 to 2013, we plan to provide $174.9 billion in equipment through the base budget ($41 billion for the Reserve Component (RC): $29.4 billion to ARNG and about $11.6 billion for Army Reserve, and $133.9 billion for the active component) to meet these increased requirements. Premodularity equipment shortfalls require supplemental appropriations to help close the gap between requirements and existing equipment and modernization shortfalls. We need continued Congressional support for this plan. Without it, we will be unable to fully meet equipment requirements across all of our components.

The Army had significant equipping challenges prior to 9/11. Particularly noteworthy were the equipment shortages and lack of modernization in the RC. Because of the need to integrate the RC to meet the demand of persistent conflict, the Army has adopted a new total force operating strategy that resources units based on their deployment window, regardless of component. The previous incremental "tiered" resourcing strategy, which resulted in the active and most RC units, who deployed later, being equipped last, and with the least modernized equipment. Additional funding gained through supplemental spending will fill shortages and modernize outdated equipment in the force and fund payback plans for diverted RC equipment. The Equipping Strategy is linked to the time-phased transformation of the Army into the modular force.

Question. Has the Army been able to meet the schedule for forming modular brigade combat teams? What have been the key challenges in terms of personnel and equipment?

Answer. Yes and we are on track to complete personnel growth by 2010 and modular brigade combat team (BCT) growth by the end of FY 2011. The most significant challenges to meeting this timeline are manning and equipping.

Our most significant personnel challenges are providing sufficient captains and majors in the logistics, military intelligence, and aviation specialties. Our equipping strategy minimizes risk to the current force and maintains momentum in equipment modernization. Our three most significant equipping challenges are battle command systems, trucks, and night vision devices.

GROW-THE-ARMY BRIGADES

Question. Currently, and over the next several years, the Army is adding end-strength and equipment in order to form six new infantry brigades.

When will the Grow-the-Army brigades be available for combat deployment?

Answer. The Grow the Army (GTA) brigade combat teams. (BCTs) will be available for deployment approximately one year after they activate. The Army will activate one additional BCT in each year from 2008–2010 and three BCTs in 2011. By the end of FY11, all GTA BCTs will be available for deployment.

Question. What is the status of manning, equipping and training the Grow-the-Army Brigades?

Answer. The Army is on track to complete personnel growth by 2010, BCT growth by 2011 and equipment growth for the BCTs by 2015. To monitor our progress in meeting these goals, the Army conducts a monthly Force Validation Committee process to synchronize resourcing functions for select units that will deploy or convert within a given window.

Question. Is the necessary equipment for the Grow-the-Army Brigades fully funded?

Answer. The Army's current program from 2008–2013 provides a total of $68.6 billion to include $17.0 billion in procurement to support the original Grow the Army 2012 brigade combat team (BCT) timeline. The Army has approved an accelerated Grow the Army timeline that will have all BCTs in the force by 2011, and will require an additional $2.6 billion in funding for personnel and training.

Question. Will all the new brigades be light infantry brigades?

Answer. The Grow the Army (GTA) initiative was based on increasing rotational depth and filling global operational demands as quickly as possible. The growth of six Active Component (AC) Infantry BCTs was the optimal way to accomplish the rapid growth with a structure suitable to meeting current operational demands in an era of persistent conflict. This decision is subject to review based on the results of Total Army Analysis and the Quadrennial Defense Review. This process will analyze existing requirements, current operational demand, and projected future demand to ensure we have the appropriate mix of Heavy, Infantry, and Stryker BCTs within the force and across the Active Component and Army National Guard.

EQUIPMENT ON HAND READINESS

Question. The Committee understands that equipment readiness is a function of both procuring equipment in the desired quantities, and maintaining that equipment in an acceptable operational status. Combat operations in Iraq and Afghanistan have resulted in high usage rates under very demanding environmental conditions, additionally, some equipment is damaged or destroyed as a result of direct combat.

What are the Army's most serious equipment shortfalls in terms of equipment on hand and equipment maintenance: in ground combat vehicles; support vehicles; in aviation; in communications?

Answer. The Army's most serious equipment shortfalls are in tactical wheeled vehicles. The current shortfalls are due to converting to the modular force, growing the Army, and requirements in Theater. The Army has no significant shortfall in ground combat vehicles. For aviation, the only significant shortage is the OH–58D Kiowa Warrior. This system is no longer being produced and will be replaced by the Armed Reconnaissance Helicopter beginning in fiscal year 2011. For communications, the Army's most significant shortage is in Warfighter Information Network-Tactical telecommunications hubs, as well as battlefield communications suites which provide long-haul communications and command and control. The Army is meeting all requirements for deployed forces and has an equipping strategy to eliminate these shortfalls over time.

Equipment maintenance funded by reset dollars has enabled deployed forces to maintain equipment readiness levels greater than 90% for ground equipment and greater than 75% for aviation equipment for the last five years.

RESET FUNDING

Question. For fiscal year 2008, the supplemental request that came up with the budget included for Reset $7.8 billion in Operation and Maintenance and $5.8 billion in procurement funding for a total of almost $14 billion. That budget request was updated in October. In December Congress provided a bridge fund to ensure continued support for our deployed forces and to avoid breaks in funding for key procurement programs supporting Reset.

What is your current estimate of the total Reset requirement for fiscal year 2008 for Operation and Maintenance and Procurement funds?

Answer. For fiscal year 2008, the Army's total revised reset requirement is $16.9 billion. This includes $7.8 billion in Operation and Maintenance and $9.1 billion in procurement funding. In the fall of 2007, the Army amended its initial request and increased the procurement request from $5.8 billion to $10.5 billion. This additional procurement funding was requested to replace battle losses, worn-out theater provided equipment, and replenish Army Pre-positioned Stocks (APS).

In the 2008 bridge funding, the Army received $10.7 billion. This included all of the $7.8 billion requested in Operation and Maintenance funding and only $2.9 billion in procurement funding. A procurement shortfall of $7.6 billion remained from the amended request. This was reduced to $6.2 billion through contracting effi-

ciencies, program termination, and fact of life changes. The remaining procurement dollars are required by May 26, 2008 to preclude delays in the reset and recapitalization of Abrams Tanks, Bradley Fighting Vehicles, and High Mobility Multipurpose Wheeled Vehicles (HMMWVs).

Question. What is your estimate of the Reset requirement for fiscal year 2009?

Answer. The Army's request for reset funding will be included in the fiscal year 2009 Supplemental request, which has not yet been released by The Office of the Secretary of Defense.

PREPOSITIONED EQUIPMENT SETS

Question. The Army drew upon prepositioned equipment sets to sustain initial combat operations in Iraq. Some equipment was repaired and replaced in prepositioned sets only to be dawn out again for the surge.

What is the readiness posture of Army prepositioned sets today?

Answer. The readiness posture of the Army Prepositioned Stocks (APS) available equipment sets for APS–4 are at 88%–95% of fill. The APS reconstitution plan will ensure all the other APS equipment sets will have a readiness posture of 95–100% of fill.

(1) APS–4 in Korea and Japan is available; it is comprised of a heavy brigade combat team (BCT) (95%) and a tailored sustainment brigade (88%). APS–4 will be completed by 4th Qtr FY08.

(2) APS–3 Afloat has a Port Opening Package capability in Guam at 90% of fill. This set consists of a temporary afloat set of 20 units (12 port openings and eight medical units/teams) loaded aboard the USNS Pomeroy. The full sustainment brigade set will be completed in FY11.

(3) APS–5 is issued and is planned for reconstitution when no longer required for ongoing operations in accordance with APS Strategy 2015.

Question. What is the time line to have all the prepositioned sets returned to their desired readiness?

Answer. The Army Prepositioned Stocks (APS) were used to support Operation Iraqi Freedom (OIF)/Operation Enduring Freedom (OEF) and to accelerate the build of the brigade combat teams (BCTs). The Army has developed an APS reconstitution timeline to support the approved APS Strategy 2015, the FY10–15 Program Objective Memorandum (based on equipment availability) and Army resource prioritization.

- Current Year:
  - APS–5: Infantry Brigade Combat Team
- Near Term:
  - APS–5: Heavy Brigade Combat Team #1
  - APS–3: Infantry Brigade Combat Team #1, Sustainment Brigade #1
  - APS–2: Heavy Brigade Combat Team
  - APS–5: Infantry Battalion
- Mid Term to 2014:
  - APS–3: Infantry Brigade Combat Team #2, Sustainment Brigade #2
  - APS–5: Fires Brigade, Sustainment Brigades #1 and #2

Question. Does the Army intend to add MRAP vehicles to pre-positioned equipment sets?

Answer. Mine Resistant Ambush Protected (MRAP) vehicles will be incorporated into APS–5 and APS–3 when no longer required for operational use (variant type TBD). MRAP availability will be based on the results of the U.S. Army Training and Doctrine Command's Tactical Wheeled Vehicle Strategy.

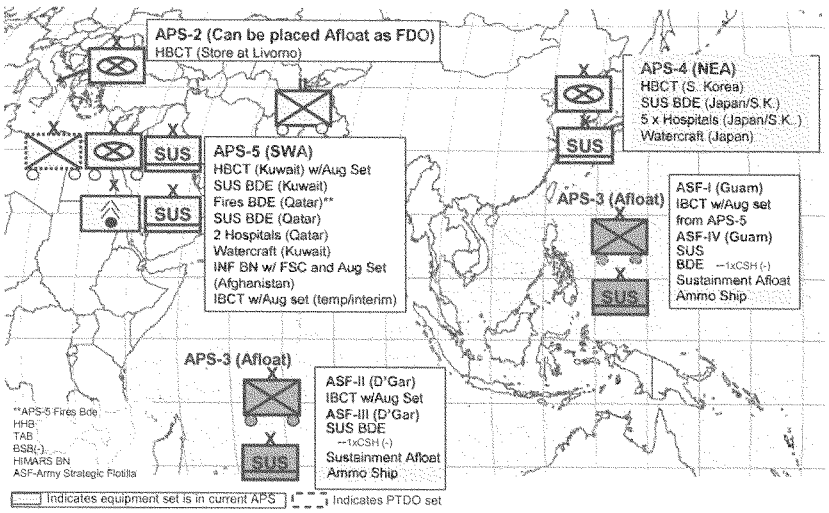
Question. Given the deployment capability of U.S. Forces and the uncertain nature of conventional and unconventional threats, are prepositioned sets a wise investment? Would it be a wiser course of action to take the equipment from the prepositioned sets and use it to outfit modular brigades and the new Grow-the-Army brigades?

Answer. Army Prepositioned Stocks (APS) is a strategic asset that has proven its value in every recent major contingency. APS provides the strategic responsiveness to deploy globally to any contingency operation. The Global War on Terrorism (GWOT) has demonstrated that the APS program is flexible, responsive, and critical to the Army's ability to deploy forces in support of the Combatant Commander requirements and adapt to changing strategic requirements. APS was used to support both OIF and OEF. Diverting the APS equipment to support the building of modular BCTs and Grow the Army effort limits the ability to rapidly reinforce forward units by air movement. Current operational plans and future planning scenarios include requirements that use APS sets. The Army complies with the National De-

fense Authorization Act (NDAA) 2007 to identify any APS sets utilized and the plans to reconstitute those APS sets annually.

Question. In November 2007, the Army announced a new Army Prepositioned Stocks Strategy 2015. Please outline the new strategy, and what are the funding requirements for fiscal year 2009?

Answer. Army Prepositioned Stocks (APS) Strategy 2015's equipment sets provide a balanced suite of global capabilities which will foster the Army's rapid deployment to both combat and Steady State Security Posture operations. The end-state for APS Strategy 2015, illustrated in the attached diagram, consists of five APS sets. APS–1 consists of Operational Project stocks to support both Homeland Defense and Combatant Commands. APS–2 consists of one heavy brigade combat team (HBCT) set to support European Command's, African Command's (AFRICOM), and Central Command's (CENTCOM) areas of responsibility (AORs). APS–3 consists of two Infantry BCT sets with Up-Armored HMMWV (UAH) and/or Mine Resistant Ambush Protected (MRAP) vehicle wheel augmentation sets, two sustainment brigade sets and two ammunition ships, which are multi-apportioned to support Pacific Command's, AFRICOM's, and CENTCOM's AORs. APS–4 consists of one HBCT, one sustainment brigade set, and Army watercraft to support Pacific Command's (PACOM) AOR. APS–5 consists of one HBCT set with UAH and/or MRAP wheel augmentation, one fires brigade set, two sustainment brigade sets, and Army watercraft stationed at the Kuwaiti Naval Base. APS–5 also includes an infantry battalion set with a forward support company, with UAH/or MRAP wheeled augmentation sets in Afghanistan to support CENTCOM's AOR.



Revised chart removed "rotational units" in APS-2 & 4, changed ASF-V to ASF-III, HBCT symbols have been updated.

To meet the timelines of the APS 2015 Strategy, the Army requested $318 million in Operations and Maintenance (OMA) and $102 million from the Army Working Capital Fund in the FY09 base budget for APS. We are only funded for the operations we need. All funding requests were adjusted to show issue of sets or current status of ship leases. The FY09 budget provides the following support:

- APS-1 – ($32 million), funds operations at Army Sustainment Command to manage APS and maintenance and storage of operational projects, inland petroleum distribution system, large area maintenance shelter, force provider, water support systems, and Bailey bridges at Sierra Army Depot.

• APS–2—($13 million), funds operations to maintain limited equipment and ammunition at Livorno, Italy and Medical Supplies at Pirmasens, Germany to include support to War Reserve Stocks for Allies—Israel.

• APS–3—($157 million), funds operations to maintain equipment for the port opening package and funds lease operations of one large, medium speed roll-on, roll-off (LMSR) for the port opening package, three LMSRs in reduced operating status–10, and two ammunition container ships. Also funds personnel to begin the reset of equipment and secondary items for APS upload that will occur in FY10. It does not pay for the two remaining LMSRs we downloaded and placed in reduced operating status—30.

• APS–4—($59 million), funds maintenance and operations to maintain the full unit sets and operational projects in Korea, Japan, and Hawaii. Operational projects will be filled using FY08 and FY09 Supplemental funds.

• APS–5—($57 million), funds reset of the prepare-to-deploy-order (PTDO) infantry BCT and planned reset of the heavy BCT. Funds the $12 million annual Oman access fee.

• War reserves secondary items—($102 million), funds the purchase of items with expiration dates (mostly medical) that need to be replaced in APS–4 and operational projects. Also funds the purchase of APS–2 authorized stockage level/primary load list/unit basic load stocks. Buys upgrades in medical sets currently on-hand in Korea.

With the continued support of the Congress, the Army will be able to return equipment to prepositioned stocks by 2015.

MINE RESISTANT AMBUSH PROTECTED (MRAP) VEHICLES

Question. As the threat from Improvised Explosive Devices and Explosively Formed Penetrators grew, the limit of how much armor could be applied to the HMMWV was reached. The DoD identified the MRAP-type trucks to provide greater force protection. The Army seemed skeptical at first about acquiring MRAPs in large numbers. General, what is the current Army acquisition objective for MRAPs?

Answer. The current Army acquisition objective for MRAPs is 10,000 systems (based on the September 2007 interim requirement). A new interim requirement for 12,000 MRAPs is currently in staffing. The final requirement is dependent on many factors, including future actions taken by the enemy.

Question. When do you expect to reach your acquisition goal?

Answer. The current plan is to procure the 10,000 systems by October 2008 and field them by December 2008. If a new interim requirement of 12,000 is adopted, it is anticipated that these systems could be produced by February 2009 and fielded by April 2009.

Question. What is the proper mix of HMMWVs and MRAPS?

Answer. A mix of approximately two-thirds MRAPs to one-third Up-Armored HMMWVs per brigade appears about right. However, it is premature to tell which variant of MRAP is superior or to provide definitive feedback on performance, final numbers, and/or category mixes.

Question. Is the Army MRAP requirement fully funded?

Answer. The Army has been funded for 10,000 systems. The Joint Program Office is adequately funded to procure 12,000 systems for the Army.

Question. What are your plans for the MRAP vehicles once the war in Iraq is over?

Answer. The U.S. Army Training and Doctrine Command is conducting tactical wheeled vehicle analyses that include: (1) mission roles and profiles; and (2) threats and capabilities of the various fleets including the MRAP, Joint Light Tactical Vehicle, and HMMWV. The initial results of those analyses will influence programmed objective memorandum decisions; the Force Mix Brief to Congress; and the Combat and Tactical Wheeled Vehicle Strategy due to the Deputy Secretary of Defense in July 2008. The Army's Tactical Wheeled Vehicle strategy is an ongoing effort to ensure our Soldiers receive the best capabilities available in ground wheeled vehicles to meet current and emerging threats.

CONTRACTORS AND READINESS

Question. The Department of Defense has made a major effort to outsource support functions in order to allow soldiers to remain focused on core military skills and duties. The proliferation of contractors performing support functions ranges from the dining facility to aircraft maintenance. Contractors are working side-by-side with military forces at home station and in the combat theaters.

How important are contractor services to military readiness at home station, and at forward deployed locations?

Answer. Contractor services are an essential part of military readiness. In 1955, the Executive Branch determined that the government should not compete with its citizens. Therefore, federal agencies generally obtain commercial services from the public sector. After the Vietnam War, the Department of Defense's force structure was drastically reduced and after becoming an All Volunteer force in 1973, the Army increased the number of support contractors. The Department of the Army focused on rebuilding its military war fighting core functions and relied more on contractors to provide administrative, logistics, and other support functions.

In the early 1990s, the Army reduced military and civilian personnel to take advantage of the peace dividend with the end of the Cold War. These personnel cuts significantly reduced the number of government civilians and Soldiers performing operational, administrative, and logistics support functions for the Army. As a result, these functions were obtained via contracts which enabled the Army to reduce the number of officers and enlisted personnel performing administrative functions. Today, Army operations require a mix of military, civilian, and contractor personnel to deliver global logistical support and capabilities to meet the needs of our war fighters both at home station and forward deployed.

Question. What is the commander's role in defining contractor duties; in supervising contractors; and in disciplining contractors?

Answer. Primary oversight of contractor performance and conduct falls to the cognizant contracting officer, and is generally dictated by the terms of the government contract.

Contract employees are required to comply with all guidance, instructions, and general orders issued by the Theater Commander, as incorporated by the government's contract, including those relating to force protection security, health, safety, or relations and interaction with local nationals.

Commanders may refer contractor criminal misconduct to DoD/Department of Justice under the Military Extraterritorial Jurisdiction Act (MEJA), and if jurisdiction is declined, may then consider the exercise of jurisdiction under Article 2, Uniform Code of Military Justice (UCMJ) in coordination with DoD.

Question. Training scenarios at the National Training Center and at other locations include role players who represent the Iraqi population. Do Army training scenarios include role players for contractors, such as contractor security personnel?

Answer. Army maneuver Combat Training Centers (CTCs) primarily use personnel assigned to their opposing force cadre to replicate the various contractors in theater, including private security contractors. In many instances the centers use Arabic-speaking personnel to role-play contractors working on US Field Operating Bases, since US forces in theater are in day-to-day contact with Arabic contractors. Army maneuver CTCs are working to integrate scenarios, which include actual personnel from contracted companies.

Every Army maneuver CTC also challenges deploying forces to work through Rules of Engagement and Escalation of Force scenarios that involve private security contractors in Situational Training Exercises or scripted situations during their Mission Rehearsal Exercise. Training of unit contracting officials at CTCs occurs, but is limited due to constrained resources (time, expertise and dollars) that are focused on other mission-essential training tasks and capabilities.

At maneuver CTCs, unit officials are trained on the basics of the contracting process from start to finish, and specifically on how to manage Commander Emergency Relief Program contracts to completion in coordination with role players for "local contractors," Provincial Reconstruction Team members, and representatives of the US Agency for International Development. With the Battle Command Training Program, division and corps staff officers discuss best contracting practices with actual subject matter expert from theatre. Additionally, a Joint Personnel Recovery Activity workshop is given, which discusses the accounting and recovery of contractors on the battlefield.

RECRUITING AND RETENTION

Question. A key principle of the U.S. Armed Forces is to attract and retain competent personal to assure readiness and operational effectiveness. While the services have generally met their aggregate recruiting and retention goals, the GAO reports that the Army has experienced shortages in mission-critical occupational specialties such as health care, human intelligence collection, and explosive ordnance disposal. There is growing concern within the department as to how the Army can meet current operational demands with what appear to be chronic shortages in these occupational specialties. In addition, there is growing concern that recruitment standards have been relaxed to meet numbers.

Please describe the standards by which candidates are measured.

Do you expect these standards to be relaxed further to achieve the aggressive recruitment goals?

Answer. The Army adjusted to the DoD standards in August 2005, in line with the rest of the services, of 60% Test Score Category (TSC) I-IIIA and 4% TSC IV. Previously, Army had an internal goal of at least 67% TSC I-IIIA, and no more than 2% TSC IV. The Armed Forces Qualification Score (AFQT) average score has ranged between 56.5% and 57% since FY04, so adjusting to DoD standards has not affected the quality of the force.

Applicants are measured based on the percentile in which they score on the AFQT. TSC I-IIIA includes those applicants who score in the top half (50th percentile or higher). TSC IIIB includes those who score between the 31st and 49th percentile. TSC IV includes those who score between the 10th and the 30th percentile, of which the Army typically only enlists those in the 21st percentile or higher. The lowest category is TSC V (9th percentile or lower). By law, the military does not enlist TSC V applicants.

The recruiting environment remains challenging and the Army remains focused on recruiting a quality force in line with DoD quality mark standards.

Question. Recruiting and retention goals are often relayed to Congress in the aggregate, providing little or no visibility into how each occupational specialty is staffed. Will you provide the Committee with details on recruiting and retention by MOS?

Answer. The Army monitors the strength of each MOS carefully to ensure each required skill is properly manned and maintained. Due to several factors, including high entrance standards, high volume requirements, and undesirable duties, recruiting and retention is more difficult for some MOSs. To compensate, the Army uses priorities and incentives, both monetary and non-monetary, to shape the recruiting and retention efforts by MOS.

The active Army is meeting its year-to-date goals for overall recruiting and is generally doing well at the MOS level. However, there are a few MOSs that are below their targets, including: Patriot Fire Control Operator/Maintainer (81%), Microwave System Operator (49%), Military Intelligence Systems Maintainer (74%), and Psychological Operations Specialist (76%). As the year progresses, the recruiting force places special emphasis on these MOSs to ensure that each critical skill is manned to the required levels. One way the Army does this is through the quarterly Multi-component Enlisted Incentives Review Board, which aligns incentives and priorities with the needs of each MOS. For example, Microwave System Operator now receives the highest enlistment bonus available to assist in achieving its annual target.

As the Army continues to transform and grow, the Army Retention Program will continue to adjust, encouraging the right Soldiers with the right skills to reenlist to meet the manning requirements of a growing Army. In a time of war and sustained operational demand, retention is a significant indicator of the quality of our leaders and the commitment of our Soldiers. Currently, the Army is meeting or exceeding its objectives in each category (initials, mid-careerist and careerists). Through targeted reenlistment incentives, the Army is addressing specialties that are currently short due to rapid growth and transformation. The incentives for each specialty are adjusted semi-annually using the Selective Reenlistment Bonus Review Board. Shortages in critical skills such as Explosive Ordnance Disposal (EOD) Specialist, Human Intelligence Collector, Motor Transport Operator and some others are continually targeted for some of our most robust incentives.

DWELL TIME

Question. One essential element in maintaining troop morale during wartime is to provide some guarantees that there will be time to rest between deployments to combat zones. This rest is officially called 'dwell time'. At one point dwell time for the U.S. Army was a ratio of 1:2, 12 months in combat, 24 months at home. Due to the Global War on Terrorism (GWOT) Army dwell time has evolved to a 1:1 ratio. However, on April 11, 2007, Secretary Gates announced a new policy that active Army units now in the Central Command area of responsibility and those headed there will deploy for not more than 15 months and will return home to home stations for not less than 12 months.

Gentleman, there have been numerous articles regarding DoD consistently cutting 'dwell time' for our combat units, do you expect that 'dwell-time' standards will be further relaxed or changed?

Answer. The Secretary of Defense's current policy is that Soldiers will receive a minimum of 12 months dwell in between deployments. The Army hopes to gradually increase dwell time beyond 12 months.

Question. Gentleman, the Army dwell time ratio at one point was 1:2, then 1:1, and now it's 15 months in theater and 12 months off, the Marines' dwell time is seven months in theater and seven months off. Has there been any evaluation as to whose system is better?

Answer. As I understand the Marine Corps force deployment model, it is very similar to ours. Both the Army and the Marine Corps are rotating their combat forces at slightly less than a 1:1 deployment to dwell ratio. Army combat units currently spend up to 15 months overseas, with at least 12 months to reset and prepare. In other words, Soldiers are deployed 15 months out of 27 months. Marines deploy for seven month rotations with only six months back or, for two cycles, 14 months for seven month rotations with only six months back or, for two cycles, 14 months deployed out of 26 months.

Question. It is our understanding that during dwell time, in addition to resting and spending time with family, soldiers are also supposed to go through training. However, with dwell being cut short, what steps are in place to make sure our soldiers receive the proper training?

Answer. Before deploying, unit commanders in all Army components (Active, Reserve, and Guard) are required to prepare their unit for the tasks essential to successful accomplishment of the unit's directed mission. Additionally, unit commanders ensure personnel have accomplished pre-deployment training required by the gaining combatant commander, as specified in training guidance of the appropriate Army Command that is providing forces to the gaining combatant commander. When necessary, deployment is delayed until these requirements are met.

To assist unit leaders in accomplishing training required of their directed mission, the Army provides a mission rehearsal exercise to all deploying brigade combat teams at Army maneuver combat training centers or, by exception, at their home station. These exercises require unit personnel to perform mission essential tasks in realistic situations, under conditions approximating the operating environment of their directed mission, against an unpredictable opposing force, under the watchful eye of subject matter experts. A similar computer-driven mission readiness exercise is provided to deploy headquarters by the Army's Battle Command Training Program.

Question. Is the training that the soldiers are receiving limited to the Global War on Terrorism (GWOT)?

Answer. Currently, dwell time is insufficient to allow most Army units redeploying to Operation Enduring Freedom and Operation Iraqi Freedom to train on any operational theme other than their directed mission. Units exclusively prepare to conduct offensive, defensive and stability in an irregular war, or counterinsurgency, campaign for the operational environment they will encounter in the Central Command area of operations.

As dwell time increases, units will be able to devote increasing amounts of training time to the core tasks they were designed to perform in major combat operations as well as irregular warfare. This strategy increases our readiness for unforeseen contingencies.

Question. How much did last year's "surge" effect 'dwell time' for soldiers?

Answer. Deployment lengths and dwell times are a function of available supply and global combatant commander demands. The CENTCOM commander demands over half the available brigade combat teams (BCTs) in the Army's inventory. To enable the combatant commands, in particular the warfighting commanders in OIF, to employ necessary combat and enabling capabilities, the Army took an additional force management risk during 2007 and 2008. Any reduction in surge forces levels will allow a return to more sustainable deployment lengths. We continue to examine ways to reduce that further. The Army's short-term goal is to give active component Soldiers at least the same amount of time home as they are deployed (1:1 ratio) and to have reserve component forces mobilized for 12 months every four years (1:4 ratio). The Army's long-term sustainable goal is to allow active component units and Soldiers three times the amount of time home as they are deployed (1:3 ratio), or 27 months home for every nine months deployed. The Army's long-term goal for the reserve component is 12 months mobilized for every five years not mobilized (1:5 ratio). The recent approval of the Army's accelerated Grow the Army plan is designed to more rapidly improve the deployment to dwell ratio for units. Army initiatives could bring the Army back into balance beginning in 2011.

Question. Gentlemen, when dwell time is cut short what is done to help the families of deployed soldiers?

Answer. The Army is committed to a deliberate reset of our people following each deployment. During periods of dwell time, Soldiers and Families face a number of demands that compete for their time. The Deployment Cycle Support (DCS) program provides a roadmap for commanders, units, and installations before, during

and after deployments. The DCS directive applies to both Active and Reserve Component Soldiers and Families. Execution of the directive's checklist ensures that critical redeployment and pre-deployment tasks are completed and that Soldiers and Families are provided support resources when issues are identified.

The Army provides a host of support services to Families during dwell time. Military Family Life consultants provide reunion and reintegration support to Soldiers and their Families to reduce deployment stress. New Parent Support Program home visitors perform visits to support the needs and training of parents with children aged three and younger, and to identify Families at risk and reduce incidents of child neglect or abuse. The Family Advocacy program provides education and prevention services that help Families cope with challenges before, during, and after deployment. Other programs include Virtual Family Readiness Groups, Employment Readiness Program, Army Integrated Family Support Network, and Army Family Team Building Training Program.

Child and Youth Services programs assist Families by providing extended hours, around-the-clock, and hourly child care; respite/reintegration care; reduced program fees for deployed parents; outreach and support services; and communication with deployed parents. Operation Military Child Care and Operation Military Kids support geographically dispersed Families by helping Soldiers locate Army-sponsored, community-based child care at reduced rates and providing outreach services, such as tutoring, skills classes, transportation, support groups, mobile technology labs, camps, etc.

GROWTH IN CONTRACTOR PROVIDED SERVICES

Question. The Army's obligations on service contracts rose from $3.8 billion in fiscal year 1997 to $22.9 billion in fiscal year 2007 (per 2009 President's Budget). This is a growth of $19.1 billion, or 500% over 10 years (inflation accounted for 17% of this growth).

Over the same period, the Army's obligations for civilian pay rose $2.4 billion, or 51% (pay raise accounted for 30% of this growth). Who in the Army has oversight for "contract services"?

Answer. The oversight of services acquisition is the shared responsibility of requiring activities, contracting activities, and the Assistant Secretary of the Army (Acquisition, Logistics and Technology) (ASA (ALT)).

The ASA (ALT) retains responsibility over the acquisition of services and has delegated authority to review and approve service acquisitions with a total planned value of $500 million or more to the Deputy Assistant Secretary of the Army (Policy & Procurement) (DASA P&P). Prior to approving any acquisition of services with a total planned value of $1 billion or more, the Under Secretary of Defense (Acquisition, Technology & Logistics) must be notified.

Acquisition of services with a total planned value of $500 are reviewed by the Army Service Strategy Panel, chaired by the DASA P&P. Since April 2003, 28 Army service acquisitions valued at above $500 million have been reviewed under these procedures. These acquisitions represent a total estimated value of over $249 billion.

Contracting Officer's Representatives (CORs) provide the day-to-day oversight of the contractor's performance. CORs help ensure the government obtains quality services, on time, and at the level and prices specified in the contract.

As of February 23, 2006, the Secretary of the Army requires Headquarters, Department of the Army principals and senior commanders at Army Command, Army Service Component Commands, and Direct Reporting Units to be responsible for the approval for requirements for contracted services. The Assistant Secretary of the Army (Manpower and Reserve Affairs) reports these requirements directly to the Secretary of the Army.

Question. How are Army commanders at the various levels of command trained to manage contracting out for services?

Answer. The Army has a wide range of schools that its officers attend throughout their career and before they enter into command positions.

- Command & General Staff School, Command & General Staff College
- School for Command Preparation, Command & General Staff College
- Garrison Precommand Course, Army Management Staff College
- General Officer Senior Command Course, Army Management Staff College

The Command & General Staff School provides a core course entitled F–106, Military Contracting and Ethics. This course covers why and how the Army uses contracting to effectively support military operations; considerations and effective planning for contracting support; types of contracts—what and how they provide support to include their capabilities and limitations, authorities and responsibilities for identifying requirements, drafting statements of work, and overseeing contractor per-

formance; role of the contracting officer's representative; and obligations and restrictions concerning oversight of contractor personnel.

In addition, exercise training venues, such as the Combat Training Centers, are incorporating realistic contracting training scenarios into operational training.

Question. How does the work that contractors perform differ from the work that civilian employees perform?

Answer. The Army uses the manpower mix criteria in Department of Defense Instruction 1100.22 to determine what functions are military essential, inherently governmental, exempt from private-sector performance, or available for contractor performance. In general terms, contractors perform commercially available functions and government civilians perform inherently governmental functions. The area in between, functions exempt from private-sector performance, is a less distinct area. An example of a function exempt from private-sector performance is the "contracting" function. Managers and leaders need to be able to exempt the "contracting" function from private-sector performance even though it is commercially available. When performed as a "contract specialist" this function is commercial but closely related to inherently governmental functions. At the same time the government needs to have a career path to more senior levels where this function performs inherently governmental duties as a "contracting officer". In order to develop government "contracting officers" we must have government "contract specialists".

MENTAL HEALTH ADVISORY TEAM (MHAT)

Question. The U.S. Army Surgeon General chartered the Operation Iraqi Freedom (OIF) Mental Health Advisory Team (MHAT) in July 2003. Its mission was to assess OIF-related mental health issues and to provide recommendations to OIF medical and line commands. MHAT–V was also deployed to Afghanistan for the first time. The MHAT conducted group interviews and surveys of soldiers. Many of the soldiers who participated had been engaged in combat. This was the fifth assessment of soldiers via surveys in OIF and first time for OEF soldiers in this manner regarding behavioral issues during active combat. On May 6, 2008, DoD released the fifth MHAT study since 2003. MHAT–V was conducted in August and October of 2007 and assessed more than 2,279 soldiers and for the first time 889 soldiers from Afghanistan. Units were specifically targeted for this survey because they experienced the highest level of combat exposure.

Gentlemen, according to the Mental Health Advisory Team report, soldiers who deployed longer (greater than six months) or had deployed multiple times were more likely to screen positive for a mental health issue. What steps are taken to assure that these soldiers get the proper attention?

Answer. The Walter Reed Army Institute of Research continues behavioral health research prevalence and intervention studies aimed at reducing mental health problems of Soldiers across the deployment cycle (e.g., Battlemind psychological debriefing, and expressive writing). Operationally, the Task Force 62 Medical Brigade conducts continuous and ongoing prevention activities throughout the deployment cycle in Theater. Depending on OPTEMPO and identified need, Combat Stress Control units will deliver customize services to units based on assessed needs and requests by the unit commander.

MHAT–V Soldier Survey data further underscores the importance of the 6–12 month in-Theater timeframe for when Soldiers are most susceptible to behavioral health problems. Task Force 62 Behavioral Health personnel are focusing outreach for units that have been in-Theater more than 6 months.

Finally, Army Leadership has mandated that all Soldiers receive post-deployment Battlemind training upon return from operational deployment.

Question. The 2007 adjusted rate of suicides per 100,000 soldiers was 17.3 soldiers, lower than the 19.9 rate reported in 2005, however higher than the Army average of 11.6 per 100,000 soldiers. Does the Army have proper resources to provide counseling to soldiers? When soldiers need counseling who provides this counseling?

Answer. Yes, the Army has proper resources to provide counseling to the deployed force. When required, counseling is provided by forward deployed behavioral health providers. There are approximately 200 mental health providers and technicians (150 Army and 50 Air Force) deployed in support of Operation Iraqi Freedom; and approximately 30 mental health providers and technicians (7 Army, 21 Air Force, and 2 Navy) deployed in support of Operation Enduring Freedom.

In a typical month, over 1,800 new service members are seen in behavioral health clinics, and over 3,000 command consultations are conducted regarding the morale and mental health of the fighting force. On average, over 5,000 behavioral health appointments occur per month. There are four restoration centers that provide 3–5 day inpatient treatment programs, with a "return to duty" rate of 93%. The cor-

ollary outpatient "return to duty" rate is 99%. Less than one-half percent of the fighting force is evacuated annually for psychiatric reasons.

Question. The Mental Health Advisory Team found that both soldiers and Marines reported at relatively high rates—62 and 66 percent, respectively—that they knew someone seriously injured or killed, or that a member of their unit had become a casualty. What mental health assistance is available to our soldiers who are still in combat?

Answer. There are approximately 200 mental health providers and technicians (150 Army and 50 Air Force) deployed in support of Operation Iraqi Freedom (OIF); and approximately 30 mental health providers and technicians (7 Army, 21 Air Force and 2 Navy) supporting Operation Enduring Freedom (OEF). Each brigade combat team (BCT) has a behavioral health section assigned directly to them, also known as organic assets, and operates in the BCT area of responsibility. In addition, OIF has the equivalent of four deployed combat and operational stress control (COSC) detachments conducting area-wide behavioral health and COSC services. OEF has organic BCT behavioral health assets and the equivalent of one COSC detachment.

Both organic behavioral health assets (division) and echelons above division (Task Force 62 Medical Brigade) provide services to units and Soldiers after critical incidents such as firefights and improvised explosive device attacks. Also, chaplains are indispensable parts of the team taking care of Soldiers after combat losses.

Question. According to the Mental Health Advisory Team, approximately 10 percent of soldiers reported mistreating non-combatants or damaging their property when it was not necessary and less than half of soldiers would report a member of their unit for unethical behavior. Is there any concern that with lower standards these incidents could become worse?

Answer. No, there is minimal concern that these incidents will become worse. MHAT V found that unethical behaviors did not change significantly relative to 2006. Battlefield ethics issues have been incorporated into the AMEDD combat and operational stress control (COSC) and into the Battlemind psychological debriefing program developed by Walter Reed Army Institute of Research. In addition, Army generated a new COSC concept, known as "remind" that addresses threat of dangerousness to others and the risk of unlawful behaviors. This concept is being fielded actively through behavioral health channels and will be published in existing COSC doctrine.

Question. Please explain what the Army has done to address the Mental Health Advisory Team findings? Can you provide a list to the committee regarding what recommendations were followed and which recommendations were not?

Answer. MHAT V reviewed all MHAT findings and reported the results for each. The review is included in the MHAT V report dated February 14, 2008. The review addresses a total of 46 recommendations including four redeployment recommendations, 19 deployment recommendations, four post-deployment recommendations, and 19 sustainment recommendations. A complete list of recommendations with the status of each is enclosed.

1. STATUS OF MHAT IV RECOMMENDATIONS

Note that some recommendations may appear in more than one phase of the deployment cycle.

1.1 Pre-Deployment

1. Mandate all Soldiers and Marines attend small-group PRE-deployment Battlemind Training. (FORSCOM/HQMC).

Status: Green—The Director of the Army Staff has mandated all Soldiers receive pre-deployment Battlemind Training prior to deploying.

2. Develop Battlefield ethics training based on the "Soldiers' Rules," using OIF-based scenarios so Soldiers and Marines know exactly what behaviors are acceptable on the battlefield and the exact procedures for reporting violations. (TRADOC/TECOM)

Status: Amber—The US Army Training and Doctrine Command and the Army Judge Advocate General are currently revising their training.

3. Ensure all behavioral health personnel and chaplains (regardless of service) are proficient in Combat Stress Doctrine by mandating that they complete the AMEDD Combat and Operational Stress Control Course prior to deploying to the OIF theater. This training should be required for CSC/OSCAR teams and division/brigade personnel. *(Lead: OTSG & AMEDD/OPNAV 093 & BUMED)*

Status: Amber—MHAT V Behavioral Health Provider data showed that many more BH personnel are attending the course. However, there is no formal mandate; it is strongly recommended as best practices training for Active Duty Army, the Reserve Component, sister Services, and Chaplains. Due to the increasing degree in which BH is multi-service in the ITO, it is imperative that BH personnel are familiar with a common training platform.

4. Revise and field suicide awareness and prevention training so that it focuses on specific actions Soldiers/Marines (self-aid and buddy aid) and leaders can take in helping fellow unit members. Use real-world examples from a combat environment. *(Lead Army G-1/BUPERS)*

Status: Amber – The US Army Medical Department Center and School in conjunction with the Army G1 and the US Army Training and Doctrine Command are currently revising the Suicide Prevention Program and buddy and leader training.

1.2 Deployment

5. Re-evaluate the in-theater R&R policy to ensure that Soldiers (and Marines) who work primarily outside the basecamps/FOBs receive in-theater R&R, to include reducing the actual travel time to and from the R&R site. (MNF-I J-3 & J-1)

Status: Red—No specific action taken. The MHAT V Soldier Survey data indicate that that twice as many Soldiers are taking in-theater R & R than last year.

6. Develop standardized procedures for conducting Battlemind Psychological Debriefings to replace Critical Event Debriefings and Critical Incident Stress Debriefings following deaths, serious injuries and other significant events. (MNF-I Surgeon & MRMC/OPNAV & NMRC)

Status: Green—The Walter Reed Army Institute of Research (WRAIR) has developed Battlemind Psychological Debriefing standardized training that is being taught at the COSC Course and is being used by BH personnel in the ITO.

7. Develop interventions to reduce the impact of combat and deployment length on the mental health and well-being of Soldiers/Marines. (MNF-I Surgeon & MRMC/OPNAV & NMRC)

Status: Green—WRAIR continues behavioral health research prevalence and intervention studies aimed at reducing mental health problems of Soldiers across the deployment cycle (e.g., Battlemind Psychological Debriefing, Expressive Writing). Operationally, Task Force 62 (MED BDE) Behavioral Health personnel are focusing outreach on units that have been in-theater more than six months. MHAT V Soldier Survey data further underscores the importance of the 6-12 month timeframe for when Soldiers are most susceptible to behavioral health problems.

8. Standardize basecamp and FOB rules to eliminate those rules that don't pertain to combat readiness, avoiding the establishment of garrison-like standards. (MNF-I CSM)

Status: Red—No action taken. MHAT V Soldier focus groups cited that this was still a frustration of many Soldiers.

9. Provide far-forward behavioral health care outreach at the location of the Transition Team. (3rd MEDCOM/CSC Teams)

Status: Amber—TF 62 (MED BDE) BH personnel are providing care to transition teams. Focus group interviews with transition teams confirmed that this is occurring. This is partly influenced by the fact that a number of transition teams live on FOBs and "convoy/commute" to their transition team duties. Logistically, it remains a challenge and one that needs to be paid attention to when medical assets RIP-TOA.

10. Establish a scope of practice policy for all CSC personnel and monitor for compliance, delineating the levels of prevention, treatment and intervention activities for each specialty. *(Lead: AMEDD C&S/Naval Medical Education and Training Command)*

Status: Red—No action taken

11. Ensure at least one behavioral health (BH) person (officer or enlisted) per 1,000 service members. Increase BH support to MND-W to meet the "Golden Rule" for BH staffing. *(Lead: 3rd MEDCOM; MNF-I Surgeon)*

Status: Amber—Overall, the ITO BH staffing ratio is 1:734. MND-W has tri-service BH support. When multi-service BH personnel are taken into account, the current staffing ratio for Army & Navy BH personnel to Soldiers/Marines in MND-W is 1:1,426. It should be pointed out that the ratio may be lower; Air Force data on BH personnel placement in MND-W were not available.

12. Focus behavioral health outreach on units that have been in theater longer than six months. *(Lead: 3rd MEDCOM; MNF-I Surgeon)*

Status: Green—Task Force 62 (MED BDE) Behavioral Health personnel are focusing outreach on units that have been in-theater more than six months. MHAT V Soldier Survey data further underscores the importance of the 6-12 month timeframe for when Soldiers are most susceptible to behavioral health problems.

13. Develop and execute a behavioral health care outreach plan to ensure all transition team members receive care. Consider dedicating BH assets that provide BH support at the transition team's location. *(Lead: 3rd MEDCOM; MNF-I Surgeon)*

Status: Amber—TF 62 (MED BDE) BH personnel are providing care to transition teams. Focus group interviews with transition teams confirmed that this is occurring. This is partly influenced by the fact that a number of transition teams live on FOBs and "convoy/commute" to their transition team duties, making it easier to provide care. Logistical challenges remain in conducting outreach at transition team locations but are being reviewed for action.

14. Immediate: Mandate all CSC and Division/Brigade BH personnel complete COSC-WAR reports. *(Lead: MNF-I Surgeon)* Long-term: Develop a joint theater-wide mental health and suicide surveillance system for Soldiers, Marines, Sailors, and Airman (possibly include DoD civilians). *(DoD)*

Status: Amber—TF 62 (MED BDE) and one of the regions' organic mental health assets have been using COSC-WARS. An MNC-I level FRAGO has been issued to mandate all mental health assets in the ITO report workload data via COSC-WARS. A joint theater-wide suicide surveillance system is currently being explored with subject matter experts in CONUS and the ITO.

15. Implement an in-theater BH Chart Review process. *(Lead: 3rd MEDCOM; MNF-I Surgeon)*

Status: Green—TF 62 (MED BDE) has a BH Chart Review process in place. A FRAGO has been published for disposition closed paper mental health charts in an effort to make the information available to redeployed Service Members.

16. Conduct periodic in-theater training seminars (bi-annual) to ensure BH best practices and to identify/discuss solutions to emerging BH issues. Include 68Xs in these training seminars. *(Lead: 3rd MEDCOM)*

Status: Green—MND-C BH hosted an ITO BH conference with continuing education credits offered in September 2007 with 70 attendees. The Theater Mental Health Consultant will ensure conferences continue.

17. Execute a BH Command Inspection Program. *(Lead: 3rd MEDCOM; MNF-I Surgeon)*

Status: Green—TF 62 (MED BDE) has an Active BH Inspection Program.

18. Share Soldier/Marine mental health information with commanders in the same manner and detail as information about a wounded Soldier/Marine is shared. Provide a medical profile detailing the extent of the mental health injury, prognosis, and any restrictions/limitations on what the Soldier/Marine can and cannot do. (MEDCOM/OPNAV 093)

Status: Green—An important aspect within the job description of a military mental health provider is the ability to balance patient privacy with the needs of the military mission. Mental health providers within the ITO are well aware of this issue and provide Commanders with "need to know" information regarding Service Members treatment plans and duty limitations. The "dual agency" issue was discussed at the September 2007 MND-C Mental Health Conference.

19. Target BH support for Soldiers/Marines with relationship concerns following mid-tour leave and prior to re-deploying home. (CSC/Brigade Mental Health)

Status: Amber—These issues were mentioned often by BH personnel and Soldiers during MHAT V. It is unclear if there is any formal targeted support other than best practices.

20. Sustain the MNF-I Suicide Prevention Committee, chaired by the senior theater medical officer. *(Lead: MNF-I Surgeon)*

Status: Green—The MNF-I Suicide Prevention Committee continues. In addition, there is now an MNC-I level committee which includes senior regional leadership.

21. Expand the MNF-I Suicide Prevention Committee to include operational commanders and senior NCOs. *(Lead: MNF-I Surgeon)*

Status: Green—The MNC-I includes operational command staff.

22. Establish an in-theater review process of all ASERs before submitting to SRMSO to ensure that an ASER is required, and that the ASER is accurate. *(Lead: 3rd MEDCOM; MNF-I Surgeon)*

Status: Green—Completed. An October 2007 FRAGO stipulated that the theater mental health consultant is copy furnished each ASER.

23. Establish a joint tracking system for the deployed environment to monitor suicides, mental health evacuations and the use of mental health/CSC services. *(Lead: DoD)*

Status: Amber—Being addressed by HQDA Suicide Assessment Team.

1.3 Post Deployment/Reconstitution

24. Mandate all Soldiers and Marines receive small group POST-deployment Battlemind Training. (FORSCOM/HQMC)

Status: Green—The Director of the Army Staff has mandated that all Soldiers receive Post-deployment Battlemind Training upon return from operational deployment.

25. Develop interventions to reduce the impact of combat and deployment length on the mental health and well-being of Soldiers/Marines. (MNF-I Surgeon & MRMC/OPNAV & NMRC)

Status: Green—WRAIR continues behavioral health research prevalence and intervention studies aimed at reducing mental health problems of Soldiers across the deployment cycle (e.g., Battlemind Psychological Debriefing, Expressive Writing). Operationally, Task Force 62 (MED BDE) Behavioral Health personnel are focusing outreach on units that have been in-theater more than six months. MHAT V Soldier Survey data further underscores the importance of the 6-12 month timeframe for when Soldiers are most susceptible to behavioral health problems.

26. Publish a policy that ensures Soldiers/Marines are able to access mental health care during the duty day. (DoD)

Status: Amber—Medical and operational Leadership are aggressively addressing the issue of mental health stigma and barriers to care. No formal policy has yet been published.

27. Share Soldier/Marine mental health information with commanders in the same manner and detail as information about a wounded Soldier/Marine is shared. Provide a medical profile detailing the extent of the mental health injury, prognosis, and any restrictions/limitations on what the Soldier/Marine can and cannot do. (MEDCOM/OPNAV 093)

Status: Green—An important aspect within the job description of a military mental health provider is the ability to balance patient privacy with the needs of the military mission. Mental health providers within the ITO are well aware of this issue and provide Commanders with "need to know" information regarding Service Members treatment plans and duty limitations. The "dual agency" issue was discussed at the September 2007 MND-C Mental Health Conference.

1.4 Sustainment

28. Educate and train junior NCOs and officers in the important role they play in maintaining Soldier/Marine mental health and well-being by including behavioral health awareness training in ALL junior leader development courses, beginning with the Warrior Leader Course (WLC) and the Officer Basic Course (OBC). (TRADOC/TECOM)

Status: Green—TRADOC, AMEDDC&S, and WRAIR are developing new junior leader training.

29. Revise the combat experiences scale to include "sniper attacks." (WRAIR/Future MHATs)

Status: Green—Complete; assessed in MHAT V

30. Extend the interval between deployments to 18-36 months or decrease deployment length to allow additional time for Soldiers to re-set following a one-year combat tour. (HQ DA/HQMC) Assess the optimal time for Soldiers/Marines to "reset" their mental health and well-being. (HQ DA/HQMC & MEDCOM/MRMC)

Status: Red—no action taken

31. Publish a policy that ensures Soldiers/Marines are able to access mental health care during the duty day. (DoD)

Status: Amber—Medical and operational Leadership are aggressively addressing the issue of mental health stigma and barriers to care. No formal policy has yet been published.

32. Incorporate battlefield ethics in all behavioral health counseling. (MEDCOM & OPNAV 093)

Status: Green—Battlefield ethics issues have been incorporated into the AMEDD COSC and into the Battlemind Psychological Debriefing program developed by WRAIR.

33. Include battlefield ethics in all anger management classes, especially training. (MEDCOM & OPNAV 093)

Status: Green— Battlefield ethics issues have been incorporated into the AMEDD COSC Course.

34. Establish a scope of practice policy for all CSC personnel and monitor for compliance, delineating the levels of prevention, treatment and intervention activities for each specialty. *(Lead: AMEDD C&S/Naval Medical Education and Training Command)*

Status: Red—no action taken

35. Revise the Unit Mental Health Needs Assessment to provide specific actions for behavioral health personnel to take based on the unit needs assessment to improve the mental health of the unit. *(Lead: MRMC)*

Status: Red—no action taken

36. Include training in using the Unit Mental Health Needs Assessment in the revised CSC Course. *(Lead: AMEDD C&S)*

Status: Green—Completed

37. Incorporate COSC-WARS training into the CSC course. *(Lead: AMEDD C&S)*

Status: Green—Completed

38. Develop a user friendly data analyses routine for reporting COSC-WARS findings. *(Lead: AMEDD C&S)*

Status: Green—An upgrade of COSC-WARS is complete. Proponent was TF 62 (MED BDE).

39. Immediate: Mandate all CSC and Division/Brigade BH personnel complete COSC-WAR reports. *(Lead: MNF-I Surgeon)* Long-term: Develop a joint theater-wide mental health and suicide surveillance system for Soldiers, Marines, Sailors, and Airman (possibly include DoD civilians). *(DoD)*

Status: Amber—TF 62 (MED BDE) and one of the regions' organic mental health assets have been using COSC-WARS. An MNC-I level FRAGO has been issued to mandate all mental health assets in the ITO report workload data via COSC-WARS. A joint theater-wide suicide surveillance system is currently being explored with subject matter experts in CONUS and the ITO.

40. Establish a central repository for all COSC-WARS data collected. *(Lead: USACHPPM)*

Status: Red—no action taken

41. Establish and maintain a COSC web-site as a means to obtain reference and training material (especially important for 68Xs serving in a deployed environment). *(Lead: AMEDD C&S/Naval Medical Education and Training Command)*

Status: Amber—website created, coordination being finalized with AMEDDC&S, OTSG, & WRAIR.

42. Share Soldier/Marine mental health information with commanders in the same manner and detail as information about a wounded Soldier/Marine is shared. Provide a medical profile detailing the extent of the mental health injury, prognosis, and any restrictions/limitations on what the Soldier/Marine can and cannot do. (MEDCOM/OPNAV 093)

Status: Green—An important aspect within the job description of a military mental health provider is the ability to balance patient privacy with the needs of the military mission. Mental health providers within the ITO are well aware of this issue and provide Commanders with "need to know" information regarding Service Members treatment plans and duty limitations. The "dual agency" issue was discussed at the September 2007 MND-C Mental Health Conference.

43. Provide a detailed instruction manual for completing the ASER. *(Lead: MEDCOM; SRMSO)*

Status: Red—No action taken.

44. Update/modify the ASER so that it meets the needs of a deployed force. Ensure that the ASER committee members have practical and recent deployment experience. Ensure all modifications to the ASER facilitate the development of prevention activities in both a garrison and deployed environment. (*Lead*: AMEDD)

Status: Green—Completed; has been modified for 2007

45. Establish a joint tracking system for the deployed environment to monitor suicides, mental health evacuations and the use of mental health/CSC services. *(Lead: DoD)* Integrate existing tracking systems for a joint process.

Status: Red—no action taken

46. Establish a quality control process that ensures both internal (e.g., no duplicates) and external (completed suicides in the ASER database match those in the AFME database) validity. *(Lead: MEDCOM; SRMSO)*

Status: Amber—Currently being done by TF 62, but not completely formalized yet.

Question. What is the cost of a Mental Health Advisory Team and how many more reports do you think there will be?

Answer. The expected annual MHAT missions will continue as long as combat operations exist in support of the Global War on Terror. We have significantly reduced the costs for these assessments in both personnel requirements and expenses. MHAT 1 required a 12–member team that remained engaged in the assessment and reporting process for approximately six months. MHAT V was accomplished with a four-member team that produced a final report in about two months. Future MHATs are expected to continue to use this smaller, more financially efficient configuration. Regardless of the team's size, it will require extensive planning and support.

TRAINING IRAQI SECURITY FORCES

Question. General Casey reports in the media seem to suggest a transition, change even some disarray in the way the Army adapts to the mission of training the security forces of another country . . . Iraqi security forces in particular. From about 2006, the Army devoted considerable resources and personnel to stablishing a training capability at Fort Riley in Kansas. Now the Army seems to be walking away from that plan and is transferring the mission to Fort Polk, Louisiana, or even assigning the mission to the Army Special Forces.

General Casey, in the Army's counter insurgency doctrine, is training the security forces of the host country to fight the insurgents an Army core function?

Answer. Field Manual (FM) 3–24 (Counterinsurgency) clearly articulates the requirement for developing host nation security forces and recognizes that U.S. forces help host nation military, paramilitary, and police forces conduct counterinsurgency (COIN) operations, including area security and local security operations. U.S. forces provide advice and help find, disperse, capture, and defeat insurgent forces. Concurrently, they emphasize training host nation forces to perform essential defense functions. These are the central tasks of Foreign Internal Defense, a core Army Special Operations Forces task.

In the Army's capstone manual, FM 3–0 (Operations), Army forces combine the three core U.S. military missions of offensive, defensive, and stability or civil support operations simultaneously as part of an interdependent joint force. Within the core mission of stability operations, one of the primary tasks is civil security. In situations where host nation capability for civil security is inadequate, Army forces provide most civil security while developing host nation capabilities. As soon as the host nation security forces can safely perform this task, Army forces transition civil security responsibilities to them.

The Army is drafting a new FM 3–07 (Stability Operations) to expand on the discussions of security assistance from FM 3–0 and FM 3–24 and to better reflect our known requirements for security force assistance. FM 3–70 recognizes that security assistance involves more than just training, equipping, and rebuilding, and advising host nation forces. This effort requires a broader interagency approach beyond the military instrument of national power.

Question. Does the Amy need to establish an advisory corps?

Answer. Future requirements to train and advise foreign security forces can be addressed with a combination of special operations forces, small scale specialized forces, US embassy military groups, and full spectrum modular forces. The Army must be ready to train and advise foreign security forces through both pre-conflict security cooperation activities, such as ongoing efforts in Colombia and Saudi Arabia, and post conflict conditions, such as our current efforts in Iraq and Afghanistan. The type of training and advising required will span the ministerial level through the institutional Army and from national Army headquarters to small tactical units. The ministerial level requires Joint, possibly interagency solution that the Army can contribute to, while foreign Army institutions will require assistance from the Army's institutions such as Training and Doctrine Command. Foreign Army headquarters can be trained and advised by similar US Army headquarters, and at the tactical level, Army modular forces are ideally suited to train and advise.

For all these forces, the key consideration is expertise in their core function—something not necessarily resident in an advisory corps. For example, US Army infantry, medical, or engineer companies are experts at conducting their wartime function and can therefore train and advise foreign infantry, medical, or engineer companies. However, before Army forces conduct a training or advising mission, they must prepare for the unique aspects the mission entails. To that end, the Army is creating an enduring advising training capability. This institution will exist at Fort Polk and will have the capability to prepare individuals or units to serve as trainers and advisors from the tactical to ministerial level.

Question. The Committee understands that in September of 2007 the Army evaluated the program to train the trainers at Fort Riley and found serious shortcomings in the training and in the soldiers that were being assigned as trainers. General Casey can you elaborate on the problems with the training program at Fort Riley and what is being done to fix it?

Answer. The 1st Brigade, 1st Infantry Division (1/1 ID) runs the training program at Fort Riley, and although they have faced many challenges, they are doing an excellent job.

The 1/1 ID is currently assigned 824 of 825 authorized Soldiers. Fifty-five are transition team (TT) veterans filling critical cadre positions, with an additional 17 contracted instructors. There are also 75 full time and 153 part time contracted role-players supporting the training program.

The training program at Fort Riley continues to improve. Transition teams conduct the majority of their training from Forward Operating Base (FOB) "Army Strong", which replicates a FOB in Iraq. The 1/1 ID has four language labs with instructors and has also been fielded the latest Army simulators, including the HMMWV Egress Assistance Trainer, the Reconfigurable Vehicle Simulator, and a medical skills trainer. Additionally, selected TTs deploy to the Combat Training Centers to train with brigade combat teams, and the Army is studying how to expand this further.

New doctrinal publications are being developed and written for transition teams. The 1/1 ID published a Combat Advisor's Handbook. The Joint Center for International Security Force Assistance published the 2nd edition of their TT Handbook, and the Air Land Sea Application Center is developing Multi-Service Techniques, Tactics, and Procedures on Training Security Force Advisor Teams.

The Army has taken several steps to improve the overall selection of TT Soldiers, encouraging volunteering for TT duty, and providing for career enhancement. As of April 1, 2008, all TT Soldiers are placed on permanent change of station to Kuwait, providing incentives such as follow on assignment options and a cost of living allowance. Soldiers now receive a skill identifier for completing the training at Fort Riley and serving on TTs. Selection boards are provided instructions to favorably consider TT duty. Finally, some Branches currently consider it a key and developmental assignment, and the Army is studying how to expand this to other TT Soldiers as appropriate.

Question. Is it true that senior Army commanders wanted minimum of 33 percent of the instructors at Fort Riley to have prior service as an advisor, but in fact only 6 percent had prior experience as an advisor?

Answer. Yes, when the Army moves this mission from Fort Riley to Fort Polk, 30 percent of the instructors returning from Training Team (TT) missions are to be assigned to TT instructor requirements. However, several factors influence obtaining this goal. Some personnel have their choice of assignment upon completion of their tour of duty and simply choose not to return as an instructor. Many of the team members are from the other services or the Reserve Component and are not available as instructors. Current analysis indicates the goal of 30 percent of the TT instructors having TT experience is achievable by the time the TT mission relocates to Fort Polk in the third quarter of fiscal year 2009.

Question. The Committee understands that many officers in the Army fear that advisor duty is an assignment that is considerably less career enhancing than is a tour of duty with a combat unit. What is the Army doing to ensure that those who take assignments as advisors are treated fairly and have an equal opportunity for career advancement?

Answer. The Army is acutely aware of the unique benefits derived by officers serving in combat advisory positions in Transition Teams (TTs) and Provincial Reconstruction Teams (PRTs) of various compositions that prepare host nation forces to shoulder the responsibility for internal security and civil stability and restore critical infrastructure. We have adjusted our guidance for active and Reserve Component promotions, commands, and professional military education selection boards to highlight the criticality of these TT/PRT assignments. We stress that "special attention should be paid to officers serving on Transition Teams in the current environment and foreseeable future. The invaluable experience these officers are receiving in these tough assignments will posture them for success in future leadership positions in the operational environment . . . The board should understand the challenging nature and demands of these jobs and provide appropriate consideration in the overall evaluation of each officer's record."

In addition, the Army is modifying its officer professional development and career management guidance to add these TT/PRT assignments to its list of jobs considered key to the development of the officer and contributing directly to an enhanced ability to serve at higher levels of rank and responsibility.

Operation and Maintenance for Contract Services

Question. The Committee continues to try to understand what is financed with the Operation and Maintenance (O&M) funding. One use for O&M is for "contractual services." The following table shows actual and requested funds:

	Army O&M—Dollars in billions		
	1997 Actual*	2007 Actual	2009
Request:			
Federal personnel compensation	6.0	5.4	5.5
Service via contract	4.5	22.9	9.9
Advisory and assistance services	.4	3.0	.5
Contracts with the private sector	3.9	3.1	1.3
Maintenance of facilities	.1	10.1	5.6
Maintenance of equipment	.1	6.3	2.5

*FY 1997 is shown in FY 2008 dollars

The committee added $24 million to the Defense Contract Audit Agency (DCAA) and the Defense Contract Management Command (DCMC) in FY 2008 to improve contract management oversight. Has the Army seen any improvements in contract management as a result of this additional finding?

Answer. The DCAA and the DCMC are responsive to the Army's requests for services. The $24 million in additional fiscal year 2008 funds for the DCAA and DCMC for improvements in contract management and oversight is welcomed and attests to the importance of these functions. While it will take time to assess the impact of this additional funding, the Army is taking immediate steps focused on training Army leadership regarding their responsibilities and role in contract oversight. Current Army actions include assessing opportunities to improve contingency contracting training at the Combined Training Centers and expanding the mission of the Battle Command Training Program to include acquisition professionals to train brigade, division, and corps organizations.

Fuel Efficiency

Question. The Army O&M account finances tank and aircraft operations, to include the cost of fuel. The FY 2008 budget is underfunded because fuel costs have been higher than anticipated. However, "fuel efficiency" is not a factor in the contracting process for engines or equipment.

What is the unfunded requirement for fuel in fiscial year 2008?

Answer. The current FY 2008 unfunded requirement (UFR) for fuel is $468 million. The rise in oil prices from $91.14 at the time of the budget estimate submission to the current Defense Logistics Agency price of $127.58 per barrel created the UFR. The UFR is part of the revised FY 2008 supplemental appropriation request.

Question. What was budgeted for fuel in fiscal year 2009 and what do you now expect the costs to be?

Answer. The Army budgeted $825 million for fuel in FY 2009 based on an estimate of $115.5 per barrel. DoD has not identified a price increase in fuel for FY 2009.

Question. Going forward, should the Army consider "fuel efficiency" in the contracting process for engines?

Answer. Yes, the Army definitely should consider fuel effbiency in the contracting process for engines. Engines that are more efficient provide enhanced operational range allowing units to extend operational areas while consuming less fuel. Additionally, it is a good economical decision, since more efficient engines means less operational support costs for fuel. When considering life cycle costs of the equipment and the rising cost of fuel, fuel efficiency is an excellent investment for the Army.

Subsistence Costs

Question. The Army requested $1.065 billion and $.987 billion in supplemental funds for subsistence for DoD civilians in GWOT in fiscal years 2007 and 2008 respectively to finance: "ice, food and water for authorized DoD civilians and contractors". DoD estimate that there are about 5,000 "authorized DoD civilians" and 140,000 contractors deployed to OIF and OIF.

The Army's most current 2008 supplemental request includes $987 million for food, water and ice for "authorized DoD civilians".

How many civilians are fed in Army messes in and around Iraq and Afghanistan?

Answer. There is no source of information to determine the total number of civilians being fed. For the first five months of FY08, the Army estimates that it is feeding an average of 84,000 civilians, or 58 percent of the DoD estimate of 145,000 civilians and contractors. There are several factors to consider. First most civilians live in built-up locations where commercial meals are readily available from U.S. vendors. Second, a large number of contractors are local nationals, third-country nationals or employees of sub-contractors operating in and around Iraq and Afghanistan. Kellogg Brown and Root (KBR) reports 47,000 such employees as of April 4, 2008. Many of these employees supplement their diets on the local economy and do not eat full time in Army messes.

Question. How does the Army track who is eating in the mess halls?

Answer. When an individual enters an Army dining facility supporting OIF and OEF, their eligibility to dine is confirmed and they are counted before being served. Dining facilities at fixed locations rely on a manual procedure wherein the number of diners, with civilians counted separately from military personnel, is visually identified and the count is entered on a manual headcount form. It is not feasible to collect and record meal headcounts at remote forward operating bases. As a result, a full and accurate headcount for OIF and OEF diners is not available.

Question. How does Army track contractors eating in the messes and charge back the cost of the food that they consume? Is that always done?

Answer. When a contract includes a requirement to feed civilians in OIF and OEF that must dine in military/government dining operations, contracting procedures require that the cost of contractor personnel be reduced by the costs of feeding. The large KBR contract was executed this way; however, it is not known if absolutely every contract has been properly executed pertaining to feeding costs. We believe that the largest contracts are being executed properly.

Question. How many prime contractors provide food, water and ice to the Army messes in Iraq, Afghanistan and Kuwait?

Answer. There are two prime contractors for food in Iraq, Afghanistan and Kuwait. Agility (formerly Public Warehousing Company) headquartered in Kuwait; and Supreme Food Services, Inc., headquartered in Switzerland. Agility and Supreme are the two prime contractors for food in Iraq, Afghanistan, and Kuwait. Agility serves Iraq and Kuwait; Supreme serves Afghanistan. Most water for food preparation and drinking in Iraq comes from water bottling plants under a contract with Oasis International Waters, Inc. In Kuwait, Defense Supply Center Philadelphia provides bottled water sourced from various subcontractors within that country. Water sourcing in Afghanistan resembles Kuwait except that the subcontractors are obtained by Supreme Food Service. Ice throughout Iraq, Afghanistan, and Kuwait come from a network of subcontractors under KBR.

Question. How does a local company become a subcontrator for ice, food and/or water?

Answer. The government's relationship is with the prime contractor, and in the case of food, we do not dictate a process to select subcontractors. The government does dictate requirements for quality and sanitation, of course. In some cases there are subcontractors to subcontractors outside the direct purview of the government.

Question. Why would the Army airlift ice, food and/or water into Afghanistan?

• Is there a risk of spoilage and contamination when subsistence is transported some distance?

• How are airlift costs factored into the contract cost?

Answer. The Army does not airlift ice or water into Afghanistan; however, there are occasions when airlift is used to move foods by air. Airlift is used when adverse security conditions or natural conditions like weather or natural disaster make road passage impossible or too slow to meet feeding requirements. Airlift is always the last choice for transportation.

Question. We know that the Kellogg Brown and Root Company is one of the prime contractors for dining facilities in and around Iraq and Afghanistan.

• Does KBR make the decisions on subcontractors to supply food, ice and water?

Answer. KBR operates dining facilities but makes no decisions on subcontractors to supply food and water. Food decisions are made by Defense Supply Center Philadelphia and water decisions by the Army element of U.S. CENTCOM. KBR does make decisions on subcontractors to provide base camp services, including ice, in their large LOGCAP contract.

Question. Is "Agility" a prime contractor? Where is it headquartered?

Answer. Agility (formerly Public Warehousing Company) is a prime contractor, headquartered in Kuwait.

Question. Is "Supreme" a prime contractor? Where is it headquartered?

Answer. Supreme is a prime contractor, headquartered in Switzerland.

Question. How effective are the major defense contactors in Iraq and Afghanistan in hiring local subcontractors?

Answer. The major defense contractors are very experienced and effective in hiring local subcontractors. Local subcontractors are their best sources for responsive service and reasonable costs.

Question. Should we have a contracting team dedicated to reviewing what would be the best valve for the government by contracting with local vendors deemed capable of handling major end items vs. having the major defense contractors let all the local contracts?

Answer. The Army has this agreement with Defense Supply Center Philadelphia. The Afghanistan First Program is a good example that started with bottled water. Current initiatives to involve local vendors include ice and fresh fruits and vegetables.

Question. Can you tell us how local subcontractors are monitored?

Answer. The Army uses contracting officer representatives (COTRs) to provide oversight for DCMA on LOGCAP and other prime contracts, but does not directly monitor the prime contractor's subcontractors. In cases where a subcontractor is one of several providing a product or service directly to the Army, the Army again uses its COTRs to monitor performance.

Question. How much is the Army requesting for (DLA purchased) food for civilians eating in messes:

- in Iraq?
- in Afghanistan?
- in Kuwait?

Answer. The amount requested for all three countries combined for FY07 was $.965 billion; for FY08 $.675 billion. The Army's request does not compute the three countries separately. The $.675 billion request for FY08 is from the amended Army request, which is smaller than the original requested amount of $.987 billion.

Question. How many prime contractors supply food to the messes:

- in Iraq?
- in Afghanistan?
- in Kuwait?

Answer. There are two prime contractors for food in Iraq, Afghanistan and Kuwait. Agility (formerly Public Warehousing Company) headquartered in Kuwait; and Supreme Food Services, Inc., headquartered in Switzerland. Agility and Supreme are the two prime contractors for food in Iraq, Afghanistan, and Kuwait. Agility serves Iraq and Kuwait; Supreme serves Afghanistan. Most water for food preparation and drinking in Iraq comes from water bottling plants under a contract with Oasis International Waters, Inc. In Kuwait, Defense Supply Center Philadelphia provides bottled water sourced from various subcontractors within that country. Water sourcing in Afghanistan resembles Kuwait except that the subcontractors are obtained by Supreme Food Service. Ice throughout Iraq, Afghanistan, and Kuwait come from a network of subcontractors under KBR.

Question. How much is the Army requesting for (DLA purchased) water for civilians eating in messes:

- in Iraq?
- in Afghanistan?
- in Kuwait?

Answer. The Army computes requirements using a meal cost factor that includes bottled water for meals. The daily bottled water requirement of six liters is 10.4 percent of meal cost including water. The water only request, therefore, is $.100 billion for FY07 and $.070 billion for FY08.

Question. How many prime contractors supply water to the messes:

- in Iraq?
- in Afghanistan?
- in Kuwait?

Answer. There is a single prime contractor for water in Iraq; however there are multiple subcontractors for ice everywhere and for water in Afghanistan and Kuwait.

Question. How much is the Army requesting for (DLA purchased) ice for civilians eating in messes:

- in Iraq?
- in Afghanistan?
- in Kuwait?

Answer. The Army does not source ice from DLA. Virtually all ice is provided by KBR subcontractors under the large LOGCAP contract. Ice is included with many other life support services (housing, utilities, etc.) in a single per day base camp operational cost factor; therefore, the specific cost of ice cannot be determined.

Question. How many prime contractors supply ice to the messes:

- in Iraq?
- in Afghanistan?
- in Kuwait?

Answer. KBR is the prime contractor supplying ice using multiple subcontractors.

"BENEFITS" TO CONTRACTORS IN IRAQ AND AFGHANISTAN

There continues to be a heavy reliance on contractors in Iraq and Afghanistan. The DoD did a head count last summer and estimate that DoD employed 138,000 contractors (at the time the count was done). The Army manages and funds the logistical support contracts in theater and therefore funds the cost of dining facilities there.

Question. When contracts are drawn up, do they include products or services that the Government must provide the contractor?

- For example, if you have a team of contractors going into Baghdad to supervise the building of a school, are they eligible to eat free of charge at the Government mess in the Green Zone?

Answer. The DoD civilian employees are authorized logistic and security support privileges when deployed with the Armed Forces. Support for Contractors Authorized to Accompany the Force (CAAF) will be written into the terms and conditions of the contract. Logistic and security requirements are addressed in the contract and are priced and negotiated before the contract is awarded. It costs approximately $23.00 for food per person per day. This does not included transportation, storage or labor costs, but does include six liters of water per day.

Question. How does Army track contractors eating in the messes and charge back the cost of the food that they consume?

- Is that always done?

Answer. The DoD has implemented the Synchronized Predeployment and Operational Tracker (SPOT) system to account for and provide visibility of all DoD contract personnel within the contingency operations battle space. The primary purpose of the Joint Asset Movement Management System (JAMMS) (which is a component of SPOT) is to track assets. JAMMS has the capability of accepting a scan of a contractor personnel's letter of authorization (LOA). The LOA allows persons residing with U.S. forces to be afforded Contractor Authorized to Accompany the Force status, which provides them access to mess facilities and protected status in accordance with international conventions.

JOINT CONTRACTING COMMAND—IRAQ/AFGHANISTAN

Question. JCC–I/A is a relatively new command. Initially created by a November 2004, U.S. Central Command Fragmentary Order [FRAGO] covered only the Combined Joint Operations Area [CJOA] Iraq. It officially opened its doors on Jan. 29, 2005. However, a subsequent July 2005 FRAGO expanded the organization's responsibility to include CJOA Afghanistan. Their fiscal year 2006 workload through June included awarding 19,500 contract actions worth $3.4 billion. They have 235 folks in the command—including mostly GIs, with DoD civilians, local nationals and contractors.

How does the Army interact with this organization?

Answer. The Office of the Assistant Deputy Assistant Secretary of the Army, Policy & Procurement—Iraq/Afghanistan (OADASA (P&P–I/A) provides contingency policy expertise for procurement operations and rear support to the Head of the Contracting Activity at the Joint Contracting Command—Iraq/Afghanistan on all procurement policy issues. Subject matter experts develop and analyze contingency contracting policy, in conjunction with the other services, Director for Defense Policy and Procurement, and in interagency issues. OADASA (P&P–I/A) is the principal advisor to the ASA (ALT) on procurement matters related to Iraq/Afghanistan and provides support for HQDA, reconstruction efforts with DoD, HQDA, and interagency partners, and recruiting and deploying military and civilian personnel to Iraq.

The JCC–I/A also interacts with the Iraq Transition Assistance Office, which assists executive departments and agencies in concluding large infrastructure projects in Iraq and facilitates Iraq's transition to self sufficiency, and it maintains an effective diplomatic presence in Iraq with the U.S. Army Corps of Engineers' Gulf Region Division, Multi-National Security Transition Command—Iraq, Multinational Force—Iraq, and Multinational Corps—Iraq. The JCC–I/A also interfaces with the Embassy in Afghanistan.

Question. From your perspective, has it improved operations?

Answer. As a major subordinate command of Multi-Nationl Force—Iraq, which manages contracting operations for both, Iraq and Afghanistan, JCC–I/A has implemented improvements and received recognition. The Chief Acquisition Officers Council recently recognized the JCC–I/A with the 2007 Contract Management Award. The award recognized JCC–I/A's innovative use of "Effects Based Contracting" during construction of the Rule of Law Center, a protective enclave for Iraqi justice system personnel and facilities in Bagdad. The JCC–I/A contracting officers delivered an initial operations capable, 900 detainee prison and judicial complex in 26 days. The ADASA (P&P) assists JCC–I/A in developing and implementing annual long range contracting support plans, which encompasses contracting agency transitions, funds reconciliation, disposition and reporting.

JCC–I/A is providing more Iraqi firms an opportunity to obtain reconstruction contracts, which facilitates job growth and strengthens the Iraq economy. Iraqi firms have now received more than $1 billion in reconstruction contracts.

NDAA INSTITUTES CONTRACTING REFORM

Question. The FY 2008 National Defense Authorization Act, Public Law 110–181, contained a number of provisions related to contracting oversight improvement, including Section 863: CG Reviews/Reports on Contracting. This provision stated that every 12 months, the Comptroller General shall review contracts in Iraq or Afghanistan, beginning with an interim report due October 1, 2008. This report shall include:

- # of contracts, contractor personnel
- $ value of contract
- Use of competitive procedures
- # of contractors performing security services
- Areas of significant concern

What sort of system does the Army have in place now that will enable it to comply with the direction provided in this Act?

Answer. A Memorandum of Understanding between DoD, Department of State (DoS), and the U.S. Agency for International Development required by § 861 of Public Law 110–181 has not yet been signed. However, the agreed upon common databases as repositories of information on contracts in Iraq and Afghanistan are the Federal Procurement Data System—Next Generation (FPDS–NG) and Synchronized Predeployment and Operational Tracker (SPOT). The current release of SPOT pulls the consolidated data directly from FPDS–NG.

The Joint Contracting Command Iraq/Afghanistan does not currently input contracting data directly into FPDS–NG, but collects it in a local database and feeds data for input into a stand-alone system. The Director, Defense Procurement, Acquisition Policy, and Strategic Sourcing is taking steps to ensure that the required data is available in FPDS–NG. Other systems currently in use that collect contract data in theater include the Joint Contingency Contracting System, US CENTCOM Contractor Census, and CENTCOM data report.

Question. How difficult will it be for the Army to provide this type of information on contracting?

Answer. Currently, the basic contract data is provided by extracting data from the existing local databases and then manually inputting the data into the Federal Procurement Data System—Next Generation (FPDS–NG). Although it is a cumbersome process, it has proved to be successful in providing a consolidated source for this basic data. However, the inclusion of real time data into the FPDS–NG would provide a more seamless collection of real time data.

Question. Does the Army have one central repository for all of its contracts in Iraq and Afghanistan?

Answer. All original contract files and contract documents are required to be maintained by the contracting office, which is standard contracting procedure. However, copies of contracts and modifications and other relevant information is also provided to and maintained by the organizations that are assigned contract administration responsibilities. There are central repositories for contracting data. The FPDS–NG currently collects contract data from all Army contracting commands with the exception of those located in Iraq and Afghanistan, which has been collected separately due to operational concerns. The Director, Defense Procurement, Acquisition Policy, and Strategic Sourcing is taking steps to ensure that that required data is available in FPDS–NG.

[CLERK'S NOTE.—End of questions submitted by Mr. Murtha. The Fiscal Year 2009 Army Posture Statement follows:]

A STATEMENT ON THE POSTURE OF THE UNITED STATES ARMY 2008

submitted by

THE HONORABLE PETE GEREN and
GENERAL GEORGE W. CASEY JR.

to the Committees and Subcommittees of the

UNITED STATES SENATE

and the

HOUSE OF REPRESENTATIVES

2d SESSION, 110th CONGRESS

26 FEBRUARY 2008

2008 ARMY POSTURE STATEMENT

February 26, 2008

Our Nation has been at war for over six years. Our Army—Active, Guard and Reserve—has been a leader in this war and has been fully engaged in Iraq, Afghanistan, and defending the homeland. We also have provided support, most notably by the Army National Guard and Army Reserve, to civil authorities during domestic emergencies. Today, of the Nation's nearly one million Soldiers, almost 600,000 are serving on active duty and over 250,000 are deployed to nearly 80 countries worldwide.

We live in a world where global terrorism and extremist ideologies threaten our safety and our freedom. As we look to the future, we believe the coming decades are likely to be ones of persistent conflict—protracted confrontation among state, non-state, and individual actors who use violence to achieve their political and ideological ends. In this era of persistent conflict, the Army will continue to have a central role in implementing our national security strategy.

While the Army remains the best led, best trained, and best equipped Army in the world, it is out of balance. The combined effects of an operational tempo that provides insufficient recovery time for personnel, Families, and equipment, a focus on training for counterinsurgency operations to the exclusion of other capabilities, and Reserve Components assigned missions for which they were not originally intended nor adequately resourced, result in our readiness being consumed as fast as we can build it. Therefore, our top priority over the next several years is to restore balance through four imperatives: Sustain, Prepare, Reset, and Transform.

The Army's strength is its Soldiers—and the Families and Army Civilians who support them. The quality of life we provide our Soldiers and their Families must be commensurate with their quality of service. We will ensure that our injured and wounded Warriors, and their Families, receive the care and support they need to reintegrate effectively into the Army or back into society. We never will forget our moral obligation to the Families who have lost a Soldier in service to our Nation.

We are grateful for the support and resources we have received from the Secretary of Defense, the President, and Congress. To fight the wars in Afghanistan and Iraq, transform to meet the evolving challenges of the 21st century, and to regain our balance by 2011, the Army will require the full level of support requested in this year's base budget and Global War on Terror (GWOT) Request.

George W. Casey, Jr.
General, United States Army
Chief of Staff

Pete Geren
Secretary of the Army

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[1] Required by National Defense Authorization Act of 1994
* Online

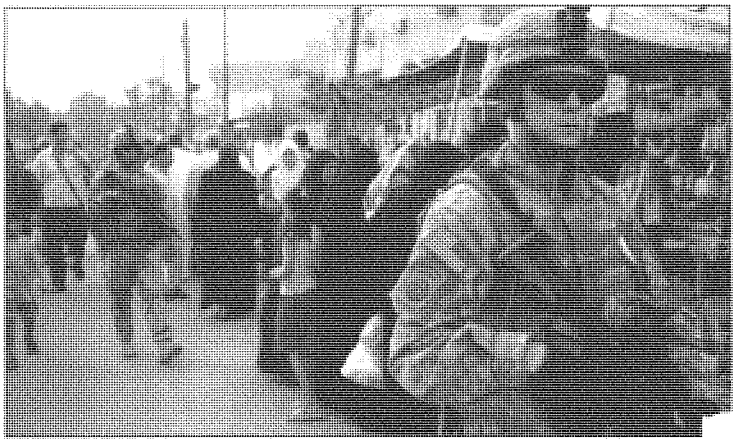
UNITED STATES ARMY

"The U.S. Army today is a battle-hardened force whose volunteer Soldiers have performed with courage, resourcefulness, and resilience in the most grueling conditions. They've done so under the unforgiving glare of the 24-hour news cycle that leaves little room for error, serving in an institution largely organized, trained, and equipped in a different era for a different kind of conflict. And they've done all this with a country, a government--and in some cases a defense department--that has not been placed on a war footing."

- Secretary of Defense, Honorable Robert M. Gates, October 10, 2007, AUSA Meeting

The Army—Active, Guard and Reserve—exists to protect our Nation from our enemies, defend our vital national interests and provide support to civil authorities in response to domestic emergencies. Our mission is to provide ready forces and land force capabilities to the Combatant Commanders in support of the National Security Strategy, the National Defense Strategy, and the National Military Strategy.

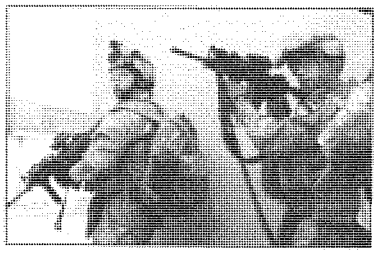
While "what" the Army does for the Nation is enduring, "how" we do it must adapt to meet the changing world security environment. We are in an era of persistent conflict which, when combined with our on-going global engagements, requires us to rebalance our capabilities. We do this remembering that Soldiers, and the Families who support them, are the strength and centerpiece of the Army. And, while our Nation has many strengths, in time of war, **America's Army is The Strength of the Nation.**



Strategic Context

An Era of Persistent Conflict

Persistent conflict and change characterize the strategic environment. We have looked at the future and expect a future of protracted confrontation among state, non-state, and individual actors who will use violence to achieve political, religious, and other ideological ends. We will confront highly adaptive and intelligent adversaries who will exploit technology, information, and cultural differences to threaten U.S. interests. Operations in the future will be executed in complex environments and will range from peace engagement, to counterinsurgency, to major combat operations. This era of persistent conflict will result in high demand for Army forces and capabilities.



Trends Creating the Conditions for Persistent Conflict

The potential for cascading effects from combinations of events or crises arising from the trends described below compounds the risk and implications for the United States.

Globalization and Technology

Increased global connectivity and technological advances will continue to drive global prosperity–yet they also will underscore disparities, such as in standards of living, and provide the means to export terror and extremism around the world. Globalization accelerates the redistribution of wealth, prosperity, and power, expanding the "have" and "have not" conditions that can foster conflict. The scale of this problem is evident in the projection that 2.8 billion people are expected to be living below the poverty line by 2025. While advances in technology are benefiting people all over the world, extremists are exploiting that same technology to manipulate perceptions, export terror, and recruit the people who feel disenfranchised or threatened by its effects.

Radicalism

Extremist ideologies and separatist movements will continue to have an anti-western and anti-U.S. orientation. Radical and religious extremist groups, separatists, and organizations that support them are attractive to those who feel victimized or threatened by the cultural and economic impacts of globalization. The threats posed by Sunni Salafist extremists, like Al-Qaeda, as well as Shia extremists with Iranian backing, represent a major strategic challenge.

Population Growth

The likelihood of instability will increase as populations of several less-developed countries will almost double in size by 2020–most notably in Africa, the Middle East, and South and Southeast Asia. The "youth bulge" created by this growth will be vulnerable to anti-government and radical ideologies and will threaten government stability. This situation will be especially true in urban areas in which populations have more than doubled over the last 50 years.

By 2025, urban areas with concentrations of poverty will contain almost 60 percent of the world's population.

Resource Competition

Competition for water, energy, goods, services, and food to meet the needs of growing populations will increase the potential for conflict. Demand for water is projected to double every 20 years. By 2015, 40 percent of the world's population will live in "water-stressed" countries. By 2025, global energy demands are expected to increase by 40 percent, threatening supplies to poor and developing nations.

Climate Change and Natural Disasters

Climate change and other projected trends will compound already difficult conditions in many developing countries. These trends will increase the likelihood of humanitarian crises, the potential for epidemic diseases, and regionally destabilizing population migrations. Desertification is occurring at nearly 50-70 thousand square miles per year. Today more than 15 million people are dying annually from communicable diseases. The number of people dying each year could grow exponentially with increases in population density and natural disasters.

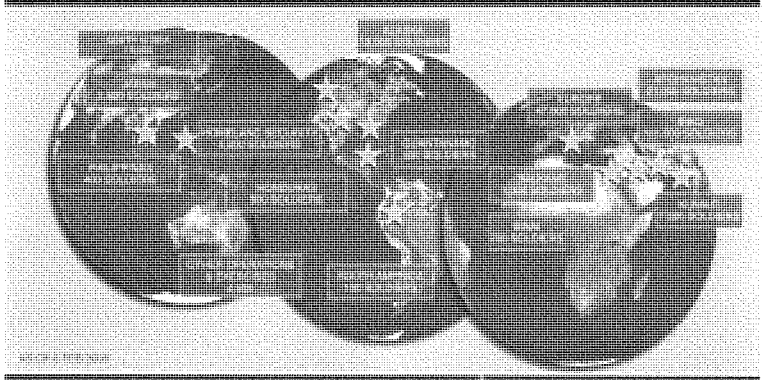
Proliferation of Weapons of Mass Destruction

The diffusion and increasing availability of technology increases the potential of catastrophic nuclear, biological, and chemical attacks. Many of the more than 1,100 terrorist groups and organizations are actively seeking weapons of mass destruction.

Safe Havens

States that are unable or unwilling to exercise control within their borders create the potential for global and regional groups to organize and export terror. Territories under the control of renegade elements or separatist factions will challenge central government authority, potentially creating a base from which to launch broader security threats. The trends that fuel persistent conflict characterize the strategic environment now and into the future and will require integration of all elements of our national power (diplomatic, informational, economic, and military) to achieve our national objectives. The implication for the Army is the need to be modernized, expeditionary and campaign capable, and prepared to operate across the full spectrum of conflict.

ARMY GLOBAL COMMITMENTS



ARMY PROFESSIONAL STRENGTH

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Challenges of Providing Forces with the Right Capabilities

The Army recruits, organizes, trains, and equips Soldiers who operate as members of Joint, interagency, and multi-national teams. The Army also provides logistics and other support to enable our Joint and interagency partners to accomplish their missions, as well as support civil authorities in times of national emergencies. Responding to the strategic environment and the national security strategy that flows from it, we are building an expeditionary and campaign quality Army. Our expeditionary Army is capable of deploying rapidly into any operational environment, conducting operations with modular forces anywhere in the world, and sustaining operations as long as necessary to accomplish the mission. To fulfill the requirements of today's missions, including the defense of the homeland and support to civil authorities, approximately 591,000 Soldiers are on active duty (currently 518,000 Active Component, 52,000 Army National Guard, and 21,000 Army Reserve). Forty-two percent (251,000) of our Soldiers are deployed or forward-stationed in 80 countries around the world. Additionally, more than 237,000 Army Civilians are performing a variety of missions vital to America's national defense. Of these, more than 4,500 are forward deployed in support of our Soldiers.

UNITED STATES ARMY

STRATEGIC CONTEXT

Our current focus is on preparing forces and building readiness for counterinsurgency operations in Iraq and Afghanistan. Despite this current and critical mission, the Army also must be ready to provide the Combatant Commanders with the forces and capabilities they need for operations anywhere around the world, ranging from peace-time military engagement to major combat operations. Examples of Army capabilities and recent or ongoing operations other than combat include the following:

- Supporting the defense of South Korea, Japan, and many other friends, allies, and partners
- Conducting peacekeeping operations in the Sinai Peninsula and the Balkans
- Conducting multi-national exercises that reflect our longstanding commitments to alliances
- Continuing engagements with foreign militaries to build partnerships and preserve coalitions by training and advising their military forces
- Participating, most notably by the Army National Guard, in securing our borders and conducting operations to counter the flow of illegal drugs
- Supporting civil authorities in responding to domestic emergencies, including natural disasters and threats at home and abroad
- Supporting interagency and multi-national partnerships with technical expertise, providing critical support after natural disasters, and promoting regional stability
- Supporting operations to protect against weapons of mass destruction and block their proliferation

It is vital that our Army ensures that units and Soldiers have the right capabilities to accomplish the wide variety of operations that we will conduct in the 21st century. Continuous modernization is the key to enhancing our capabilities and maintaining a technological advantage over any enemy we face. We never want to send our Soldiers into a fair fight.

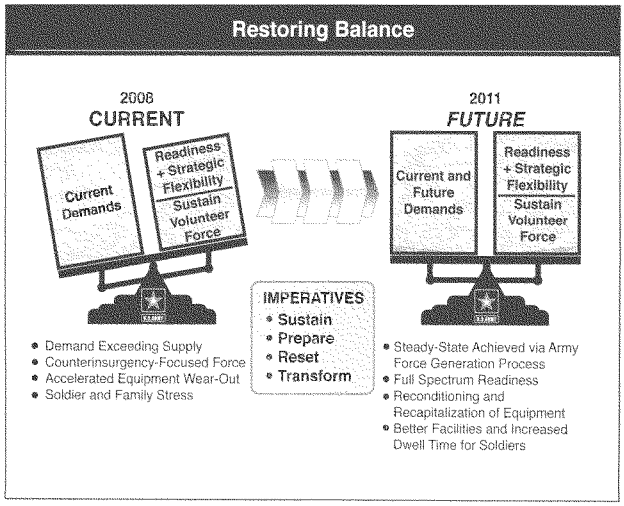
Future Combat Systems (FCS) are the core of our modernization effort and will provide our Soldiers an unparalleled understanding of their operational environment, increased precision and lethality, and enhanced survivability. These improved capabilities cannot be achieved by upgrading current vehicles and systems. FCS will use a combination of new manned and unmanned air and ground vehicles, connected by robust networks, to allow Soldiers to operate more effectively in the complex threat environments of the 21st century. Maintaining our technological edge over potential adversaries, providing better protection, and giving our Soldiers significantly improved capabilities to accomplish their mission are the reasons for FCS. FCS capabilities currently are being tested at Fort Bliss, Texas. They are proving themselves valuable in the current fight and are being fielded to our Soldiers in Iraq. FCS and their capabilities will continue to be integrated into the force over the next 20 years

Two Critical Challenges: Restoring Balance and Funding

An Army Out of Balance

Today's Army is out of balance. The current demand for our forces in Iraq and Afghanistan exceeds the sustainable supply and limits our ability to provide ready forces for other contingencies. While our Reserve Components (RC) are performing magnificently, many RC units have found themselves assigned missions for which they were not originally intended nor adequately resourced. Current operational requirements for forces and insufficient time between deployments require a focus on counterinsurgency training and equipping to the detriment of preparedness for the full range of military missions.

We are unable to provide a sustainable tempo of deployments for our Soldiers and Families. Soldiers, Families, support systems, and equipment are stretched and stressed by the demands of lengthy and repeated deployments, with insufficient recovery time. Equipment used repeatedly in harsh environments is wearing out more rapidly than programmed. Army support systems, designed for the pre-9/11 peacetime Army, are straining under the accumulation of stress from six years at war. Overall, our readiness is being consumed as fast as we build it. If unaddressed, this lack of balance poses a significant risk to the All-Volunteer Force and degrades the Army's ability to make a timely response to other contingencies.



Restoring Balance

We are committed to restoring balance to preserve our All-Volunteer Force, restore necessary depth and breadth to Army capabilities, and build essential capacity for the future. Our plan will mitigate near-term risk and restore balance by 2011 through four imperatives: Sustain, Prepare, Reset and Transform.

Sustain

To sustain our Soldiers, Families, and Army Civilians in an era of persistent conflict we must maintain the quality and viability of the All-Volunteer Force and the many capabilities it provides to the Nation. Sustain ensures our Soldiers and their Families have the quality of life they deserve and that we recruit and sustain a high quality force.

Goals for Sustain:

- Offer dynamic incentives that attract quality recruits to meet our recruiting objectives for 2008 and beyond
- Provide improved quality of life and enhanced incentives to meet our retention objectives for 2008 and beyond
- Continue to improve the quality of life for Army Families by implementing the Army Family Covenant and other programs that: standardize services, increase the accessibility and quality of health care, improve housing and installation facilities, provide excellence in schools and youth services, and expand spousal education and employment opportunities
- Continue to improve care for Wounded Warriors and Warriors in Transition through a patient-centered health care system, Soldier and Family Assistance Centers, and improved Warrior Transition Unit facilities
- Continue to support Families of our fallen with sustained assistance that honors the service of their Soldiers

Prepare

To prepare our Solders, units, and equipment we must maintain a high level of readiness for the current operational environments, especially in Iraq and Afghanistan.

Goals for Prepare:

- Continue to adapt and enhance the rigor of institutional, individual, and operational training to enable Soldiers to succeed in complex 21st century security environments
- Train Soldiers and units to conduct full spectrum operations with improved training ranges to operate as part of a Joint, interagency, or multi-national force
- Provide Soldiers the best equipment through the Rapid Fielding Initiative, the Rapid Equipping Force, and modernization efforts
- Partner with private industry to rapidly develop and field equipment needed on today's battlefield

- Continue to improve the Army Force Generation (ARFORGEN) process which increases the readiness of the operating force over time by generating recurring periods of availability of trained, ready, and cohesive units

Reset

To reset our force we must prepare our Soldiers, units, and equipment for future deployments and other contingencies.

Goals for Reset:

- Develop an Army-wide reset program that repairs, replaces, and recapitalizes equipment that our Soldiers need
- Retrain our Soldiers to accomplish the full spectrum of missions they will be expected to accomplish
- Revitalize our Soldiers and Families through implementation and full resourcing of the Soldier Family Action Plan (SFAP) and our warrior care and transition programs

Transform

To transform our force, we must continuously improve our ability to meet the needs of the Combatant Commanders in a changing security environment.

Goals for Transform:

- Help balance our force and increase capacity to provide sufficient forces for the full range and duration of current operations and future contingencies by growing as quickly as possible
- Upgrade and modernize to remain an agile and globally responsive force with Future Combat Systems (FCS) as the core of our modernization effort
- Continue organizational change through modularity and rebalancing to become more deployable, tailorable, and versatile
- Improve expeditionary contracting and financial and management controls
- Continue to adapt institutions and the processes, policies, and procedures, including business practices, to more effectively and efficiently support an expeditionary Army at war
- Complete the transition of the RC to an operational reserve and change the way we train, equip, resource, and mobilize RC units
- Integrate Grow the Army initiative, Base Realignment and Closure (BRAC), Global Defense Posture Realignment, and the operation of installations and facilities to increase readiness, improve efficiency, and improve the quality of life for our Soldiers, Families, and Army Civilians
- Develop agile and adaptive leaders who can operate effectively in Joint, interagency, intergovernmental, and multi-national environments

Compelling Needs for Sustain, Prepare, Reset, and Transform

To achieve balance through the four imperatives, the Army will require sustained, timely, and predictable base budget and GWOT funding. The Army's compelling needs for FY09 are:

Support and Fund:

- Recruiting and retention incentives and benefits to enable Active and Reserve Components to meet end-strength objectives and achieve Army standards for recruit quality
- Quality of life programs to sustain our Soldiers' and Army Civilians' commitment to serve and the continued support of our Army Families
- Programs to help our wounded, ill, and injured Warriors in Transition to return to duty or to civilian life
- BRAC and military construction to execute the Army's global repositioning plan
- Operations and maintenance for air and ground operations, depot maintenance, base operations, and space and missile defense capabilities
- Leader training and development to make Soldiers culturally astute and better able to integrate and complement the other elements of national power (diplomatic, informational, and economic)
- Efforts to develop technical and procedural solutions to defeat the threat of improvised explosive devices
- The Rapid Equipping Force (REF)
- Equipment repair, replacement, and recapitalization programs
- Retraining Soldiers to execute their new and future missions
- Programs to revitalize our Soldiers and Families as they reintegrate after deployments
- End-strength growth of approximately 74,000 by 2010
- Army modernization programs including Future Combat Systems, aviation, Patriot PAC-3, LandWarNet, intelligence, logistics automation, and other advanced technologies
- Planned modular transformations in 2009—two Brigade Combat Teams and 13 support brigades
- Transformation of the Reserve Components to an operational reserve

"America's ground forces have borne the brunt of underfunding in the past and the bulk of the costs–both human and material–of the wars of the present. By one count, investment in Army equipment and other essentials was underfunded by more than $50 Billion before we invaded Iraq. By another estimate, the Army's share of total defense investments between 1990 and 2005 was about 15 percent. So resources are needed not only to recoup from the losses of war, but to make up for the shortfalls of the past and to invest in the capabilities of the future."

- Secretary of the Defense, Honorable Robert M. Gates, October 10, 2007, AUSA Meeting

Funding Challenges

Recruiting and retaining the most combat-experienced Army in our Nation's history require predictable and sustained funding. Sustaining this high-quality and professional All-Volunteer Force will not be possible without investing in and supporting our quality of life efforts and providing competitive pay and benefits. As a manpower-intensive organization, we will continue to spend the bulk of our funds to sustain people and maintain vital infrastructure, but we also must maintain investment in equipment and technology required for future readiness.

To support our Soldiers, the centerpiece of the Army, we must rebuild and recapitalize our equipment including vehicles and weapons systems, maintain readiness for current operational demands, and build readiness for future challenges. It takes years beyond the end of hostilities to complete rebuilding and recapitalizing equipment. The fact that the number of vehicles and weapon systems currently in Army depots are sufficient to equip five Brigade Combat Teams and one Combat Aviation Brigade demonstrates the importance of timely recapitalization and reconditioning.

The Fiscal Year 2009 President's Budget

The FY09 President's Budget requests $140.7 Billion for the Army. This request and the amounts in the Global War on Terror (GWOT) Request are necessary to support current operations, fight the wars in Iraq and Afghanistan, sustain the All-Volunteer Force, and prepare for future threats to the Nation. This year the President approved accelerating the end-strength of the Army's Active Component to 547,000 and the Army National Guard to 358,200 by 2010.

The Army Reserve will increase in size to 206,000 by 2013. This most significant increase in the FY09 budget is the result of permanent end-strength increases of 44,300 Soldiers in two components—43,000 in the Active Component and over 1,300 in the Army National Guard. The Army's FY09 budget includes $15.1 Billion for all the costs associated with Grow the Army, which is an increase of $7.4 Billion over the costs of this initiative in FY08. This growth will enhance combat capabilities, help meet global force demand, and reduce stress on deployable personnel. Amounts requested by major appropriation category in the FY09 President's Budget as well as the change from the amounts enacted in FY08 are:

Military Personnel

The FY09 budget requests $51.8 Billion, a $5.5 Billion increase from FY08. This includes $4 Billion for Grow the Army, an increase of $3.4 Billion over FY08. This amount also funds pay, benefits, and associated personnel costs for 1,090,000 Soldiers: 532,400 Active, 352,600 Army National Guard, and 205,000 Army Reserve. The GWOT Request will fund special pays and incentives and the mobilization of Reserve Component Soldiers.

Operation and Maintenance

The FY09 budget requests $40.2 Billion, a $3.6 Billion increase from FY08. This includes $2.6 Billion for Grow the Army, an increase of $1.9 Billion from FY08. The increase funds training and sustainment of Army forces and includes the maintenance of equipment and facilities. The GWOT Request will fund the day-to-day cost of the war, training to prepare units for deployment, and the reset of forces returning from deployment.

Procurement

The FY09 budget requests $24.6 Billion, a $2 Billion increase from FY08. This includes $4.2 Billion for Grow the Army, an increase of $100 Million from FY08. This increase continues procurement of weapons systems for the Army to include the Non-Line of Sight Cannon, an FCS-designed system. The GWOT Request will fund procurement of weapon systems to improve force readiness and replace battle losses and the reset of forces returning from deployment.

Research, Development, Test, and Evaluation

The FY09 budget requests $10.5 Billion, approximately the same amount requested last year, but a $1.5 Billion decrease in the amount appropriated in FY08. The FY09 request reflects a $100 Million decrease to the FCS Research, Development, Test, and Evaluation as the programs transition to procurement.

Construction, Base Realignment and Closure (BRAC), and Army Family Housing

The FY09 budget requests $11.4 Billion, a $1.8 Billion increase from FY08. This includes $4.3 Billion for Grow the Army, an increase of $1.9 Billion from FY08. The increase funds the construction of facilities to support the growth and re-stationing of Army Forces. The GWOT Request will fund construction in and around the Iraq and Afghanistan theaters of operation.

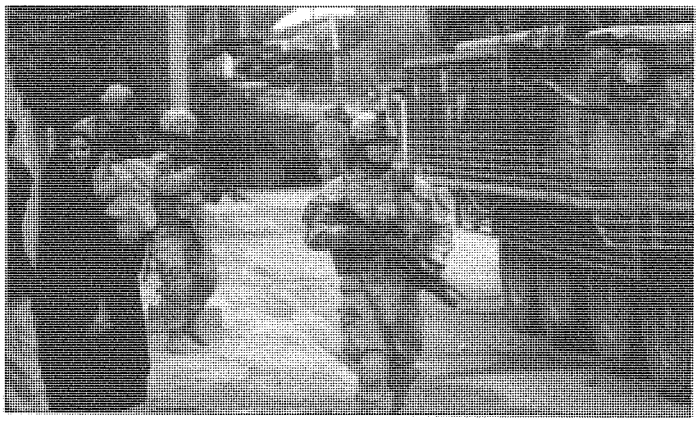
Other Accounts

The Army executes the Chemical Agents and Munitions Destruction Program. Funding for this account is stable at $1.6 Billion in FY08 and FY09. The Army also has fiscal responsibility for the Iraq Security Forces Fund (ISFF), Afghanistan Security Forces Fund (ASFF), and Joint Improvised Explosive Device Defeat Organization (JIEDDO) appropriations. The Army budgets for recurring sustainment costs of JIEDDO with FY09 at $500 Million, an increase of $400 Million from FY08. The GWOT Request will fund JIEDDO initiatives. The ISFF and ASFF are funded entirely through the GWOT Request.

Restoring Fiscal Balance

Timely and full funding of the Army's FY09 request of $140.7 Billion will ensure the Army is ready to meet the needs of the Nation and continue the process of putting us back in balance. However, it is important to note that over the last six years, the Army has received increasing proportions of its funding through supplemental and GWOT appropriations. This recurring reliance on GWOT funds and a natural overlap between base and GWOT programs means that the Army's base budget does not fully cover the cost of both current and future readiness requirements. Because the GWOT planning horizon is compressed and the timing and amount of funding is unpredictable, some base programs would be at risk if supplemental funding is precipitously reduced or delayed. An orderly restoration of the balance between base and GWOT requirements is essential to maintain Army capabilities for future contingencies.

Stewardship, Innovation, and Accomplishments



Our goals are to be good stewards of the resources we are provided by Congress and to free human and financial resources for higher priority operational needs. Through the use of innovations such as Lean Six Sigma we are improving support to our people while reducing waste and inefficiencies. Integral to achieving our goals is the development of an Army-wide cost-management culture in which leaders better understand the full cost of the capabilities they use and provide and incorporate cost considerations into their planning and decision-making. This approach will enable us to achieve readiness and performance objectives more efficiently. Concurrently, we are strengthening our financial and management controls to improve contracting in expeditionary operations and ensure full compliance with the law and regulations.

Our goal to improve long-term sustainability will be achieved through effective stewardship of human, financial, and natural resources. Some examples of our ongoing initiatives include:

- Adjusting our national and global footprint to improve efficiency and sustainability
- Transforming installations, depots, arsenals, and the information network that connects them to become more effective, energy efficient, and environmentally conscious
- Transforming the Army's training, structure, systems, and processes to better sustain and prepare the force
- Adapting our activities to protect the environment

Our accomplishments over the past year further illustrate our commitment to improving efficiency and effectiveness throughout the Army.

Army Accomplishments

- Initiated the Army Medical Action Plan to improve medical care for our Wounded Warriors
- Initiated the Soldier Family Action Plan bringing to life the Army Family Covenant
- Initiated Soldier Family Assistance Centers throughout the Army to provide a single point of entry for Families and Wounded Warriors for health-care and related issues
- Recognized with the prestigious Malcolm Baldrige Award; the Army Armament, Research and Development Engineering Center is the only organization in the federal government to have received this honor
- Recognized for world-class excellence in manufacturing, the Army Materiel Command's depots and arsenals earned 12 Shingo public sector awards
- Formed the Army Contracting Task Force to review current contracting operations and then immediately began implementing improvements
- Converted approximately 10,000 military positions to civilian positions through the end of FY07
- Privatized more than 4,000 homes, bringing the total to over 75,000 homes that are privately managed
- Reduced energy consumption on our installations through FY07, achieving levels down 8.4 percent since 2003 and 28.9 percent since 1985
- Reset 123,000 pieces of equipment, including 1,700 tracked vehicles, 15,000 wheeled vehicles, 550 aircraft, and 7,400 generators
- Improved property accountability by providing Army-wide visibility of 3.4 billion items valued in excess of $230 Billion
- Destroyed over 15,000 tons of chemical agents contained in 1.8 million chemical munitions and containers
- Moved 10 million square feet of unit cargo in support of the GWOT and humanitarian aid missions
- Merged the Joint Network Node program into the Warfighter Information Network-Tactical, resulting in better integration and cost savings
- Began fielding Mine Resistant Ambush Protected (MRAP) vehicles to units in Iraq
- Established the Army Evaluation Task Force and fielded first "spin-outs" from FCS
- Developed the Automated Reset Management Tool to provide a collaborative integrated tool for equipment reset planning and execution of the Army Force Generation process
- Increased the rigor in training new Soldiers by requiring graduates of basic training to be Combat Lifesaver certified
- Fielded Human Terrain Teams to assist commanders in gaining objective knowledge of a population's social groups, interests and beliefs
- Employed National Guard Soldiers worldwide who aided in seizing nearly 4,000 vehicles, approximately a million pounds of marijuana, and roughly 600,000 pounds of cocaine

While we are proud of these accomplishments, we continue to identify and pursue additional ways to improve our stewardship, efficiency, and effectiveness throughout the Army.

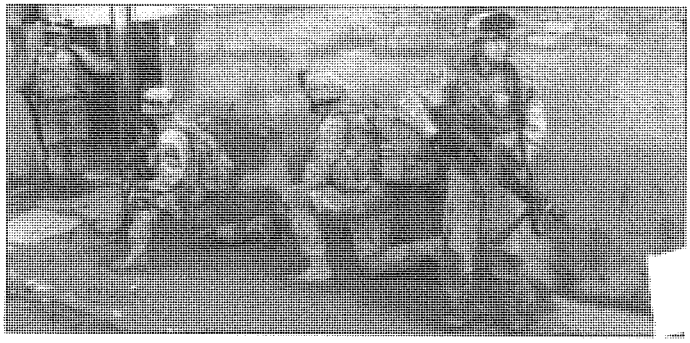
Preserving the Strength of the Nation

The Army has been at war for over six years. Our Soldiers have demonstrated valor, endured countless hardships, and made great sacrifices. Over 3,000 Soldiers have died and many more have been wounded. The awards our Soldiers have earned reflect their accomplishments and bravery on the battlefield. Our Army Families have stood shoulder to shoulder with their Soldiers throughout these challenging times.

Our examination of the current and future security environments confirms the need to restore balance and build readiness across all components of the Army as quickly as possible. Four imperatives–Sustain, Prepare, Reset, and Transform–frame how the Army will restore balance by 2011 and begin to build readiness for the future. To accomplish our plan, we will continue to require timely and predictable resources and support.

The Army will remain central to successfully achieving U.S. national security objectives, particularly in an era in which operations will be waged increasingly among people in urban environments. As the decisive ground component of the Joint and interagency teams, the Army operates across the full spectrum of conflict to protect our national interests and affirm our Nation's commitment to friends, allies, and partners worldwide. Our goal is a more agile, responsive, campaign quality and expeditionary Army with modern networks, surveillance sensors, precision weapons, and platforms that are lighter, less logistics dependent, and less manpower intensive.

As we restore balance and build readiness for the future, we continue to invest in our centerpiece—Soldiers—and the Families that support them. Of the million Soldiers in uniform, over half of them are married, with more than 700,000 children. The Army Family Covenant, the Soldier Family Action Plan, and the Army Medical Action Plan are examples of our commitment to caring for our Soldiers, Families, and Army Civilians in these challenging times. With the continued support from the Secretary of Defense, the President, and Congress for our legislative and financial needs, the Army will restore balance, build the readiness necessary in an era of persistent conflict, and remain **The Strength of the Nation.**



Reserve Components Readiness

Sections 517 and 521 of the National Defense Authorization Act (NDAA) 1994 require the information in this addendum. Section 517 requires a report relating to implementation of the pilot program for active component support of the Reserves under Section 414 of the NDAA 1992 and 1993. Section 521 requires a detailed presentation concerning the Army National Guard (ARNG), including information relating to implementation of the ARNG Combat Readiness Reform Act of 1992 (Title XI of Public Law 102-484, referred to in this addendum as ANGCRRA). Section 521 reporting was later amended by Section 704 of NDAA 1996. U.S. Army Reserve information is also presented using Section 521 reporting criteria.

Section 517 (b) (2) (A)

The promotion rate for officers considered for promotion from within the promotion zone who are serving as active component advisors to units of the Selected Reserve of the Ready Reserve (in accordance with that program) compared with the promotion rate for other officers considered for promotion from within the promotion zone in the same pay grade and the same competitive category, shown for all officers of the Army.

FY 2006		
Major	93.9	97.5
Lieutenant Colonel	68.7	90.9
FY2007		
Major	100	94.9
Lieutenant Colonel	100	91.0

*Active Component officers serving in Reserve Component assignments at time of consideration.
**Active Component officers not serving in Reserve Component assignments at the time of consideration.

Section 517 (b) (2) (B)

The promotion rate for officers considered for promotion from below the promotion zone who are serving as Active Component advisors to units of the Selected Reserve of the Ready Reserve (in accordance with that program) compared in the same manner as specified in subparagraph (A) (the paragraph above).

FY 2006		
Major	5.1%	6.8%
Lieutenant Colonel	3.2%	8.1%
FY2007		
Major	50%***	9%
Lieutenant Colonel	0%	9.7%

*Below the zone Active Component officers serving in Reserve Component assignments at time of consideration.
**Below-the-zone Active Component officers not serving in Reserve Component assignments at time of consideration.
***One officer promoted below the zone out of two eligible for consideration.

Section 521(b)

1. The number and percentage of officers with at least two years of active-duty before becoming a member of the Army National Guard or the US Army Reserve Selected Reserve units:

- ARNG officers: 20,811 or 55.5 percent
- Army Reserve officers: 4,968 or 7.9 percent

2. The number and percentage of enlisted personnel with at least two years of active-duty before becoming a member of the Army National Guard or the U.S. Army Reserve Selected Reserve units:

- ARNG enlisted: 119,269 or 37.8 percent
- Army Reserve enlisted: 11,247 or 18.8 percent

3. The number of officers who are graduates of one of the service academies and were released from active duty before the completion of their active-duty service obligation and, of those officers:

a. The number who are serving the remaining period of their active-duty service obligation as a member of the Selected Reserve pursuant to section 1112(a)(1) of ANGCRRA:

- In FY07, no graduates of a service academy were released to the Selected Reserve to complete their obligation.

b. The number for whom waivers were granted by the Secretary of the Army under section 1112(a)(2) of ANGCRRA, together with the reason for each waiver:

- In FY07, no waivers were granted by the Secretary of the Army.

4. The number of officers who were commissioned as distinguished Reserve Officers' Training Corps graduates and were released from active duty before the completion of their active-duty service obligation and, of those officers:

a. The number who are serving the remaining period of their active-duty service obligation as a member of the Selected Reserve pursuant to section 1112(a)(1) of ANGCRRA:

- In FY07, one distinguished Reserve Officers' Training Corps (ROTC) graduate was released before completing his active-duty service obligation.

b. The number for whom waivers were granted by the Secretary of the Army under section 1112(a)(2) of ANGCRRA, together with the reason for each waiver: In FY07, one waiver was granted by the Secretary of the Army. The reason for the waiver was personal hardship (i.e., a child of the service member, born with a congenital heart defect, must be within 10-15 minutes from a major center specializing in pediatric cardiology for services as required).

5. The number of officers who are graduates of the Reserve Officers' Training Corps program and who are performing their minimum period of obligated service in accordance with section 1112(b) of ANGCRRA by a combination of (a) two years of active duty, and (b) such additional period of service as is necessary to complete the remainder of such obligation served in the National Guard and, of those officers, the number for whom permission to perform their minimum period of obligated service in accordance with that section was granted during the preceding fiscal year:

- In FY07, no ROTC graduates were released early from their active-duty obligation. Of this number, none are completing the remainder of their obligation through service in the ARNG, and none through service in the Army Reserve.

6. The number of officers for whom recommendations were made during the preceding fiscal year for a unit vacancy promotion to a grade above first lieutenant, and of those recommendations, the number and percentage that were concurred in by an active duty officer under section 1113(a) of ANGCRRA, shown separately for each of the three categories of officers set forth in section 1113(b) of ANGCRRA (with Army Reserve data also reported):

- 2,129 ARNG officers from units were recommended for position-vacancy promotion and promoted.
- 37 Army Reserve officers from units were recommended for position-vacancy promotion and promoted.

7. The number of waivers during the preceding fiscal year under section 1114(a) of ANGCRRA of any standard prescribed by the Secretary establishing a military education requirement for non-commissioned officers and the reason for each such waiver:

- In FY07, no waivers were granted by the Secretary of the Army.

8. The number and distribution by grade, shown for each State, of personnel in the initial entry training and non-deployability personnel accounting category established under section 1115 of ANGCRRA for members of the Army National Guard who have not completed the minimum training required for deployment or who are otherwise not available for deployment. A narrative summary of information pertaining to the Army Reserve is also provided:

- In FY07, the ARNG had 61,700 Soldiers were considered nondeployable because of incomplete initial entry training, officer transition, medical issues, nonparticipation, or restrictions on the use or possession of weapons and ammunition under the Lautenburg Amendment. The National Guard Bureau (NGB) maintains the detailed information.
- In FY07, the Army Reserve had 35,049 (AR) Soldiers who were considered nonavailable for deployment for reasons outlined in Army Regulation 220-1, Unit Status Reporting (e.g., pending administrative/legal discharge or separation, medical non-availability).

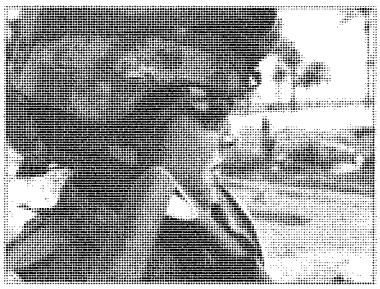
9. The number of members of the Army National Guard, shown for each State, that were discharged during the previous fiscal year pursuant to section 1115(c)(1) of ANGCRRA for not completing the minimum training required for deployment within 24 months after entering the National Guard, Army Reserve data also reported:

- The number of ARNG Soldiers discharged during FY07 pursuant to section 1115(c)(1) of ANGCRRA for not completing the minimum training required for deployment within 24 months after entering the Army National Guard is 161 officers and 11,095 enlisted Soldiers from all U.S. states and territories. The breakdown by each state is maintained by the NGB.

- The number of Army Reserve Soldiers discharged during FY07 for not completing the minimum training required for deployment within 24 months after entering the Army Reserve is 15 officers and 436 enlisted Soldiers. Those Soldiers who have not completed the required initial entry training within the first 24 months are discharged from the Army Reserve under AR 135-178, Separation of Enlisted Personnel. Those officers who have not completed a basic branch course within 36 months after commissioning are separated under AR 135-175, Separation of Officers.

10. The number of waivers, shown for each State, that were granted by the Secretary of the Army during the previous fiscal year under section 1115(c)(2) of ANGCRRA of the requirement in section 1115(c)(1) of ANGCRRA described in paragraph (9), together with the reason for each waiver:

- In FY07, no waivers were granted by the Secretary of the Army.



11. The number of Army National Guard members, shown for each State, (and the number of AR members), who were screened during the preceding fiscal year to determine whether they meet minimum physical profile standards required for deployment and, of those members: (a) the number and percentage that did not meet minimum physical profile standards for deployment; and (b) the number and percentage who were transferred pursuant to section 1116 of ANGCRRA to the personnel accounting category described in paragraph (8):

a. The number and percentage who did not meet minimum physical profile standards required for deployment:

- In FY07, 155,662 ARNG Soldiers underwent a physical. Of these personnel, 5,606 or 3.6 percent were identified for review due to a profile-limiting condition or failure to meet retention standards.

- In FY07, 56,384 Army Reserve Soldiers underwent a physical. Of these personnel 9,073 or 16 percent were identified for review due to a profile limiting condition or failure to meet retention standards.

b. The number and percentage that were transferred pursuant to section 1116 of ANGCRRA to the personnel accounting category described in paragraph (8).

- In FY07, 5,821 ARNG Soldiers were transferred from deployable to nondeployable status for failing to meet medical deployability standards. This number includes Soldiers returning from a mobilization with a new medical condition and reflects an increase in the use of electronic databases.

- In FY07, 839 Army Reserve Soldiers were considered nonavailable for deployment for failing to meet medical deployability standards. This is a decrease of 784 from the previous fiscal year.

12. The number of members and the percentage total membership of the Army National Guard shown for each State who underwent a medical screening during the previous fiscal year as provided in section 1117 of ANGCRRA:

- Public Law 104-106 (NDAA 1996), Div A, Title VII, Section 704 (b), February 10, 1996, repealed Section 1117 of ANGCRRA.

13. The number of members and the percentage of the total membership of the Army National Guard shown for each State who underwent a dental screening during the previous fiscal year as provided in section 1117 of ANGCRRA:

- Public Law 104-106 (NDAA 1996), Div A, Title VII, Section 704 (b), February 10, 1996, repealed Section 1117 of ANGCRRA.

14. The number of members and the percentage of the total membership of the Army National Guard shown for each State, over the age of 40 who underwent a full physical examination during the previous fiscal year for purposes of section 1117 of ANGCRRA:

- Public Law 104-106 (NDAA 1996), Div A, Title VII, Section 704 (b), February 10, 1996, repealed Section 1117 of ANGCRRA.

15. The number of units of the Army National Guard that are scheduled for early deployment in the event of a mobilization, and of those units, the number that are dentally ready for deployment in accordance with section 1118 of ANGCRRA:

- Public Law 104-106 (NDAA 1996), Div A, Title VII, Section 704 (b), February 10, 1996, repealed Section 1118 of ANGCRRA.

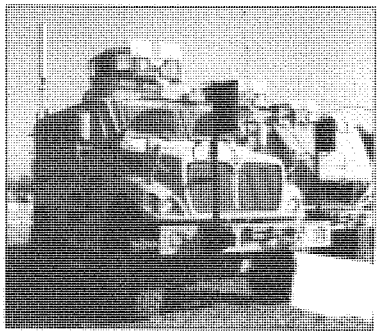
16. The estimated post-mobilization training time for each Army National Guard combat unit (and Army Reserve unit), and a description, displayed in broad categories and by State of what training would need to be accomplished for Army National Guard combat units (and AR units) in a post-mobilization period for purposes of section 1119 of ANGCRRA:

- Information on the type of training required by units during post-mobilization is maintained by First United States Army. The data are not captured and provided by the state.

- ARNG units are striving to train in accordance with the Army Force Generation (ARFORGEN) process in order to prepare for operational missions and reduce post-mobilization training time. The ARFORGEN process requires increasing resources as necessary for maximum company-level training proficiency prior to mobilization. This training generally consists of individual warrior training tasks, weapons qualification and gunnery, battle staff training, and maneuver training. This is followed by theater-specific tasks and higher level collective training to complete the predeployment requirements for the unit's specific mission. The goal for post-mobilization training time for a brigade-size organization is approximately 60 days.

- Post-mobilization training time is contingent upon the amount of certified pre-mobilization training conducted, the type of unit, and its assigned mission. In order to reduce post-mobilization training time, the ARNG has developed programs and products such as the ARNG Battle Command Training Capability, the eXportable Combat Training Capability (XCTC), myriad training devices and range complexes for our units. The combination of programs and products, provide our units with the capability to accomplish more pre-mobilization training and reduce post-mobilization training time.

- The Army Reserve Training Strategy (ARTS) envisions execution of both the provisions of section 1119 as well as the Office of the Secretary of Defense train-alert-deploy paradigm. Specifically, the ARTS requires higher levels of pre-mobilization readiness through completion of increasingly higher levels of training as units progress through the ARFORGEN cycle. Thus, the initial focus on individual and leader training migrates to low-level unit and battle staff, culminating in multiechelon, combined-arms exercises in the Ready year. The goal is to provide trained and ready combat support/combat service support platoons and trained and proficient battle staffs, battalion level and above, to the mobilization station. Realization of this strategy is dependent upon additional resources as it requires additional active training days and support funds. The majority of the additional training days are currently being resourced in the base budget, but the additional operational tempo is funded via GWOT Requests.



- Per January 2007 direction from the Secretary of Defense (SECDEF) Reserve Component unit mobilizations are now limited to 400-day periods, including a 30-day post-mobilization leave. Perhaps the most significant impact of this policy change is the inclusion of post-mobilization training time in the 400-day mobilization period. Thus, many training tasks previously conducted during post-mobilization periods of three to six months have been identified for pre-mobilization training, and Army Reserve units are training to standard on as many of these tasks as resources permit.

- Post-mobilization training for Army Reserve units is directed and managed by the First Army. First Army conducts the theater-specified training required and confirms the readiness of mobilized Army Reserve units to deploy to overseas theaters. ARFORGEN's Ready Year 2 (the year before mobilization) is particularly critical to implementation of the ARTS and SECDEF policies. During the Ready Year 2, Army Reserve units complete collective pre-mobilization training in a 29-day period, including training on many of the theater-identified tasks formerly covered by First Army during post-mobilization. Timely alert for mobilization–at least one year prior to mobilization–is crucial.

- Army goals for post-mobilization training for Army Reserve headquarters and combat support/combat service support units range from 30 to 60 days. Post-mobilization training conducted by First Army typically consists of counterinsurgency operations, counter-improvised-explosive-device training, convoy live-fire exercises, theater orientation, rules of engagement/escalation-of-force training, and completion of any theater-specified training not completed during the pre-mobilization period. Typical post-mobilization periods for various units are outlined below.

	Post Mobilization Training Days		
	Current	Bridging*	Objective
Military Police (Internet Resettlement)	77	60	46
Engineer Battalion (Route Clearence)	75	60	44
Military Police Company	86	60	46
Supply Company	60	45	33
Postal Company	95	30	22
Engineering Company (Construction)	60	45	35
Transportation Company (Heavy Equip Trans)	60	45	33

*The period roughly from Training Year 2008 through Training Year 2010, when required training enablers (e.g., dollars, training days, training support structure, training facilities) are resourced and thus support the higher levels of pre-mobilization individual, leader, and collective training needed to maximize boots on ground/deployed time.

17. A description of the measures taken during the preceding fiscal year to comply with the requirement in section 1120 of ANGCRRA to expand the use of simulations, simulators, and advanced training devices and technologies for members and units of the Army National Guard (and the Army Reserve):

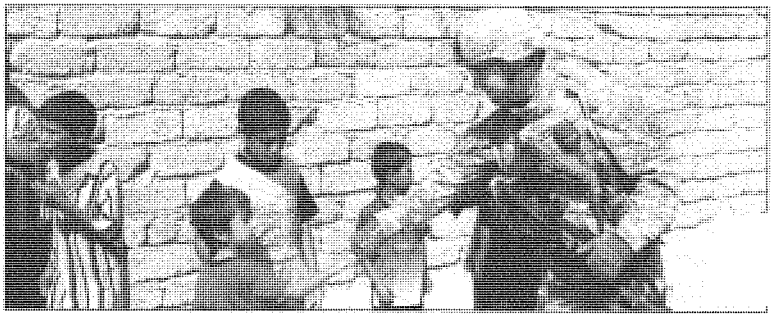
- During FY 07, the ARNG continued to synchronize the use of existing and ongoing live, virtual, and constructive training aids, devices, simulations and simulators (TADSS) programs with the training requirements of the ARFORGEN training model. By synchronizing the use of TADSS with ARFORGEN, the ARNG continues to improve unit training proficiency prior to mobilization.

- To support the training requirements of M1A1 Abrams and M2A2 Bradley-equipped Brigade Combat Teams (BCT's), the ARNG continued the fielding of the Advanced Bradley Full-Crew Interactive Simulation Trainer, which provides full crew-simulations training for M2A2 units, Tabletop Full-fidelity Trainers for the M2A2 and the Conduct of Fire Trainer XXI for M1A1 and M2A2. When fully fielded, these devices, in addition to the Abrams Full-Crew Interactive Simulation Trainer XXI, will be the primary simulations trainers to meet the virtual gunnery requirements of M1A1 and M2A2 crews.

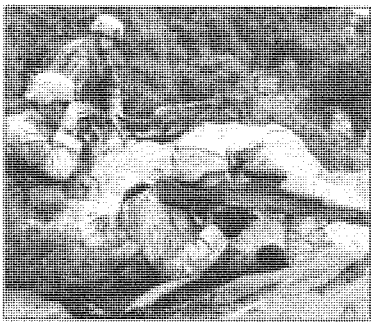
- In order to meet the virtual-maneuver training requirements in the ARFORGEN process, M1A1 and M2A2 units use the Close-Combat Tactical Trainer (CCTT) and the Rehosted Simulations Network (SIMNET) XXI, in addition to the Rehosted SIMNET CCTT Core. The CCTT, SIMNET XXI, and SIMNET CCTT provide a mobile training capability to our dispersed units.

- In order to train all ARNG units on the tactics, techniques, and procedures (TTPs) of convoy operations, the ARNG is fielding the Virtual Convoy Operations Trainer (VCOT). The VCOT, through the use of geospecific databases, provides commanders with a unique and critical mission rehearsal tool. Currently, 32 VCOT systems are positioned in the ARNG force to train units on the fundamentals of convoy operations.

- In order to meet basic and advanced rifle marksmanship requirements, the ARNG is fielding the Engagement Skills Trainer (EST 2000).



This system is the Army's approved marksmanship-training device. The ARNG is also continuing use of its previously procured Fire Arms Training System (FATS) until EST 2000 fielding is complete. The EST 2000 and FATS are also used to provide unit collective tactical training for dismounted Infantry, Special Operations Forces, Scouts, Engineer, and Military Police squads, as well as combat support and combat service support elements. These systems also support units conducting vital homeland defense missions.

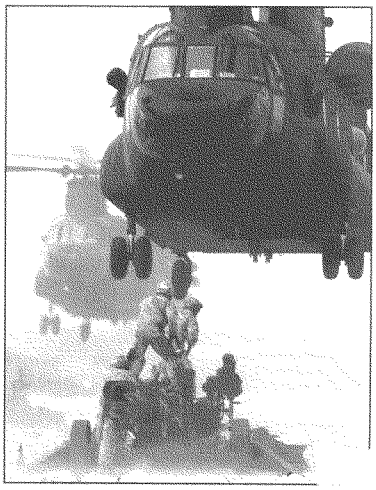


- The ARNG supplements its marksmanship-training strategy with the Laser Marksmanship Training System (LMTS). The ARNG currently has over 900 systems fielded down to the company level. The LMTS is a laser-based training device that replicates the firing of the Soldier's weapon without live ammunition. It is utilized for developing and sustaining marksmanship skills, diagnosing and correcting marksmanship problems, and assessing basic and advanced skills.
- The ARNG has further developed its battle command training capability through the three designated Battle Command Training Centers (BCTCs) at Fort Leavenworth, Camp Dodge, and Fort Indiantown Gap, and the Distributed Battle Simulation Program (DBSP). BCTCs provide the backbone of the program as collective hubs in the battle command training strategy. The DBSP provides Commanders assistance from Commander's Operational Training Assistants, TADSS facilitators, and Technical Support Teams. BCTCs and the DBSP collectively help units in the planning, preparation, and execution of simulations-based battle staff training that augments the Department of the Army-directed Warfighter Exercises and greatly enhances battle staff and unit proficiency.
- In order to provide the critical culminating training event of ARFORGEN, the ARNG has implemented the XCTC. The XCTC program provides the method to certify that ARNG combat units have achieved company-level maneuver proficiency prior to mobilization. The XCTC incorporates the use of advanced live, virtual, and constructive training technologies to replicate the training experience until now only found at one of the Army's Combat Training Centers. The centerpiece of the XCTC is the Deployable Force-on-Force Instrumented Range System (DFIRST). DFIRST utilizes training technologies that allow for full instrumentation of the training area from major combat systems down to the individual Soldier, role player, and civilian on the battlefield.
- The most important part of every training exercise is the After-Action Review (AAR). By full instrumentation of the units, Soldiers, and training areas, units receive an AAR complete with two-dimensional, three-dimensional, and video playback of the actual training exercise. This allows Commanders and Soldiers to see what occurred during the training exercise from a different perspective, further enhancing the training experience.

- The Army Reserve continues to leverage–to extent resources permit–TADSS into its training program. Implementation of Army Campaign Plan Decision Point 72 continues with establishment of the 75th Battle Command Training Division (BCTD) (Provisional). This division, with five battle command training brigades, employs legacy constructive simulations to provide battle command and staff training to Army Reserve and Army National Guard battalion and brigade commanders and staffs during pre-mobilization and post-mobilization. The concept plan as well as requirements for supporting Army battle command systems and simulations drivers for the 75th BCTD is pending Headquarters Department of the Army (HQDA) approval.

- The Army Reserve continues to partner with the Program Executive Office, Simulations, Training and Instrumentation; Training and Doctrine Command agencies; and HQDA to define TADSS requirements for combat support and combat service support units. During FY07 the Army Reserve refined concepts for the integration of live, virtual, and constructive environments to train Soldiers and units. Most notably, during the Pacific Warrior exercise in July 2007, the Army Reserve attempted to integrate live and constructive environments as it trained senior battle staffs in both constructive and live environments while lower echelon units conducted platoon lanes. The distinction between live and constructive was apparent to the senior battle staff managing exercise play. The lack of key TADSS enablers was identified in concept plans (e.g., 75th BCTD, Army Reserve Operations Groups) awaiting HQDA approval. Upon approval and subsequent fielding of the required TADSS, this gap will be filled. The 75th BCTD is on the Entity-level Resolution Federation (ERF) fielding plan. The ERF provides a high-resolution (e.g., individual Soldier-level fidelity aggregated to unit resolutions) joint constructive battle staff training simulation.

- The LMTS and EST 2000 remain essential elements of Army Reserve marksmanship training. LMTS procurement continues, and distribution throughout the Army Reserve force continues to increase. The LMTS has also been adapted to support convoy operations training. In either individual premarksmanship training or convoy modes, the system allows the Soldier to use an assigned weapon, as well as crew-served weapons, in a simulation/training mode. EST 2000 systems have been fielded to many Army Reserve Engineer and Military Police organizations to enable full use of its training capabilities by units with high densities of crew-served weapons their at home stations.



- The Army Reserve also has a number of low-density simulators it employs to reduce expensive "live" time for unique combat service support equipment. For example, Army Reserve watercraft units train on the Maritime Integrated Training System (MITS), a bridge simulator that not only trains vessel captains but the entire crew of Army watercraft. In 2007 the Army Reserve invested in communications infrastructure so that the MITS at Mare Island, California, can communicate and interact with another Army MITS at Fort Eustis, Virginia. This will provide the capability to conduct distributed multiboat collective training among all the simulators. Of note, the MITS is also used by U.S. Navy, U.S. Coast Guard, and harbor management agencies. Other simulators include locomotive simulators used by Army Reserve railroad units and a barge derrick simulator for floating watercraft maintenance units. Other simulator requirements have been and are being identified in requirements documents.
- To further the use of simulations and simulators, the Army Reserve hosted a Functional Area 57 (Simulations Operations Officer) course in Birmingham, Alabama, for 26 officers of the 4th Brigade, 75th BCTD. Conducted by HQDA cadre in August and September 2007, the course was a proof-of-principle effort to assess the viability of exporting the resident course from Fort Belvoir to Army Reserve home stations. The Army Reserve intends to continue off-site delivery to the other four brigades of the 75th Division as well as the three Operations Groups while continuing to use resident school quotas to meet formal schooling requirements. Having a qualified cadre of schooled training supporters is the foundation of the use of simulations and simulators, as well as the authoring of requirements documents conducive to the procurement of simulators and simulations to meet combat support and combat service support needs.
- The Army Reserve recommendation for a low overhead driver/staff trainer for brigade-battalion combat support and combat service support Commanders was adopted as a Quick Win by the Total Army Training Capability Study (collective training). The Army is planning on procuring a solution in FY08-FY09 to allow Commanders to conduct stressful and doctrinally correct staff training at home station without the need for a significant investment in facilities or support technicians.

18. Summary tables of unit readiness, shown for each State, (and for the Army Reserve), and drawn from the unit readiness rating system as required by section 1121 of ANGCRRA, including the personnel readiness rating information and the equipment readiness assessment information required by that section, together with:

a. Explanations of the information: Readiness tables are classified. This information is maintained by the Department of the Army, G-3. The data is not captured and provided by state.

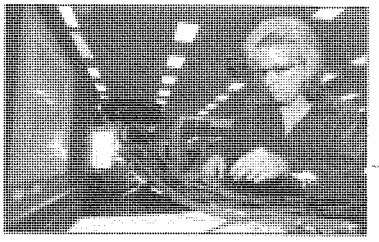
b. Based on the information shown in the tables, the Secretary's overall assessment of the deployability of units of the ARNG (and Army Reserve), including a discussion of personnel deficiencies and equipment shortfalls in accordance with section 1121: Summary tables and overall assessments are classified. This information is maintained by the Department of the Army, G-3.

19. Summary tables, shown for each State (and Army Reserve), of the results of inspections of units of the Army National Guard (and Army Reserve) by inspectors general or other commissioned officers of the Regular Army under the provisions of Section 105 of Title 32, together with explanations of the information shown in the tables, and including display of:

a. The number of such inspections
b. Identification of the entity conducting each inspection
c. The number of units inspected
d. The overall results of such inspections, including the inspector's determination for each inspected unit of whether the unit met deployability standards and, for those units not meeting deployability standards, the reasons for such failure and the status of corrective actions

- During FY07, Inspectors General and other commissioned officers of the Regular Army conducted 252 inspections of the ARNG, including 672 ARNG units. The bulk of these inspections (208) were executed by Regular Army officers assigned to the respective states and territories as Inspectors General. Of the remaining 44, 37 were conducted by First Army and the Department of the Army Inspector General and the remaining 7 by the U.S. Army Forces Command (FORSCOM); Training and Doctrine Command (TRADOC); Communications-Electronics Command; and the U.S. Army Audit Agency. Because the inspections conducted by Inspectors General focused on findings and recommendations, the units involved in these inspections were not provided with a pass/fail rating. Results of such inspections may be requested for release through the Inspector General of the Army.

- Operational Readiness Evaluation data for the Force Support Package and expanded separate brigades are unavailable, as inspections there of were eliminated as requirements in 1997. Data available under the Training Assessment Model (TAM) relates to readiness levels and is generally not available in an unclassified format. TAM data are maintained at the state level and are available upon request from state level-training readiness officials.



- In accordance with AR 1-201, Army Inspection Policy, the U.S. Army Reserve Command (USARC) conducts inspections of regional readiness commands and direct support units within requirements of the USARC Organizational Inspection Program (OIP). Per the Army Regulation, OIPs at division levels and above, mainly comprise staff inspections, staff assistance visits and Inspectors General. Staff inspections are only one aspect by which Commanding Generals can evaluate the readiness of their commands. The Inspector General conducts inspections and special assessments based on systemic issues and trends analysis with emphasis on issues that could impede the readiness of the Army Reserve.
- The Chief, Army Reserve, directed the Inspector General to conduct special assessments in FY07 prompted by concerns over systemic issues. One was the Special Assessment of Property Accountability. It focused on policies and guidance for, compliance with standards of, and adherence to the Command Supply Discipline Program; the effectiveness of the reconstitution process; and the impact of stay-behind-theater-provided equipment on property accountability, with emphasis on transportation and communications equipment.
- Another was the Special Assessment of the Organizational Inspection Program, which evaluated the OIP to determine if Commanders were using it to assess readiness and to reinforce goals and standards within their commands. These assessments also encompassed an annual regulatory review of compliance with and effectiveness of, the Army Voting Assistance Program, a program of special interest to the Department of the Army.
- The Army Reserve is meeting regulatory requirements through a combination of Battle-Focused Readiness Reviews (BFRRs) and staff assistance visits, with the assistance visits conforming to regulatory requirements of AR 1-201. The BFRR is the tool used by major subordinate Commanders to provide the Army Reserve Commanding General a status on resources and readiness of their commands, and resolve systemic issues/trends in order to achieve continuous improvements in readiness. The Army Reserve conducted 16 BFRRs in FY07. The staff assistance visits were more oriented to a particular topic in the staff proponent's area.

20. A listing, for each ARNG combat unit (and US Army Reserve FSP units) of the active-duty combat units (and other units) associated with that ARNG (and US Army Reserve) unit in accordance with section 1131(a) of ANGCRRA, shown by State, for each such ARNG unit (and for the US Army Reserve) by: (A) the assessment of the commander of that associated active-duty unit of the manpower, equipment, and training resource requirements of that National Guard (and Army Reserve) unit in accordance with section 1131(b)(3) of the ANGCRRA; and (B) the results of the validation by the commander of that associated active-duty unit of the compatibility of that National Guard (or US Army Reserve) unit with active duty forces in accordance with section 1131(b)(4) of ANGCRRA:

- There are no longer ground combat active or reserve component associations due to operational mission requirements and deployment tempo.
- As FORSCOM's executive agent, First Army and USARPAC (U.S. Army Pacific) for Pacific based Reserve Component units, executes the legislated active duty associate unit responsibilities through both their pre-mobilization and post-mobilization efforts with reserve component units. When reserve component units are mobilized they are thoroughly assessed in terms of manpower, equipment, and training initially by the appropriat-

chain of command, and that assessment is approved by First Army or USARPAC as part of the validation for unit deployment.

- Validation of the compatibility of the reserve component units with the active duty forces occurs through the mobilization functions with the direct oversight of First Army, USARPAC and FORSCOM at the Mobilization Centers.
- The Army's Transformation from a division-centric to brigade-centric organization, execution of ARFORGEN, and acceleration of modularity and rebalancing efforts in the ARNG and Army Reserve, coupled with lack of available active ground combat units to conduct annual assessment of reserve component units, should obviate the reporting requirement stipulated in Title 10, U.S. Code, Section 10542, Army National Guard Combat Readiness Annual Report.

21. A specification of the active-duty personnel assigned to units of the Selected Reserve pursuant to section 414(c) of the National Defense Authorization Act for Fiscal Years 1992 and 1993 (10 USC. 261 note), shown (a) by State for the Army National Guard (and for the US Army Reserve), (b) by rank of officers, warrant officers, and enlisted members assigned, and (c) by unit or other organizational entity of assignment:

- As of September 30, 2007, the Army had 3,251 active component Soldiers assigned to Title XI positions. In FY06, the Army began reducing authorizations in accordance with the National Defense Authorization Act 2005 (Public Laws 108-767, Section 515). Army G-1, and U.S. Army Human Resources Command carefully manages the authorizations and fill of Title XI positions. The data are not captured and provided by state.

Title XI (FY 07) Authorizations				
	OFF	ENL	WO	TOTAL
OA-22	0	2	0	2
U.S. Army Reserve	25	83	0	108
TRADOC	83	80	0	163
FORSCOM	1155	2225	121	3501
ESGR	0	0	0	0
USARPAC	30	54	1	85
TOTAL	1293	2444	122	3859

Information Papers

For more information about the topics below: www.army.mil/aps/08/information_papers/information_papers.php

Sustain

Army Career Intern Program
Army Career Tracker
Army Community Services
Army Family Action Plan
Army Continuing Education System
Army Familly Housing
Army Family Team Building Information
Army Integrated Family Support Network
Army Medical Action Plan
Army Referral Bonus Pilot Program
Army Reserve Child and Youth Services
Army Reserve Employer Relations
Army Reserve Voluntary Education Services
Army Reserve Voluntary Selective Continuation
Army Retention Program
Army Spouse Employment Partnership
Army Strong
Army Suicide Prevention Program
Army Transferability of GI Bill Benefits to Spouses Program
ARNG Active First
ARNG Education Support Center
ARNG Family Assistance Centers
ARNG Freedom Salute
ARNG GED Plus
ARNG Periodic Health Assessment
ARNG Post Deployment Health Reassessment
ARNG Recruit Sustainment Program
ARNG Recruiter Assistance Program
ARNG Yellow Ribbon Program
Better Opportunity for Single Soldiers
Child and Youth School Transition Services
Commissary and Exchange Quality Of Life
Community Based Health Care Organization
Defense Integrated Military Human Resourece System
Deployment Cycle Support
Diversity
Equal Opportunity and Prevention of Sexual Harassment
Exceptional Familly Member Program Respite Care
Family Advocacy Program
Family Readiness Support Assistant
Freedom Team Salute
Full Replacement Value and Families First
Job Swap Program
Medical and Dental Readiness
Military Family Life Consultants
Military One Source
Military to Civilian Conversions
Morale Welfare and Recreation
MyArmyLifeToo
National Security Personnel System
Officer Retention
Privatization of Army Lodging
Residential Communities Initiative
Sexual Assault Prevention
Soldier and Family Assistance Centers
Soldier and Family Readiness Board of Directors
Strong Bonds
US Army Wounded Warrior Program
US CENTCOM Rest and Recuperation Leave Program
Warrior in Transition
Wellness Assessment and Education

Prepare

Add-on Armor for Tactical Wheeled Vehicles
Army Asymmetric Warfare Group
Army Asymmetric Warfare Office
Army Combat Training Center Program
Army Distributed Learning Program
Army Initiatives to Improve Irregular Warfare Capability
Army National Guard Readiness Centers
Army Training Support System
ARNG Exportable Combat Training Capability
Basic Officer Leader Course
Biometrics
College of the American Soldier
Combating Weapons of Mass Destruction
Contractor-Acquired Government-Owned Equipment
Global Force Posture
Interceptor Body Armor
Live Virtual Constructive Integrating Architecture
Mine Resistant Ambush Protected Vehicles

Multi-Source Assessment and Feedback Program
Persistent Conflict
Property Accountability
Rapid Equipping Force
Rapid Fielding Initiative
Red Team Education and Training
Robotics
Sustainable Range Program
Unit Combined Arms Training Strategies
US Army Combat Training Centers
Up-Armored High-Mobility Multipurpose Wheeled Vehicle
Warrior Tasks
Western Army National Guard Aviation Training Site

Reset
360-Degree Logistics Readiness
Army Equipping and Reuse Conference
Army Sustainability
Black Hawk Utility Helicopter
Building Army Prepositioned Stocks
CH-47 Medium Lift Helicopter
Depot Maintenance Initiatives
Equipment Reset Program
Life Cycle Management Initiative
Longbow Apache
Raven Small Unmanned Aircraft System
Retained Issue
Retrograde
Shadow Unmanned Aircraft System
War Reserve Secondary Items

Transform
Accelerate Army Growth
Active Component Reserve Component Rebalance
Armed Reconnaissance Helicopter
Army Distributed Learning Program
Army Force Protection Division Initiative
Army G-4 Lean Six Sigma
Army Integrated Logtistics Architecture
Army Intelligence Transformation
Army Leader Development Program
Army Modernization Plan
Army Netcentric Data Strategy
Army Officer Education System
Army Power Projection Platform
Army Reserve Facility Management
ARNG Chemical, Biological, Radiological, Nuclear and High-Yield-Explosive–Enhanced Response Forces
ARNG Civil Support Teams
ARNG Operational Support Airlift Agency
ARNG State Partnership Program
Barracks Modernization Program
Base Realignment and Closure Program
Battle Command as a Weapons System
Campaign Quality Force
Civil Works
Civilian Education System
Common Levels of Support
Common Logistics Operating Environment
Concept Development and Experimentation
CONUS Theater Signal Command
Cultural and Foreign Language Capabilities
Cyber Operations
Defense Support to Civil Authorities
Defense Support to Civil Authorities Special Events
Defense Support to Civil Defense Coordinating Officer
Digital Training Management System
Enhancing Joint Interdependence
Every Soldier is a Sensor / Human Terrain Teams
Expeditionary Capabilities
Expeditionary Contracting
Expeditionary Theater Opening
Flat Network Intelligence Access
Full Spectrum Operations
Intelligence Training
Interceptor Body Armor
Joint Knowledge Development and Distribution
Joint National Training Capability Activities
Joint Precision Airdrop System
Joint Tactical Radio System
Lakota
LandWarNet and the Global Information Grid
Logistics Automation
Major Acquisition Programs Future Combat System
MANPRINT

UNITED STATES ARMY

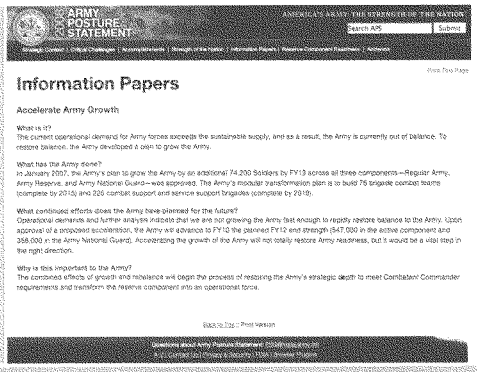
ADDENDUM B

Medium Extended Air Defense System
Micro Electrical Mechanized Systems with RFID
Military Construction Transformation
Military Intelligence Capacity and Rebalance
Modular Force Conversion
Next Generation Wireless Communications
Non-Commissioned Officer Education System
Pandemic Influenza Preparation
Persistent Surveillance
Restructuring Army Aviation
Revitalizing Army Human Intelligence
Science and Technology
Single Army Logistics Enterprise
Spiral Technology and Capabilities
Stability Operations Capabilities
Transform
Warrior Unmanned Aircraft System
Warfighter Information Network-Tactical (WIN-T)

Other Important Information Papers

Army Medical Action Program
Army Knowledge Online - DKO
Army Direct Ordering
Army Environmental Programs
Army Values
ARNG Agribusiness
ARNG Counterdrug
ARNG Environmental Programs
ARNG Fishing Program
ARNG Youth Challenge
Building Partnership Capacity
Civilian Corps Creed
CONUS Theater Signal Command
Energy Strategy
Fixed Regional Hub Nodes
Funds Control Module
General Fund Enterprise Business System
Institutional Training
Information Assurance and Network Security
Lean Six Sigma 2007
Organizational Clothing and Individual Equipment
Real Estate Disposal
Redeployment Process
Soldier as a System
Single DOIM and Army Processing Centers
Soldiers Creed
Streamline OCIE Processes
US Army Combat Training Center Program
US Army North
Warrior Ethos
Western Hemisphere Institute for Security Cooperation

For more information on the Posture of the US Army, please visit our website: www.army.mil/posture



Websites

Army Business Transformation Knowledge Center:
This site provides information on Army Business Transformation. http://www.army.mil/ArmyBTKC/index.htm

Army Center Capabilities and Information Center (ARCIC):
This site provides background on ARCIC. http://www.arcic.army.mil

Army Logistics Transformation Agency:
This site provides information on Army logistics transformation. https://www.lta.army.mil

Army Medicine:
This site provides information on Army medical programs. http://www.armymedicine.army.mil

Army Modernization Plan:
This site provides a detailed overview of the Army's organizational and materiel modernization efforts. http://www.g8.army.mil

Army National Guard:
This site provides information about the Army National Guard. http://www.arng.army.mil

Army Posture Statement:
This site provides the web-based version of the Army Posture Statement which includes amplifying information not found in the print version. http://www.army.mil/aps

Army Sustainability:
This site provides information on Army sustainability efforts. http://www.sustainability.army.mil

Army Training and Doctrine Command (TRADOC):
This site provides background on TRADOC. http://www.tradoc.army.mil

Army Website:
This site is the most visited military website in the world, averaging about seven million visitors per month or 250 hits per second. It provides news, features, imagery, and references. http://www.army.mil

Army Wounded Warrior Program:
This site provides information on the Army's Wounded Warrior Program which provides support for severely wounded Soldiers and their Families. https://www.aw2.army.mil/

UNITED STATES ARMY

ADDENDUM C

Chief Information Officer, CIO/G-6:
This site provides information on Army information operations. http://www.army.mil/ciog6/

Deputy Chief of Staff for Intelligence, G-2:
This site provides information on Army Intelligence initiatives. http://www.dami.army.pentagon.mil

Deputy Chief of Staff for Logistics, G-4:
This site provides information on Army logistics. http://www.hqda.army.mil/logweb/

Deputy Chief of Staff for Operations, Plans, and Policy, G-3/5/7:
This site provides information on Army operations, policies and plans.
http://www.g357extranet.army.pentagon.mil/#

Deputy Chief of Staff for Personnel, G-1:
This site provides information on personnel issues. http://www.armyg1.army.mil

Deputy Chief of Staff for Programs:
This site provides information on materiel integration. http://www.g8.army.mil

Future Combat Systems:
This site provides information on the Future Combat Systems program. http://www.army.mil/fcs

My ArmyLifeToo Web Portal:
This site serves as an entry point to the Army Integrated Family Support Network (AIFSN).
http://www.myarmylifetoo.com

United States Army Reserve:
Provides information about the Army Reserve. http://www.armyreserve.army.mil/usar/home

Western Hemisphere Institute for Security Cooperation (WHINSEC):
This site provides the history and overview of WHINSEC. https://www.infantry.army.mil/WHINSEC/

Acronyms and Initializations

AC	Active Component
ACOM	Army Command
AMC	Army Materiel Command
APOE	Aerial Port of Embarkation
APS	Army Prepositioned Stocks
ARFORGEN	Army Force Generation
ARI	Army Research Institute
ARNG	Army National Guard
ASC	Army Sustainment Command
ASCC	Army Service Component Command
ASV	Armored Security Vehicle
AW2	U. S. Army Wounded Warrior Program
BCT	Brigade Combat Team
BfSB	Battlefield Surveillance Brigade
BOLC	Basic Officer Leader Course
BRAC	Base Realignment and Closure
BT	Business Transformation
CBRN	Chemical, Biological, Radiological, and Nuclear
CBRNE	Chemical, Biological, Radiological, Nuclear and High Yield Explosives
CES	Civilian Education System
CM	Consequence Management
COIN	Counterinsurgency
CPI	Continuous Process Improvement
CS	Combat Support
CSS	Combat Service Support
CT	Counter Terrorist
CTC	Combat Training Center
CWMD	Combating Weapons of Mass Destruction
DCGS-A	Distributed Common Ground System - Army
DMDC	Defense Manpower Data Center
DoD	Department of Defense
ES2	Every Soldier a Sensor
FCS	Future Combat Systems
FTS	Full Time Support
FY	Fiscal Year
GBIAD	Ground Based Integrated Air Defense
GCSC-A	Global Combat Service Support - Army
GDP	Gross Domestic Product
GDPR	Global Defense Posture Review
GFEBS	General Fund Enterprise Business System
GWOT	Global War on Terrorism
HMMWV	High Mobility Multipurpose Wheeled Vehicle
HSDG	High School Diploma Graduates
HST	Home Station Training
HUMINT	Human Intelligence
IBA	Improved Body Armor
IED	Improvised Explosive Device
ISR	Intelligence, Surveillance, and Reconnaissance
IT	Information Technology
JIEDDO	Joint Improvised Explosive Device Defeat Organization

JIOC-I	Joint Intelligence Operations Capability - Iraq
JTF	Joint Task Force
LMP	Logistics Modernization Program
LSS	Lean Six Sigma
METL	Mission Essential Task List
MFO	Multinational Force and Observers
MI	Military Intelligence
NCO	Non-Commissioned Officer
NDAA	National Defense Authorization Act
OA&D	Organizational Analysis and Design
OEF	Operation Enduring Freedom
OIF	Operation Iraqi Freedom
OPTEMPO	Operational Tempo
O&M	Operations and Maintenance
PLM+	Product Lifecycle Management Plus
QDR	Quadrennial Defense Review
RC	Reserve Component
RCI	Residential Communities Initiative
RDA	Research, Development, and Acquisition
REF	Rapid Equipping Force
RFI	Rapid Fielding Initiative
SDDC	Surface Deployment and Distribution Command
SIGINT	Signals Intelligence
SMS	Strategic Management System
TPFDD	Time Phased Force Deployment Data
QOL	Quality of Life
UAS	Unmanned Aerial Systems
USAR	United States Army Reserve
VA	Veterans Affairs
WMD	Weapons of Mass Destruction

WEDNESDAY, MARCH 12, 2007.

ARMY ACQUISITION PROGRAMS

WITNESSES

DEAN G. POPPS, ACTING ASSISTANT SECRETARY OF THE ARMY FOR ACQUISITION, LOGISTICS AND TECHNOLOGY

LTG N. ROSS THOMPSON III, MILITARY DEPUTY, ACTING ASSISTANT SECRETARY OF THE ARMY FOR ACQUISITION, LOGISTICS AND TECHNOLOGY

INTRODUCTION

Mr. BISHOP [presiding]. The Committee will be in order. I would like to recognize the ranking member, Mr. Tiahrt, for a motion.

Mr. TIAHRT. Thank you, Mr. Chairman. I move that those portions of the hearing today which involve classified material be held in executive session because of the classification of the material to be discussed.

Mr. BISHOP. So ordered. Thank you, Mr. Tiahrt.

Mr. TIAHRT. My pleasure.

Mr. BISHOP. This afternoon, the Committee will hold a closed hearing on Army acquisition. We are pleased to welcome Mr. Dean Popps, the Acting Assistant Secretary of the Army for Acquisition, Logistics and Technology and Lieutenant General N. Ross Thompson, III, who is the Military Deputy to the Acting Assistant Secretary of the Army For Acquisition, Logistics and Technology. These gentlemen are well qualified to discuss Army acquisition and to answer the questions of the Committee.

Secretary Popps and General Thompson, thank you for being here this afternoon. We are here to talk about the acquisition of Army equipment, and the Committee is very concerned about the readiness of the Army in terms of equipping our forces. Systems are becoming ever more complicated, and too often in developmental programs a desire to begin production overruns technology maturity and then we are faced with delays and restructures.

FUTURE COMBAT SYSTEMS

The Future Combat Systems (FCS) program remains the core of the Army acquisition, and the FCS calls for a total program cost of over $160 billion. The request for fiscal year 2009 calls for 3.6 billion. Ideally the system will field the latest in high technology and a fleet of vehicles that have mostly common vehicle systems. Still the FCS will upon completion comprise only 15 of 76 total Army combat brigades. And one of the challenges that is facing the Future Combat Systems is how to efficiently spin out the maturing technology to the existing fleets of Abrams tanks, Bradley fighting vehicles and Strykers.

So as U.S. participation in the war in Iraq winds down, funding for the Department of Defense will become extremely tight and the ability of the Army to maintain funding for the Future Combat Systems will prove to be very challenging for us.

ARMY AVIATION

The request for Army aviation totals a little over $5 billion, including $439 million for 28 armed reconnaissance helicopters, money for 63 Black Hawks, 264 million for 7 joint cargo aircraft, and a little over a billion for Chinooks. The Armed Reconnaissance Helicopter program seems to be back on track after a slip of a year, and the program is producing 12 aircraft with fiscal year 2008 funding and the fiscal 2009 budget calls for 28.

Requested funding for the weapons and tracked combat vehicles totals $3.7 billion, including $175 million for 119 Stryker vehicles and $1,181 million for the M1A2 tank and Bradley upgrades.

Questions from the members of the Committee will likely address these programs and many others, and I think we can look forward to a very interesting and useful question-and-answer session.

Mr. Secretary, I understand that you will be the only one making a statement. You may proceed with your summarized statement and of course your entire statement will be placed in the record. Welcome, and you may proceed, Mr. Popps, with your comments.

SUMMARY STATEMENT OF ACTING ASSISTANT SECRETARY POPPS

Mr. POPPS. Thank you, Mr. Chairman, and Mr. Ranking Member, Congressman Tiahrt, Congressman Moran, Congressman Cramer. Good afternoon to all of you. And the remainder of the distinguished members of the Committee coming in and out, thanks for the opportunity to be here today and to help discuss the fiscal year 2009 President's budget and Army acquisition programs.

As you said previously, sir, the Principal Military Deputy to our Acquisition, Logistics and Technology, General N. Ross Thompson III, is sitting to my left and here today. And I respectfully request that our joint statement be part of the record for today's hearing. As our predecessors, the Secretary of the Army and the Chief of Staff of the Army, did very eloquently earlier today, let me thank all of you on behalf of all of us for everything that you do for the men and women in uniform. And although we are very prideful that our soldiers have the very best technologically and are advanced and capable and physically fit and can win any fight, that would not be possible without your strong support. So we thank each and every one of you profoundly.

Mr. Chairman, I took the reins as the Army Acquisition Executive and the Acting Assistant Secretary for Acquisition on 3 January of this year, 60 days ago. My predecessor, the Honorable Claude Bolton, retired at that time and he had a very distinguished career of 6 years and many of you were very familiar with him and had very good and close relationships with him. So I want to make that part of the record and let you know that I have served for 60 days, and I assume I am going to continue to serve here unless the President or the Secretary of Defense has another nominee through the end of the administration. I have served as

the Principal Deputy through 2004; however, much of my work has been involved in working with the Corps of Engineers and Iraq reconstruction issues.

I want to thank you for your patience with me today as the new guy. This is why General Thompson and I have a very good relationship. Our doors are open. We meet 4, 5, 6 times a day, and right now what we are doing is we are doing a lot of troop leading as we have complex executions and many milestones and other issues that are up on the table for Army acquisition.

So I am here today to have a very candid conversation with you. I promise to tell you everything I possibly can. I want to talk openly and candidly. Because I think there is a very interesting dynamic going on here, just as you said in your opening remarks, and that is the marvelous legacy systems that are in theater right now that are performing so well and that, yes, have to be reset and recapitalized and how they are transitioning in a linear fashion with the insertion of additional technologies and ending up hopefully in the future with the Future Combat Systems. So it is an aggressive path and together we will have to forge a way ahead.

General Thompson may want to have a few opening remarks. After that, I would be glad to answer your questions. Thank you.

General THOMPSON. Chairman Bishop and Congressman Tiahrt and Congressman Moran and Congressman Cramer and Congressman Rothman, I am just glad to be here today and I don't have a prepared statement that I wish to read. I just want to thank you for your support in the past. I am glad to be teamed up with Mr. Popps. Over the last 60 days, we established a very good working relationship, and I am confident that all the 23,000 members of the acquisition workforce in the Army will continue to be good stewards of the taxpayers dollars, and we are prepared to answer your questions today.

[The joint statement of Mr. Popps and General Thompson follows:]

RECORD VERSION

STATEMENT BY

MR. DEAN G. POPPS
ACTING ASSISTANT SECRETARY OF THE ARMY
(ACQUISITION, LOGISTICS AND TECHNOLOGY)
AND ARMY ACQUISITION EXECUTIVE

AND

LIEUTENANT GENERAL N. ROSS THOMPSON III
MILITARY DEPUTY TO THE
ACTING ASSISTANT SECRETARY OF THE ARMY
(ACQUISITION, LOGISTICS AND TECHNOLOGY)
AND DIRECTOR, ACQUISITION CAREER MANAGEMENT

BEFORE THE

SUBCOMMITTEE ON DEFENSE
COMMITTEE ON APPROPRIATIONS
UNITED STATES HOUSE OF REPRESENTATIVES

ON

ARMY ACQUISITION PROGRAMS

SECOND SESSION, 110TH CONGRESS

MARCH 12, 2008

NOT FOR PUBLICATION
UNTIL RELEASED BY THE
COMMITTEE ON APPROPRIATIONS
UNITED STATES HOUSE OF REPRESENTATIVES
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ACTING ASSISTANT SECRETARY OF THE ARMY
(ACQUISITION, LOGISTICS AND TECHNOLOGY)
AND DIRECTOR, ACQUISITION CAREER MANAGEMENT

Introduction

Mr. Chairman and distinguished Members of the Committee, thank you for this opportunity to discuss Army modernization and acquisition programs and our mutual efforts to ensure that our Army remains the preeminent landpower on earth. It is our privilege to represent Army leadership, the military and civilian members of the Army acquisition workforce, and the more than one million Soldiers – Active, Guard and Reserve – who comprise our Army and rely on us to provide them with world-class weapon systems and equipment.

We are a high technology Army. Our Soldiers are the most technologically advanced and capable in the world. This would be impossible, Mr. Chairman, without the wisdom, guidance, and strong support we receive from this Committee and Congress. On behalf of our courageous, dedicated Soldiers and the families who support them, we thank you.

Our goals are to be good stewards of the resources we are provided by Congress and to free human and financial resources for higher priority operational needs. Integral to our success is the development of an Army-wide cost-management culture in which leaders better understand the full cost of the capabilities they use and provide and incorporate cost considerations into their planning and decision-making. This approach will enable us to achieve readiness and performance objectives more efficiently. The benefits to the Army – and certainly the Soldier – will be significant.

Our most important asset is our people. There is great concern about the steady decline in the number of Army acquisition workforce members while the workload continues to increase. Currently, there are less than 43,000 civilian and military members of the Army acquisition workforce, down from a high of 140,000 people at the end of the Cold War. Still, this workforce manages roughly 25 percent of the Army's current budget, and a diverse portfolio of more than 600 programs that range from the Abrams tank to the Army combat uniform; from the Apache Longbow helicopter to the advanced combat helmet; and from life-saving medical equipment to our ongoing chemical demilitarization operations. Within the next few years, including the potential of early retirements, almost one-half of all acquisition workforce civilians will be eligible to retire. One of our most critical issues is the declining workforce and the vast knowledge that is walking out the door. We need a well-trained and educated workforce that is focused on our mission to provide the Soldier with world-class capabilities.

America has been at war for more than six years. Our Army has been a leader in this war and has been fully engaged in Iraq, Afghanistan, and in nearly 80 countries worldwide. As we look to the future, we believe the coming decades are likely to be ones of persistent conflict – protracted confrontation among state, non-state, and individual actors who use violence to achieve their political and ideological ends. In this era of persistent conflict, the Army will continue to have a central role in implementing our National Security Strategy.

While the Army remains the best led, best trained, and best equipped Army in the world, it is out of balance. The combined effects of an operational tempo that provides insufficient recovery time for personnel, families, and equipment; a focus on training for counterinsurgency operations to the exclusion of other capabilities; and Reserve Components assigned missions for which they were not originally intended nor adequately resourced result in our readiness being consumed as fast as we can build it. Therefore, our top priority over the next several years is to restore balance.

To achieve balance, the Army will require sustained, timely, and predictable base budget funding as well as funding for the Global War on Terror

(GWOT). The Fiscal Year 2009 (FY09) President's Budget requests $140.7 billion for the Army. This request and the GWOT Request are necessary to support current operations, fight the wars in Iraq and Afghanistan, sustain the All-Volunteer Force, and prepare for future threats to the Nation. The FY09 President's budget requests $24.6 billion to continue procurement of weapon systems and equipment for our Army, which include aircraft; missiles; ammunition; weapons and tracked combat vehicles; tactical and support vehicles; and communications and electronics. In addition, the GWOT Request will fund procurement of weapon systems to improve force readiness and replace battle losses and the reset of forces returning from deployment. Lastly, the FY09 President's Budget requests $10.5 billion for Research, Development, Test and Evaluation.

Modernization

While fully engaged in the war on terror and sustaining the range of our global commitments, there is an increased emphasis on modernization and our plans for the future. Our strategy is designed to meet the Army's current and future equipping requirements through continuous modernization.

There are four elements to the Army's modernization strategy. First, we are rapidly fielding the best new equipment to the current force through several initiatives, including the Rapid Equipping Force and the Rapid Fielding Initiative. The Army's number one priority is force protection of our Soldiers with individual weapons and protective equipment. Today's Soldiers are equipped with M4 Carbines; integrated body armor with enhanced small arms protection, auxiliary protection, and side armor plates; hearing protection; ballistic eyewear; fire resistant uniforms; advanced combat helmets; night vision goggles; an infrared aiming light; a thermal weapons sight, and more. Our commitment to protecting Soldiers extends beyond providing the best individual weapons and equipment to proactively finding, intercepting, and destroying conventional makeshift roadside bombs (Improvised Explosive Devices and Explosively Formed Penetrators). The Army is continually working on alternative solutions including preventing or

detecting emplacement, defeating/disarming devices, and procuring enhanced platform protection.

Second, we plan to upgrade and modernize existing systems to ensure all Soldiers have the equipment they need. This will include improving the Soldier as a System program; continuing our Tactical Wheeled Vehicle modernization strategy with medium and heavy trucks; supporting our Aviation platforms, including the Armed Reconnaissance Helicopter, the UH-60M/HH-60M Black Hawk, the C-27J Joint Cargo Aircraft, the commercial, off-the-shelf UH-72A Lakota Light Utility Helicopter; CH-47F Chinook, and the AH-64 Apache helicopter fleet; and completing buys for the Patriot Advanced Capability-3 missile system. We will also upgrade, where it makes operational and economic sense, our Stryker vehicles, Abrams tank and Bradley Fighting Vehicle fleets and, in cooperation with the U.S. Marine Corps, field new Mine Resistant Ambush Protected vehicles as rapidly as possible to provide extra force protection to our Soldiers in Iraq and Afghanistan. To achieve enhanced situational awareness, the Army has fielded the first increment of the Warfighter Information Network – Tactical; increased satellite communications, Unmanned Aerial Systems, and other command and control systems enhancements that provide the means to share critical, timely, fused intelligence faster and more securely. The Future Combat Systems (FCS) program leverages these capabilities to achieve unprecedented situational awareness and increased survivability for the Soldier.

The third element of the modernization strategy is to incorporate new technologies derived from our FCS research and development. The FCS program is structured to bring advanced capabilities to today's force as rapidly as possible in a process known as "Spin Outs." Several "FCS like" capabilities are already in use in combat operations in Iraq and Afghanistan and are protecting our Soldiers today. These technologies include:

- Frag Kit 5 armor protection is used on Up-Armored HMMWVs.
- The Gas Micro Air Vehicle, an early precursor of the FCS Class 1 Unmanned Air Vehicle, has been highly effective in Navy explosive

ordnance disposal operations in Iraq and is planned for use by 25th Infantry Division Soldiers in urban warfare operations in Iraq this year.

- The Packbot being used by Soldiers and Marines in Iraq and Afghanistan is the precursor to the FCS Small Unmanned Ground Vehicle. This man-packable robot has been invaluable during urban warfare and explosive ordnance disposal operations.

- The Excalibur Artillery round that is currently being used in Iraq with stunning success, is being adapted for use with the FCS Non-Line of Sight Cannon.

With combat-experienced Soldiers of the Army Evaluation Task Force (AETF) at Fort Bliss, Texas, we will test and refine FCS systems, tactics, techniques, and procedures. In fact, the first FCS Spin Out 1 equipment set, which will provide initial FCS network, unattended sensor, and unattended munition capabilities to Current Force units when fielding begins in 2011, is currently in the hands of AETF Soldiers engaged in new equipment training. Moreover, the FCS program currently has over 78 ongoing tests throughout the United States. Each test is a precursor to the fielding of capabilities to Soldiers.

Fourth, we will field the FCS Brigade Combat Teams. FCS is the core of our modernization effort and will provide our Soldiers an unparalleled understanding of their operational environment, increased precision and lethality, and enhanced survivability. The future network will have three layers (land-based, aircraft-based, and satellite-based) for a redundant capability that supports deployments anywhere in the world. This network will be embedded in FCS manned ground vehicles (MGVs) as well as selected current force combat platforms and extended to the Soldier. The MGVs will be powered by the military's first hybrid electric drive propulsion system providing a significant increase in onboard electrical power available to drive state-of-the-art vehicle electronics, sensors, computers, survivability, and mobility sub-systems. There are yet other transformational capabilities. For example, the MGV common chassis requires fewer spare parts and fewer mechanics to perform maintenance and repairs and a lighter vehicle with an improved hybrid electric engine will yield remarkable fuel efficiencies. All told, FCS Brigade Combat Teams are projected

to save billions of dollars in maintenance, fuel, and personnel costs. The Army plans to begin fielding the first FCS Brigade in 2015.

Our success will be defined as Soldiers equipped with world-class weapon systems and equipment, keeping the Army the most dominant land power in the world with full-spectrum capabilities.

Business Transformation and Contracting Operations

To ensure that success, we are changing the way we do business. As a parallel effort to the transformation of the Army, we are transforming the business processes and functions to better support our forces – improving both effectiveness and efficiencies. The scope of this effort is immense. Our goal, as stated earlier, is to free human and financial resources for more compelling operational needs. Realizing this goal depends upon improving processes, developing tools to enhance enterprise-wide situational awareness and decision-making, and reducing organizational redundancy and overhead.

The Army is making good progress in its efforts to ensure that policies and procedures are in place for all joint, expeditionary contracting operations now and in the future. Both the report by the Commission on Army Acquisition and Program Management in Expeditionary Operations led by Dr. Jacques Gansler, the former Under Secretary of Defense for Acquisition, Technology and Logistics, and the findings of the complementary Army Contracting Task Force have provided key insights into the way ahead.

We are currently addressing the need to expand, train, structure, and empower our contracting personnel to support the full range of military operations. We are changing the culture to focus on the importance of expeditionary contracting to mission success. This includes establishing the Army Contracting Command to enhance warfighter support, leverage resources, capitalize on the synergy of contracting personnel, and establish uniform policies. As stewards of the taxpayers' dollars, we are committed to doing a better job of managing and documenting contractor performance.

Workforce

As mentioned earlier, our most important asset is our people. The Department of Defense is devoting significant attention to incentivizing cultural improvements and manning the workforce as a corporate asset. In the Army, we are continuing to develop a military and civilian acquisition workforce that is expert, relevant, and ready to support the acquisition mission. Our primary training source for our acquisition professionals is the Defense Acquisition University. While ensuring that our workforce members are appropriately certified for the positions they hold, we provide professional development and unsurpassed education, training, and acquisition experience to our workforce at all levels.

Specific civilian programs include our three-year Competitive Development Group/Army Acquisition Fellowship Program for mid-level acquisition professionals; the Executive Leadership Program for General Officers and members of the Senior Executive Service; and training with industry for our military workforce members with the potential for a similar program in the future for civilians. There are several other programs and initiatives that are aimed at offering a balanced and sequential approach to developing and retaining our future leaders.

Conclusion

Equipping the Army is not just an Army-unique challenge, it is one with National security interest and implications. It must be viewed and considered in that overarching context. The Army is simultaneously conducting wartime operations and preparing for future commitments. Our challenge is to balance these two requirements to ensure that we can defend the Nation today while preparing to do so tomorrow.

The true beneficiaries in our successful development, acquisition, and sustainment of weapon systems and equipment are our Soldiers. In all that we do, we support the Soldier. The most technologically advanced platforms

depend on the intellect, dedication, and remarkable sense of duty of the American Soldier.

We look forward to working with this Committee and Congress to ensure that our Soldiers have the finest weapon systems and equipment our Nation can provide. Our young men and women in uniform and those who lead them are depending on us.

Thank you.

Mr. BISHOP. Thank you. Before we start questioning, I certainly want to ask Mr. Tiahrt if he would like to make some opening remarks.

REMARKS OF MR. TIAHRT

Mr. TIAHRT. Thank you, Mr. Chairman. I have just got a few things I would like to say. And I don't have any prepared remarks, so I am going to talk from the heart. Both of you are fine gentlemen. You have had fine careers with the government, and I respect you greatly. But I have to tell you we have a procurement system that is broke. It has absolutely been a travesty in what has been happening.

FOREIGN SUPPLIERS

We should have noticed this when the replacement for the presidential helicopter purchased by the Navy went to a foreign supplier. We should have known it when the Light Utility Helicopter went to a foreign supplier. And now with the air refueling tanker going to a foreign supplier, it is as plain as the nose on our face. Our system is broke and we have all these legacy systems that the chairman brought up that are currently in theater and they are performing very well. But if any of those replacement systems for those legacy systems came up today, it would go to a foreign supplier. If we were going to replace Air Force One today, we couldn't win it because it would go to a foreign supplier.

ILLEGAL SUBSIDIES

Why would it go to a foreign supplier instead of having American jobs? It would go there because we don't account for illegal subsidies. This very company that is providing the Light Utility Helicopter (LUH) is currently in court defending itself against illegal subsidies that USTR is bringing against it. And by you buying a product from it, you are giving them a better case. And when the Air Force buys a product from them, you give the EADS Company, the foreign suppliers, a better case for these illegal subsidies. We have one branch of the government saying it is illegal and another branch saying we don't care, we are getting a good bargain. And we are selling out American jobs to do it.

LEGAL SUBSIDIES

So our system is broke. Another thing that we don't give any consideration for is legal subsidies. They get their health care paid for by the Federal Government. They get their workmen's compensation paid for by the Federal Government. They get other benefits for their employees like vacation paid for by the Federal Government. You require every American supplier by your cost and accounting standards to put those costs in the price. There is no way to get around it.

BUY AMERICAN ACT

Another thing that you don't account for is the way you waive regulations on the Buy American Act. You have a memorandum of agreement within the Pentagon where you say those are our allies

and we are not going to let them have to put up with all of this paperwork. But an American supplier, by golly, the cost and accounting standards say you better comply and you better account for every nickel you spend complying with those regulations. Three things that I just gave you that are unlevel playing ground for our suppliers, for our American workers. An unlevel playing ground. They can't win. We can't win. We just can't win in this kind of circumstances. And the last thing that we should be doing, and it is going to take legislation because I know you guys don't account for it, when you lose American jobs you lose American revenue. And American workers pay Federal income tax. A French worker doesn't seem to pay any income tax in America. I know there is good legal reasons why they wouldn't. But we never take that into consideration. And on the aerial refuel tanker, it is so egregious that it is more than 10 percent of the total cost of the contract. So a $35 billion contract, when you take into account the lost jobs just believing the contractors, then you are going to see $3.8 billion in lost revenue. So what does your $35 billion contract cost the Federal Government? It costs us $38.8 billion. And we never take that into consideration.

We are losing American jobs and the Department of Defense is responsible for it in part. So as we come to our questions—and thank you for the indulgence, Mr. Chairman—when we come to our questions I have got some very specific questions about the Light Utility Helicopter (LUH) contract and where I think we have gone wrong.

Thank you for your indulgence, Mr. Chairman. Thank you, gentlemen.

FUTURE COMBAT SYSTEMS

Mr. BISHOP. Thank you, Mr. Tiahrt. Gentlemen, let me ask you some questions about, first, the Future Combat Systems. The Future Combat Systems program will field 15 FCS brigade combat teams. 61 brigades will remain non-FCS. What will be the benefit to the 61 non-FCS brigades of the FCS developed technology?

General THOMPSON. Yes, sir. The intent of the FCS program is to field 15 brigades. But the thing that we are doing with the FCS is taking the technologies that are available today and we will spin them out, in our terminology, to the current brigades, the other brigades that are out there. So we have got the program structured right now with three different spinouts to take the technology that is being developed under FCS and put it with the current force units. Those spinouts will begin to field in the 2009–2010 time frame for the first spinout. The second spinout is 2 years after that and the third spinout is subsequent to that. So what that enables us to do, especially with the communications infrastructure and the network infrastructure is be able to have the other 61 brigades interoperate with the FCS brigades when the FCS brigades are fielded in full. And we are also looking right now very aggressively at how do we accelerate even more of the technologies that are being developed under the FCS into the rest of the Army.

FUTURE COMBAT SYSTEMS FUNDING

Mr. BISHOP. Could you field the FCS faster if more funding were available?

General THOMPSON. Yes, sir, we could. The way I would answer that, though, and that is part of what we are looking at internally because that question has been asked by Chairman Murtha, who is not here today or at least not right at this moment. And so we are looking at how we would do that based on both the technology readiness and also the production base availability.

Mr. BISHOP. Will the FCS capabilities be fielded to Army units beyond the brigade combat teams?

General THOMPSON. Yes, sir, they will. Right now the focus is on the brigade combat teams, but the network capabilities in FCS clearly have to be part of the rest of the Army because it is not just the 76 brigade combat teams. There is about 230 other types of brigades in the Army that are the support brigades that also need to be able to interoperate with the brigade combat team. So it is mostly the network technologies that we are looking at. And also one of the major things that we have done with FCS over the last couple of years is the armor protection and the survivability protection as a result of the threats in theater have been largely funded—the technology funded by the FCS program, but it has been that level of funding in the FCS program that allowed those technologies that have allowed us to improve the up-armored High Mobility Multipurpose Wheeled Vehicles (HMMWVs) now on the sixth improvement to the armored protection on those, and really the fundamental underpinning for the protection we put on the MRAP vehicles as well.

EQUIPMENT UPGRADES

Mr. BISHOP. Let me ask you then, would it be advisable or do you think it would be a good idea for the Army to take a pause in upgrading the older combat vehicles such as the tanks and the Bradleys and focus more of the available funding on the Future Combat Systems?

General THOMPSON. I don't think a pause is kind of the way I would put it. There is a need to continually upgrade all of the systems that are out there. But it is how much investment and how much capability do you think you need before you go to the next generation. From a philosophical perspective—and I say this not just before this Committee, I say it a lot—there is always going to be probably three or at best two different generations of technology in ground combat systems, wheeled vehicles, and helicopters. It is unaffordable to try to put the latest generation of anything out there across the entire Army. The Army is just too big, with too many demands, and the pace of technology is too great.

But in HMMWVs right now, for example, we are on the fifth major upgrade to the HMMWVs. On tanks we are on our fourth major upgrade of the tank. We are on our fourth major upgrade of the Bradley. We have got similar upgrades in our aviation platforms, and those upgrades need to continue to happen so that they can interoperate based on the battlefield demands that are out

there today. But it is a question of the right level of investment in today's forces before we go to the future with FCS.

RESET

Mr. POPPS. Mr. Chairman, if I can kind of amplify an important point that was brought up about reset and recap, there is no question that due to the battle damage, battle loss, and so forth, a certain amount of these legacy systems that are going to be either in theater or here in depots organically are going to be reset. And so that is an important point. A lot of this stuff has to be reset just to work. Don't confuse that with a full recapitalization, which could go down three or four levels, which could include the insertion of a million or $2 million worth of new technology on, say, each one of these platforms.

So those are the choices as we proceed together as the Committee and the Army about what are we trying to do here, how much reset and how much full recap? If you tilt—I am sorry, sir.

FCS SPIN OUT STRATEGY

Mr. BISHOP. In that regard, I guess I was curious to know whether or not in making those choices you think it would be a viable plan to spin out the FCS communications, situational awareness, UAVs and sensor technology to the existing armored combat vehicle fleets and then defer the development and production of a new fleet of ground vehicles. Would that be an appropriate choice?

Mr. POPPS. I will let General Thompson give a more amplified answer. But I think the answer is where we can spin out and where it makes sense, we are doing so and want to do so. Because that helps the fight now and it helps those legacy systems be better than they are. If the question then becomes do you pause and try to do more on that side and not proceed with manned ground vehicles, I think as a department we say, no, we wouldn't want to pause because the future is with the manned ground vehicles. The future is with the joint tactical light vehicles, the JTLV, and others. So I think that is our preferences.

Mr. BISHOP. General Thompson?

General THOMPSON. The spinouts, like I said, Mr. Chairman, are being looked at on what we can put in the current force today. The FCS program in simple terms has got manned ground vehicles, it has got unmanned ground vehicles, it has unmanned air vehicles, and it has got the network. So those are the four big parts of FCS, if I can parse it that way. Clearly we want to put as much of the technology that is available and that can interoperate with the current brigade combat teams that are out there, but the key thing for us is the future operational concept, the way that we see warfighting in the future, and General Casey mentioned this morning the FM 3–0, which is the doctrinal template, putting stability operations on an equal footing with offense and defense.

We see the current environment out there that we have in Iraq and Afghanistan today to be the way that warfare is going to face us for the next 20 years. And for us to be able to fight in that kind of an environment, you want to put the best capability out there from a materiel perspective. So if you paused and delayed the materiel solutions that are reflected in the FCS program, you would

not have the ability to fight that operational concept and that would put our soldiers at a disadvantage.

Mr. BISHOP. Mr. Tiahrt.

ILLEGAL SUBSIDIES

Mr. TIAHRT. Thank you, Mr. Chairman. We talked or I talked briefly about the illegal subsidies and the waived regulations that give an unfair advantage to the European competitors. Part of those regulations that the Pentagon has waived for these NATO allies of ours, these 21 countries that are mentioned in the memorandum of understanding within the Pentagon, they include the regulations on Foreign Corrupt Practices Act and they also waive the International Trafficking in Arms Regulations, or ITAR.

Now, this company that you bought this helicopter from, the Light Utility Helicopter, has been seen and has been reported in the open news that they have been to the Iranian air show. Now, part of our government is trying to put an embargo on Iran. The very same company that you bought this helicopter from is not complying with us as an ally or helping us as an ally. They are over there showing them videos about their navy helicopter and trying to sell helicopters to the Iranian Government. They have been in Venezuela trying to sell stuff to Hugo Chavez. We know this for a fact. They have also been in China trying to sell military products in China. And we caught them bribing the Saudi Arabians and forced them to back down on a plane deal with the Saudi Arabians, the very same company that you are buying this helicopter from.

Did you ever think to check with the CIA or the DIA and say what are these guys doing in illegal trafficking of arms or what are they doing with Foreign Corrupt Practices Act? Because I think it is very clear that this company would have been disqualified had you done just a little bit of research in this procurement.

But instead we offloaded these American jobs to Europe because they are our allies, and they are cutting us down from behind. They are circling around, flanking us, and they are selling stuff to our enemies or at least they are trying to do it and we know they are trying to do it and we have caught them trying to do it, and yet we are more than willing to ignore that, to ignore that they are getting illegal subsidies and go ahead and buy from them. Why aren't you taking into consideration these two regulations that are waived and the corrupt practices that go with them?

Mr. POPPS. My answer to you, sir, is that—and I know you had a former life as an acquisition professional. When you look at our lane, we are a very narrow lane. And we are subject to the Federal Acquisition Regulation (FAR), the Defense Federal Regulation (DFAR), all of the policies that have been sent down by the Office of the Secretary of Defense. And it is very difficult for us to move outside of those boxes. Sometimes we can speed a train up or we can make a train slower.

WAIVERS TO ACQUISITION REGULATIONS

Mr. TIAHRT. I know you have a very narrow set of requirements that you have to live with, and the Federal Acquisition Regulations are very clear. But this is a memorandum of understanding within

the Department of Defense that waives these very regulations that allows this company to get away with it. It is not the intent of Congress, it is not the intent of the American worker or the American people. It is—you know, it was somebody in the Pentagon at some point that said we have got to expand our industrial defense base and we are going to use our allies in Europe to do it even if it costs us jobs because we think it is good policy. And the truth is these guys are undercutting us from behind.

Now, in this contract you also have a manufacturing plan that says this LUH is going to be built—supposedly eventually finally assembled in Mississippi but also there were parts going to be manufactured all over the United States. And the proposed content for American work was 65 percent. But that included logistic support, that included training, that included procedural trainers, engineering services, other various aircraft kits that go with it. It doesn't include the manufacturing of the airplane or the helicopter itself. You have counted everybody else, including, it seemed like, the dockworker that unloaded this foreign made helicopter off a foreign ship and the teamster that hauled it to the military base. It seems like everybody else is included except the people that make the fuselage itself or the helicopter itself. I know for a fact that Spirit AeroSystems in Wichita, Kansas, was to get the manufacturing of the Light Utility Helicopter, but EADS said, well, we have got a production line set up now and it is going pretty good, so we are going to keep that work back in France.

The ICE Systems in Manhattan, Kansas, makes electronic systems and wire harnesses. They were in the proposal that was selected by the Army. It was part of the manufacturing plan. And EADS said, well, you know, we are doing this work in Europe now and we think we are going to do pretty well. We are just going to keep it in Europe.

And the floorboards were made by another company. It is not Grumman, but it is another company. Kaman, Manufacturing, which is nationwide. They are in Connecticut mostly. But they were going to do the floorboards and the firewall in Wichita, Kansas. That work too was pulled back to France.

I mean, do you take in consideration the manufacturing plant and hold them accountable for their promises that are a basis of the judgment to select that product? I mean, it may not be a requirement. But when you have a PCO and a buying team looking at this, they are saying, you know, we have all these American jobs, this looks like a pretty good deal, but it gets sucked back to Europe.

How do we account for that? How do we hold them accountable for what they are proposing?

Mr. POPPS. I don't know of any contractual way that we can hold them accountable for that.

General THOMPSON. They are accountable for the 65 percent of the components being manufactured in the U.S., and they are adhering to that, which is in the contract.

U.S. MANUFACTURING CONTENT

Mr. TIAHRT. Excuse me, General. And I apologize, Ross, for reinterrupting here. But that includes things that are outside the

manufacturing process. When you talk about logistic support, logistic support is not an EADS thing. That is somebody that has to be close to the action, right?

General THOMPSON. Right.

Mr. TIAHRT. So by definition, it is going to be close—the domestic helicopter is going to be close to the base of the operator. Training the same way, American pilots, the trainer has got to be here. Procedural trainer, probably going to be here. I mean, the things that are included in this U.S. content of 65 percent, they are not the manufacturing. I mean, it ought to be 65 percent of the American manufacturing. And I don't know that you have any contractual requirement, as I recall, to actually say, well, you are now at 64 percent and we are going to fine you. I mean, I don't know that you have any mechanism to hold them accountable. Do you?

General THOMPSON. I have not looked at the details of the contract. But based on the discussion we are having here, we will go back and look at that. But the 65 percent ties back to statute. I do know that of the 345 aircraft that we plan on buying, the first 40 were manufactured overseas. The other 305 are to be primarily assembled and manufactured in Mississippi. The first aircraft manufactured in Mississippi has been approved by the FAA, so the first one manufactured here has been done. So they have lived up to that part of the contractual arrangement.

[The information follows:]

Per Defense Federal Acquisition Regulation Supplement (DFARS) 225.872–1, the restrictions of the Buy American Act and the Balance of Payments Program do not apply to end products produced by qualifying countries. The EADS–NA is a registered Dutch corporation from the Netherlands, a qualifying country, as is Germany where the aircraft was initially produced. Although EADS–NA is exempt from the Buy American Act and is therefore not contractually bound to meet its requirements, they have instituted a self-imposed goal of 65 percent aggregate U.S. content. The EADS–NA is working towards this goal by setting up a duplicate production line in the United States using American labor, services, and suppliers. The duplication of this production line is on schedule.

Mr. TIAHRT. Mr. Chairman, I can go on a long time, but I know other people want to ask questions. So thank you for your indulgence.

Mr. POPPS. And, Congressman, if I might, just to add a thought, there are some things that bound us with these 19 and 21 countries that include treaties that there is just not anything we can circumvent. And I am thinking of the BAA and the TAA.

Mr. TIAHRT. You are right, and we need to change some of those agreements.

ACQUISITION WORKFORCE

Mr. BISHOP. Mr. Moran.

Mr. MORAN. Thank you, Mr. Chairman. Just a couple of weeks ago, Pete Geren directed the Army's existing contract agency to be replaced by a new command and that new command is designed to have broad authority over the acquisition of a great many of the military's purchases. The Army is required to hire about 1,400 additional contracting personnel because its acquisition workforce is simply too small and poorly prepared to deal especially with the war in Iraq.

But 5 years into the war we are being told that it is going to take 2 to 3 years to hire the personnel and another 5 to 10 years before they are properly trained and have enough experience to handle the contracting job that they are being set up to handle. The Army command is going to be situated at the (Army Materiel Command) AMC at Fort Belvoir.

Why does it have to take so long to hire these people? It seems to me that there is a critical need to do this as fast as possible, and I don't know why it is going to take 5 to 10 years before they are trained. I understand they will be more experienced 5 to 10 years later, but why the holdup? It seems to me we ought to be out of Iraq by the time these contracting personnel are prepared to oversee the contracts being let to Iraq.

Go ahead, General. Either one of you can respond if you would like.

General THOMPSON. Your numbers are accurate. We are going to stand up the Army Contracting Command. As a matter of fact tomorrow will be the standup of that provisional command to address some of the issues pointed out both by the Gansler Commission and the work that Ms. Condon and I testified before this Committee just a few months ago about what we were doing to look not just with the Gansler Commission but also to look internally.

The demand for contracting professionals across the Federal Government has never been higher than it is today. And so part of the reality is there is a shortage of, last time I looked at the numbers, of almost 2,000 contracting professionals just in the National Capital Region. We do think it is probably going to take us 2 to 3 years to be able to recruit those numbers, I think 5 to 10 years for them to be trained. That is obviously to get them a lot of experience. But we think once we bring the individuals on board, because of the defense acquisition workforce requirements that are mandated in law, to get somebody to a Level II certification to be able to do contracting takes some training and 2 years of experience. So once I bring somebody on board, 2 years after they are a part of our acquisition contracting workforce, we think they will be sufficiently trained to be able to do expeditionary contracting and, as Congressman Tiahrt knows, that in the contracting world in particular you get a warrant based on your level of expertise and based on the level of confidence that your superiors in contracting have in your abilities. So your warrant is tied to a certain dollar threshold and certain complexity of contract actions.

So my short answer would be, yes, it is going to take us 2 to 3 years to be able to bring on 1,400 more people. Part of that is a reflection that as we are bringing them on you have also got a lot of the current acquisition workforce that is getting ready to retire and will retire. So it is not a static situation. So I am going to have to bring on more than 1,400 in order to grow it by 1,400. And then I think in about 2 years after you bring any one individual on, they will be to a point because we have aggressively looked at where we are going to train them and how we are going to do that where they can be able to do contracting for us.

Mr. POPPS. And, sir, a context for you. This was a long, slow decline that is going to take an equal amount of slope to come back up. To give you a perspective, 15, 16 years ago, the acquisition in

contracting workforce in the Army was approximately 160,000 people. 15, 17 years later it is now at 42,000 people, with half of those people eligible for retirement and, since 9/11, anywhere from six to seven times the workload with regard to contract actions. So it has been a long slow decline that I assume was part of the peace dividend and then following 9/11, great increase in loads and in contract actions, both in modifications and new contract actions, and that is where we are today.

ACQUISITION MILITARY OFFICERS

In addition, I think General Thompson should tell you a little bit more about inside the military what is being done to stand up two or three or four more general officer billets and also to really create an earlier accession point for acquisition military officers. It is really considered much more of a career field than somebody would want to be in and stay in because there is rewards for higher rank and so forth.

Mr. MORAN. General Thompson.

General THOMPSON. And I appreciate that opportunity. I mean, one of the things we have done since last August is we have grown the number of contracting brigades from 4 to 7. We have grown the number of contracting battalions that we had planned on having from 8 to 11, and the number of military contracting teams have grown by over 50 to now 171.

The Army Contracting Command that stands up tomorrow will be headed initially by a two-star equivalent SES, Mr. Jeff Parsons, who is an absolutely outstanding contracting officer. He is a career Air Force officer, retired as a colonel with 26 years of contracting expertise in the Air Force. We don't have a contracting general officer at the two-star level today to be able to head up that command. We will in the future.

You know, one of the things that the authorization committees have asked us is what legislative proposals we are putting forward, and right now we have gone through all of that vetting inside the Army and the Army, provided Secretary Geren agrees with the paperwork that is sitting in his office right now, at least at the staff level, endorses the need to have five more general officers to be able to do contracting. We have given instructions to recent promotion boards both at the general officer level and at the colonel level to pick the right people at the senior level to be able to manage contracting, and then creating the other opportunities gives you a viable career path, I think, to be able to bring in quality military and also quality civilians because this is a recognized career field that has got a lot of potential. So the only way you bring in good people at the bottom and keep them there is to give them a growth path so they can see that there is opportunities at the top.

Mr. BISHOP. Thank you. The gentleman's time has expired.

Ms. Kaptur.

ARMY CONTRACTOR WORKFORCE

Ms. KAPTUR. Thank you, Mr. Chairman. Gentlemen, welcome. I am wondering if you have the following information.

On the contracted services that we fund through Army, from information we were given the amount of those contracted services

has gone up 500 percent since the start of the war. We have now, I think one of you stated or earlier this morning, there were 190,000 contracted employees inside of Iraq. Is that a correct number?

Mr. POPPS. We will stand by what Secretary Geren told you initially, ma'am. But I caution you to keep the bends straight in terms of which contractors and—there is a lot of different segments there.

Ms. KAPTUR. That goes to my next question, which is of those 190,000, what are they doing? And how many of them are foreign nationals and from which countries? They said 50 percent of them were foreign nationals, and I was very interested in having for the record the information on what those—if you could break those up into categories for me so I can really understand what—like, what would you guess the number one category is of contracted employees inside of Iraq?

Mr. POPPS. Iraqis.

General THOMPSON. Iraqis. Well over 50 percent. And I will pull the information out of one of the notes that I have got here and maybe I can answer that question for you and not take it for the record. But it is broken up between U.S. military—I mean U.S. citizens, which is the smallest percentage, third-country nationals in Iraq, and then the vast majority, over 50 percent, are Iraqis.

Ms. KAPTUR. All right. If you were to take the largest category of, let's just say, the Iraqis, what are they doing? The largest category of——

Mr. POPPS. Reconstruction.

Ms. KAPTUR. So they are involved in reconstruction projects.

Mr. POPPS. Reconstruction, yes, ma'am. Capacity building. There are currently——

Ms. KAPTUR. They are doing that under which companies?

Mr. POPPS. It depends, ma'am. It could be under Iraqi companies. I know that we have made a huge turn in the last 3 or 4 years trying to find Iraqi companies to do the work. In some cases Iraqi companies will employ Iraqis and they will employ third-party nationals.

Ms. KAPTUR. All right. And then what about—construction is first and what is category 2? Would you just guess?

Mr. POPPS. Capacity building, all kind of services, yes, ma'am, providing water, food, catering, whatever the life support system is there, base support services. So what has really happened is there has been a very concerted move to get away from American companies, putting Americans in theater to do high priced things under American contracts. And what has happened is the value of most of the dollars that has been spent, have been spent, and have been increased by 10, 20, 30 percent because of the ability to use the local economy. Now that wasn't true early on because it was hard to identify in 2003 and 2004 just who the local economy was and who you could work with. But by 2005, 2006, and 2007, that economy has matured and it has enabled people seeking contractors and subcontractors to go out and contract directly with the Iraqis.

For instance, the Joint Contract Command for Iraq and Afghanistan, if it has a water project or a power project or a primary

health care clinic project or something, and they are free to deal directly with Iraqi contractors.

CORRUPTION IN CONTRACTING

Ms. KAPTUR. You know, it is interesting because when we were over in Iraq about a year ago, we met with our Department of State officials and AID officials who were pulling their hair out over the corruption involving contracts that they were monitoring, working with Iraqi instrumentalities. So I am very interested in getting the architecture, so I can begin to ascertain more factual information about how many people you are stating for us from which countries? And then which tasks are they performing and the amount of money attendant to those? So then we can look at those different categories and begin to answer—get answers to our questions——

Mr. POPPS. With one caveat. It is hard for the Army to give you the complete answer because the theater is so complex and that answer and all of those statistics really are tracked at the Department of Defense OSD level who is responsible for that. So we will try to give you what we have on Army contracts and people that we know are on Army contracts. But just respectfully I submit it is a much larger topic that Army doesn't track.

CONTRACTS FOR FUEL

Ms. KAPTUR. Now, are you involved in any oil contracting, acquisition of oil for any purpose inside of Iraq?

Mr. POPPS. Not that I know of, other than perhaps for Army purposes. I mean, fuel is purchased under the LOGCAP contract for the forward operating bases and so forth. But other than operational needs—I mean, are we in business with the oil people or something?

Ms. KAPTUR. Yes.

Mr. POPPS. No. No, ma'am. Not that I know of, no.

Ms. KAPTUR. So all of the Army fuel comes from Kuwait or someplace else?

Mr. POPPS. It comes from wherever it is contracted for. Generally under the LOGCAP contract. I would assume—is there another fuel contract?

General THOMPSON. Yes. I mean, there may be some things bought under the LOGCAP contract. But for the Defense Department (DoD), the Defense Logistics Agency (DLA), the Defense Energy Support Center has got the global responsibilities for DoD to purchase fuel in all parts of the world. So they are the enterprise DoD contractors for fuel. And so DLA lets all of those major contracts. There may be some local contracts where something is needed right away. But for the most part that is done by DLA. I mean, that is something that has been done for many, many years.

Mr. POPPS. But no one is doing their own deals. This is all centrally managed.

General THOMPSON. Ma'am, if I can——

Ms. KAPTUR. On oil?

Mr. POPPS. Yes, ma'am.

General THOMPSON. Your specific question about the breakout of the contracting workforce in Iraq, this is end of fourth quarter

2007, so this data is about 5 months old. But there are 17 percent of the contractors in Iraq that were U.S. citizens, 30 percent were third-country nationals, and 53 percent were host country nationals, Iraqis.

Ms. KAPTUR. Okay. And I would appreciate for the record how many individuals that is out of the 190,000.

General THOMPSON. And I have got those numbers both for Iraq and Afghanistan. And then what we will do is what you asked this morning to the Secretary and the Chief, is break those out into what categories those contractors are working in.

[The information follows:]

According to a recent U. S. Central Command (CENTCOM) Quarterly Contractor Census, there are 163,591 total contractor personnel on Department of Defense (DoD) contracts in Iraq. Of this total 31,325 are U.S. Citizens, 56,368 are Third Country Nationals, and 75,898 are Local National Iraqis who make up a majority of our contracted workforce.

CORRUPTION IN CONTRACTING

Ms. KAPTUR. Yes. And one of our biggest problems with the government of Iraq is corruption. So you see where I am going with the contracts that we are signing with Iraqi companies. I want to better inform myself and ask—and follow some of these contracts, quite frankly.

Mr. POPPS. And, ma'am, one thing you will take comfort in is again our contracting agencies deal over there with the Iraqis. They do not deal in cash. And that I think is part of the frustrations that the Iraqis might have with us. So you see, we treat everything like an acquisition program. And if we are going to purchase services for a water station and so forth, those vendors are paid by check, they are paid where everything is accountable for. So there is a great misconception somehow that we are running around on the economy using cash and so forth. That is not the case. We do business there the same way we do business here. No contractor here would be accepting a cash payment from the United States, and the same thing doesn't occur there. It does not occur there.

FUTURE COMBAT SYSTEMS (FCS)

Mr. BISHOP. The gentlelady's time has expired. Let me just go back to Future Combat Systems again. The Government Accountability Office released two reports on March 7th of this year on the Future Combat Systems. One is entitled, quote, "2009 Is a Critical Juncture for the Army's Future Combat Systems", and the other is titled, quote,"Significant Challenges Ahead in Developing and Demonstrating Future Combat Systems Network and Software". The GAO found that the knowledge demonstrated thus far is well short of a program halfway through its development schedule and its budget. A demonstration of capabilities falls late in the schedule by our commitment to production, especially spinouts comes early. Complimentary programs, including Joint Tactical Radio System (JTRS) and the Warfighter Information Network Tactical (WIN–T) are not synchronized with the FCS and they are having their own challenges. The requirement for software lines of code has been reestimated from 63 million to 95 million lines.

The GAO recommends the Army identify viable alternatives to FCS. Does the Army have any viable alternatives to FCS?

General THOMPSON. Sir, I have looked at the GAO report and I would answer it this way. First off, I have great respect for what GAO does, and I mean that sincerely, and I know that David Walker was up on the Hill yesterday and he leaves this week after his tenure as the Comptroller General, and I think he as an individual has really taken that agency to another level and I am really pleased to see what he has been able to do to bring all of the country's awareness to a higher level and things like human capital planning and coming to grips with our entitlement programs, et cetera. So that is my personal public statement on behalf of the GAO because I really mean that sincerely.

We have four full-time GAO employees embedded in the FCS program, and we welcome their insights and I mean that sincerely, too. Having another set of eyes, auditor eyes for the most part in this case, pointing out things that we need to address inside of that program or any program is good. The Defense Department response back to that GAO report had input from the Army, and most of the responses back said we concur with what GAO is saying.

We have a yearly DoD level review on the FCS program chaired by the Defense Acquisition Executive. We will have one again this summer and then next year again when we get to the preliminary design and review stage for the manned ground vehicles for FCS. All of the issues that are raised by GAO, not just in this year's report, but since 2004 they have done an annual report on the FCS program. There is consistency in their comments, but all of the things that they raise as concerns get looked at in these very detailed reviews, whether it be testing, whether it be requirement synchronization, or software development. And so I am confident that the process inside the Defense Department addresses these things in a way that balances cost, schedule and risk.

To the specific report on software, there was a comparison made between the FCS program, which is designed to put together an entire brigade combat team of capability and make sure it works together when it is fielded, and it compared to two individual airplane programs. That is an apples and oranges comparison, in my view. You know, 20 million lines of code versus 90 million lines of code. About 75 to 80 percent of the lines of code accounted for in the FCS program are either commercial code that has already been written or government code that has already been written. It is not new code we are developing for FCS. And so that is a factoid that sort of changes the perspective, in my view, on the complexity of what we are trying to do. Well over 20 million lines of code accounted for in that 90 million is the Linux operating system. And so that is a commercially developed operating system, just like the Windows operating system for Microsoft. And so we are using the Linux operating system and then integrating other software things with it.

So while I understand, you know, the GAO concerns, we are addressing them. I am confident that we have a review process both internal to the Army and DoD that will address those on an annual basis. The FCS program in my view is very well managed— it is

very complex. But it is not so complex that we are not managing our way through it in a very systematic way, balance and risk.

Mr. BISHOP. Thank you. Do you have anything to add, Mr. Popps?

FUTURE COMBAT SYSTEMS TESTING

Mr. POPPS. Mr. Chairman, just that we shouldn't forget that this is among the most tested of programs. So the GAO implication that somehow we need more testing or not, it hasn't been enough and so forth, this is among—I think there is currently 75 tests ongoing.

General THOMPSON. And those 75 tests that are ongoing are an indication that we have reached the peak of the research and development, the funding for research and development will now start to come down, and the production funding for FCS will start to go up. And there is a crossover point that we are soon to reach. The fact that you have got 75 major tests ongoing in FCS right now is an indication that we are getting ready to move from research and development into testing, into low rate production, and then into production.

Mr. BISHOP. The GAO kind of keeps us informed of whether or not we are—we have efficiencies and sort of helping quality control, isn't it? Make sure that you are doing what you need to be doing when you need to do it?

Mr. POPPS. It does. And I ask you again to remember that we have four GAO employees embedded within the program.

Mr. BISHOP. Mr. Tiahrt.

UH–72 HELICOPTERS

Mr. TIAHRT. Thank you, Mr. Chairman. This is a—EADS has their helicopter headquarters in Germany and there is a concept now that we have talked about here in America called corporate inversion, and it is a tax scheme in which U.S. companies put their headquarters in foreign countries so they don't have to pay Federal income taxes. But there is an inverted methodology to this where foreign companies get a U.S. front company and then they suck all the profits back to the European nation or of the foreign country so they don't have to pay any Federal income taxes.

Do you have any mechanism in place to assure that the money that is made, the profit that is made off of this program is converted to Federal income taxes at the appropriate rate?

Mr. POPPS. I know of no such check that we have to assure ourselves of that.

Mr. TIAHRT. So this is another gap in our procurement policy?

Mr. POPPS. It is.

Mr. TIAHRT. All right. Getting more specific to the helicopter, my understanding is that we—well, I am on the Interior subcommittee and they were talking to us—the Forest Service was talking to us about a fire in California, southern California near a Marine—or a military base. And I think it was called the Witch fire. And at that time, it had several UH–72 I think you called them Lakotas. Maybe we should call them Kaisers——

Mr. POPPS. Lakota.

Mr. TIAHRT. Since they are a German company. UH–72 Lakota, or Kaiser as it could be called.

General THOMPSON. We name our helicopters, Congressman, after Indian tribes.

Mr. TIAHRT. I know. I was trying to think of a good tribal German name that you could use, but none just pops into mind. So Kaiser will have to do. The Lakota. My understanding is that during this fire, that the UH–72 was grounded because it was too hot in the cockpit operating in southern California for pilots to be in the cockpit comfortably. It just simply got too hot in the cockpit. And it wasn't because of the fire. It was because of the ambient temperature outside of the cockpit and the extra temperature generated by the jet engine itself of the helicopter. So just in the simple operation of the UH–72, it became too uncomfortable for pilots to operate it. And I also understand that there was nothing in the specifications to maintain a temperature for pilots within the cockpit. So nothing was going to be done about that. But you guys have come up with a fix, as I understand it, to put an air conditioner on it. So now the air conditioner causes you to trade cargo weight for air conditioner weight. So what compensation was given to you by the manufacturer for this—what appears to be an inability to meet specifications?

General THOMPSON. Well, you are right in your facts that we did not have an air conditioning system in that utility helicopter. We do now. They are not all integrated yet, but we have now got the funding in place to be able to put the air conditioning systems in all of the aircraft.

Mr. TIAHRT. So you are paying for their inability to meet spec?

General THOMPSON. They met the requirement they had to meet when they initially built them. The helicopters that have air conditioning systems in them are—are attack helicopters because they are closed cockpits. The utility helicopters, and I have to go back and get the exact variance, not all of the utility helicopters have air conditioning systems as part of them because they have an ability to open the windows and have the ventilation inside of the aircraft.

Mr. TIAHRT. Wouldn't it be a requirement, though, for a pilot to be able to fly a helicopter and here we have an actual circumstance in which they were unable to do that? It seems like the ability to fly a helicopter is pretty essential when you buy a helicopter. So I don't know how this wasn't a violation of spec. I don't know why we are paying for this air conditioning. For some reason we ought to have helicopters that we can actually fly.

Mr. BISHOP. Can I get a point of clarification? Are you saying that the helicopter did or didn't have the specification for air conditioning originally?

General THOMPSON. I will go back and check. But the requirement around which the contract instrument was built did not require them to put an air conditioner in that helicopter. Based on those lessons learned, we have now adjusted the requirement and we are putting air conditioning system those helicopters.

[The information follows:]

The Joint Requirements Oversight Council (JROC) approved LUH (UH–72A Lakota) Capabilities Development Document (CDD) did not contain a requirement or specification for an air conditioning system or internal cooling requirement for the aircraft; therefore, the original Statement of Work (SOW) as part of the Request for Proposal (RFP) did not have specifications on cockpit or cabin cooling require-

ments. Based on the foregoing, none of the offerors proposed an aircraft with an air conditioning system as part of their LUH configuration.

Mr. TIAHRT. And we are paying for it?

Mr. BISHOP. We have a 15-minute vote, and I think we have got a little less than 10 minutes now. So I am going to go to Ms. Kaptur, if you don't mind, Mr. Tiahrt. I think she has one remaining question and I have a remaining question. And I think we will close it out at that time.

FUEL USAGE FOR OVERLAND VEHICLES

Ms. KAPTUR. Thank you, Mr. Chairman, for allowing me another question. And I will be very brief and just ask in the same way as I have asked for summary information on contracting. And we are always happy to provide you backup if you don't understand the request completely.

I also am very interested in your different classes of overland vehicles and Bradley fighting, Abrams tank, your medium tactical vehicle, trucks, MRAPs, Humvees. And I am very interested in knowing from you how you look upon the power systems that drive those into the future, how you are thinking about those in terms of saving energy, the new energy systems that are being included. For example, I know that is true in the thinking about a Future Combat System. But I am interested in how you are looking at the fleets that you purchase in terms of designing new fuel systems, new power systems.

Do you have the ability, General, to provide that to us and give us the numbers of vehicles you currently have in that class, how many you intend to purchase, and how that—I am interested in the power train. That is all I care about. And how——

Mr. POPPS. And the fuel source?

Ms. KAPTUR. Absolutely. Is there a way for you to summarize that for me? And then attach numbers to those so I can better order my own thinking around for your overland transportation, how you are thinking about the Army of the future and how——

Mr. POPPS. Not only will we try to do that for you, General Thompson has something to say to you. But I would like to bring over some of the more senior members of the Army Science Board to talk to you in your office about that, because they are doing a great deal of work on fuel cells, battery energy and sort of third, fourth, fifth generation stuff that you might find very interesting.

Ms. KAPTUR. Yes.

General THOMPSON. But holistically, ma'am, you have got tactical power and you have got installation power. And what I have asked the Army to do, not just the acquisition community, but also the requirements community, we need to get our arms around the many, many initiatives that are going on right now. DoD has got a number of initiatives ongoing to get after energy efficiency in the systems that we build. But what I am trying to do is get my arms around our need for power and energy, both tactically and installation wise, and how do we maximize the strategy so that I don't need as much of a demand on fossil fuel sources in the future.

My previous job at the Tank Automotive Command, a tremendous amount of research in the hybrid electric. Hybrid electric is the foundation for the power train in the Future Combat System.

Much work partnered with the automobile industry up in the Detroit area around fuel cells and the potential that fuel cells hold for the country.

So we will take that for the record and come back with a comprehensive answer because it is just too complicated to answer here.

[The information follows:]

The Hybrid Electric Vehicle Experimentation and Assessment (HEVEA) effort that began in fiscal year (FY) 2006 focuses on the applicability of hybrid electric to Tactical Wheeled Vehicle (TWV) mobility for future systems. Ongoing experimentation measures hybrid vehicle performance and fuel consumption over a variety of military standard driving courses. The goal is to create physics-based models to use with realistic driving scenarios as a tool to predict hybrid electric drive cycle performance and fuel economy supporting future hybrid/conventional acquisition decisions. The HEVEA program is currently positioned to support the Joint Lightweight Tactical Vehicle (JLTV) acquisition decision and will continue through FY 2009. The HEVEA effort has also established HEV test methodology for military application using accepted industry practices and Department of Energy processes.

The Power and Energy Systems Integration Laboratory (SIL) integrates and evaluates hybrid electric architectures including power generation, energy distribution and control and thermal management. The SIL enables power and energy components to be evaluated, for example varying battery technology, and demonstrated in realistic scenarios and architectures. These evaluations inform acquisition system programs and component technology developers.

The goal of the assured fuels initiative is to reduce reliance on fuels derived solely from crude oil by qualifying and then implementing use of domestically produced alternative fuels at United States installations. The objectives of this initiative are to expand the Army technical database on alternative fuels, engage in specifications development of alternative fuels, and to qualify/certify alternative jet/diesel fuels for use in Army tactical/combat equipment and systems. Current efforts are focused on qualifying "synfuel blends," blends of up to 50 percent by volume Fischer-Tropsch (FT) synthetic fuel with JP–8, for use in Army tactical/combat ground vehicles. Qualification of synfuel blends will be accomplished through performance evaluations in selected engines and limited testing and demonstration of synfuel blends in equipment and systems. This effort aligns with the synfuel blends program of the Air Force and similar plans by the Navy. Synfuel blends qualification has not yet started for Army-unique aviation platforms.

The Fuel Efficiency Demonstrator (FED) focuses on demonstrating the viability of significant decreases in fuel consumption, without sacrificing the performance or capability, of tactical vehicles. This would be accomplished by integrating potentially high-payoff fuel efficient technologies and advanced lightweight materials in new and innovative designs. The FED effort began in FY 2008 and is scheduled to continue through FY 2013. Successful technologies may be incorporated in future procurements for the JLTV.

The high power, high energy density lithium-ion battery effort investigates manufacturing process improvements in the areas of automated electrolyte filling, cell winding, bussing, closing, electrical formation, and battery packaging. This FY 2004 through FY 2009 effort is also seeking to implement built-in quality control procedure inherent at the production line to insure cell consistency and improved yield. Finally the effort seeks to improve the affordability of high power and energy density battery packs for HEVs.

Within the Army, we have basically two classes of vehicles—tracked and wheeled. As a rule, we buy complete systems from contractors that use commercially available engines to meet our performance specifications. These engines meet current fuel efficiency and emission standards at the time of the contract award. We try to keep the same engine in the vehicle over the life of the contract for commonality purposes. The Army does not develop engines for its ground vehicle systems with the exception of the Abrams engine. Future Army vehicle requirements document will have fuel efficiency as a key performance parameter (KPP).

VEHICLE MATRIX

System	Commercial engine	On-hand thru 2008	Programmed in FYDP	Fuel efficiency (KPP)
Abrams	No—Gov't developed engine w/ Textron Lycoming AGT 1500.	5,827	Only modernization of existing models.	No
Bradley	Yes—Cummins	6,421	653	No
Stryker	Yes—Caterpillar	2,443	1,132	No
HMMWV	Yes—GM	121,000	27,244	No
FMTV	Yes—Caterpillar	34,326	20,502	No
HEMTT	Yes—Detroit Diesel Caterpillar	13,978	3,469	No
PLS	Yes—Detroit Diesel Caterpillar	3,965	1,580	No
HET	Yes—Detroit Diesel Caterpillar	3,218	1,157	No
M915	Yes—Detroit Diesel	7,766	541	No
MRAP	Yes—Caterpillar International Cummins.	12,000*	0	No

*planned.

Ms. KAPTUR. I thank you, gentlemen. This morning my chief question was on power, and both at installations—I don't know if you were here this morning. I don't think you were.

General THOMPSON. I was.

Ms. KAPTUR. You were. Okay—as well as the vehicular side. I thank you, Mr. Chairman, very much for allowing me those questions in the record.

General THOMPSON. That is a great question, ma'am.

UNFUNDED ITEMS LIST

Mr. BISHOP. I have got a question on the unfunded items list. General Casey recently provided to the congressional defense committees a list of items that are currently unfunded that the Army would accelerate if additional funding were available. Under cover letter, General Casey states that the list focuses on funding Army National Guard shortfalls of dual use items.

General Thompson, could you explain what is a dual use item and whether or not the Army regularly procures hardware with dual use applications in mind? And the list that was provided to the Committee is in alphabetical order. Could you provide a list that is in order of priority? And, finally, tell us why it is that all the unfunded items are with the National Guard.

General THOMPSON. Dual use are things that can be used from an operational perspective to meet a warfighting capability and also can be used for homeland defense. For example, trucks, engineering equipment, some of our radio systems are obviously used in a warfighting scenario, but also can be used in homeland defense. That is my definition of how I describe dual use.

The list that was provided, it is not all shortages in the National Guard, and it is in alphabetical order and not priority order. We have acquisition objectives, how many of the different types of things that we need to fill out our units we would like to buy. And so that list is the reflection that you have got a viable program today where, if more money was available, you could buy some of those. And that is what is in that unfinanced requirements list. But it is not all National Guard equipment.

Mr. BISHOP. Could you provide for the Committee, could you just organize that list in terms of your priorities so that the highest pri-

ority is first on the list so that if we do have additional funding we can try to fund it in accordance with the priorities?

General THOMPSON. Sir, the Army G–3 and trade-offs are involved in setting the priorities. The acquisition community doesn't do that. We will take that one back and look at that list and see if there is a need to prioritize it. But that is not something that we would do. The G–3 would.

Mr. BISHOP. Could you pass it on to the appropriate folks and let them know that the Committee is interested in having a priorities list?

Mr. POPPS. Yes, sir. We will take that on.

[The information follows:]

The Army's most critical unfunded requirements (UFRs) for FY09 focus on Army National Guard (ARNG) equipment shortages for dual-use items. This UFR list was approximately $3.94 billion.

The original ARNG equipment UFR list has been modified by the Army to account for substitutions for seven unexecutable lines on the original list. The result is a slight decrease in the UFR, which is now identified to be $3.93 billion. The adjusted ARNG equipment prioritized UFR list is enclosed.

All lines on the current UFR list will have a positive impact on ARNG readiness. The acquisition of this equipment will enable the ARNG to train to a higher level of proficiency to meet both state and federal missions while simultaneously supporting current overseas missions. The most critical of the dual-use items are trucks (High Mobility Multipurpose Wheeled Vehicles (HMMWVs) and Heavy Expanded Mobility Tactical Trucks (HEMTTs)). The ARNG's on-hand quantity of trucks is at a critical all time low. The receipt of trucks will have an immediate impact on readiness and mission effectiveness.

Priority List of Unfunded Requirements (UFRs)

P-1 Line	NOMEN	BAND	$ ADJ Amount (k)
4	HMMWV	BAND 1	$ 1,000,000
		Subt	$ 1,000,000
7	HEMTT	BAND 2	$ 572,900
4	HMMWV	BAND 2	$ 331,300
3	LIQ LOG STORAGE & DISTRO	BAND 2	$ 23,200
23 thru 31	MILSATCOM	BAND 2	$ 19,000
	MOVEMENT TRACKING SYS	BAND 2	$ 23,600
77, 79	NIGHT VISION GOGGLES	BAND 2	$ 28,800
143, 144, 151	WATER PURIFICATION SYS	BAND 2	$ 1,200
		Subt	$ 1,000,000
4	HMMWV	BAND 3	$ 262,000
182	AMC CRITICAL ITEMS	BAND 3	$ 2,400
5, 10	AVN LUH	BAND 3	$ 47,750
22	AVIONICS	BAND 3	$ 11,300
27 thru 34	AVN SPT EQUIP	BAND 3	$ 6,600
27 thru 34	AVN SPT EQUIP	BAND 3	$ 1,700
43	COTS TACTICAL RADIOS	BAND 3	$ 22,800
	DRIVER VISION ENHANCEMENT	BAND 3	$ 152,450
137	FIELD FEEDING SYSTEM	BAND 3	$ 5,400
7, 11	HEAVY EQUIPMENT TRANSPORTER	BAND 3	$ 43,100
7	HEMTT	BAND 3	$ 178,400
10	LINE HAUL	BAND 3	$ 156,300
107, 112	LOG AUTOMATION	BAND 3	$ 300
44, 145	MEDICAL FIELD SYSTEMS	BAND 3	$ 5,700
(AF) 37	NAVSTAR GPS	BAND 3	$ 16,500
24 thru 45, 49	SMALL ARMS	BAND 3	$ 87,300
		Subt	$ 1,000,000
165	TACTICAL ELEC PWR	BAND 4	$ 44,600
1 thru 3	TRAILERS	BAND 4	$ 46,400
148 thru 160	CONSTRUCTION EQUIPMENT	BAND 4	$ 25,000
	DRIVER VISION ENHANCEMENT	BAND 4	$ 473,050
6	FIRE TRUCKS TACTICAL	BAND 4	$ 4,000
78	LONG RGE SCT SURV SYS	BAND 4	$ 17,600
1 thru 3	LTV HIGH MOB TRLR	BAND 4	$ 138,800
35	NON-LETHAL AMMO	BAND 4	$ 4,100
5	PALLETIZED LOADING SYS	BAND 4	$ 80,700
166	ROUGH TERRAIN CONTAINER HANDLING	BAND 4	$ 8,600
5, 10	AVN LUH	BAND 3	$ 47,750
16,17 & 124,125	TACTICAL BRIDGING	BAND 4	$ 29,000
172 thru 174	TEST, MEASURE, DIGITAL EQUIP	BAND 4	$ 8,200
		Subt	$ 927,800
		TOTAL	**$ 3,927,800**

Mr. BISHOP. Thank you, Mr. Popps and General Thompson, for your testimonies. It has been very helpful.

At this time the Committee stands adjourned until 10:30 a.m. tomorrow morning.

[CLERK NOTE.—Questions submitted by Mr. Murtha and the answers thereto follow:]

ARMED RECONNAISSANCE HELICOPTER (ARH)

Question. The Army has lost, in Iraq and Afghanistan, a significant number of Kiowa Warrior helicopters, the current Armed Reconnaissance helicopter. The new helicopter, the replacement for the Kiowa Warrior, is finally in production after suffering approximately a one year slip. Twelve ARH will be built with fiscal year 2008 funding. The fiscal year 2009 ARH program calls for the production of 28 helicopters.

Today, what is the shortfall in Army armed reconnaissance helicopter fleet, that is, how many of the older Kiowa Warrior reconnaissance helicopters is the Army short?

Answer. Current force structure requires 368 Kiowa Warriors in the fleet; Army has 335 aircraft today. We are short 33 aircraft. There is currently no production line capability for Kiowa Warriors for replacement aircraft. The Armed Reconnaissance Helicopter (ARH) is the planned replacement for Kiowa Warrior reconnaissance helicopter.

Question. What is the status of production of the 12 funded ARH aircraft?

Answer. The Army intends to seek the Defense Acquisition Executive's approval to procure 10 aircraft at a Restructure Defense Acquisition Board in July 2008. These aircraft will support the Initial Operational Test and Evaluation planned for June 2010. The fiscal year 2008 appropriations bill language provided for procurement of 12 ARH, however, $174.6 million appropriated for ARH only funds 10 aircraft.

Question. Has the Army taken delivery of any of the 12 ARH funded in fiscal year 2008?

Answer. No, deliveries for the first 10 ARHs are planned from November 2009 to June 2010.

Question. When will we see the new ARH operating in Iraq and Afghanistan?

Answer. Initial Operational Capability for ARH is scheduled for January 2012. This will be the first ARH squadron ready for deployment into an operational theater.

Question. The Army has requested funding for 28 ARH in the fiscal year 2009 request. Is the program on track to build those 28 aircraft, and over what time frame will those 28 aircraft be delivered to the Army?

Answer. Yes, the fiscal year 2009 request will allow the Army to proceed with production of the 28 ARHs. The scheduled deliveries will occur from July 2010 through June 2011.

Question. The U.S. Special Forces fly an armed reconnaissance helicopter different than the aircraft the Army is buying. Why not fly the same small, armed reconnaissance helicopter as U.S. Army Special Forces?

Answer. The Army source selection process resulted in the selection of the aircraft that best met the Joint Requirements Oversight Council approved Capability Development Document.

Question. The ARH was originally proposed as an off-the-shelf commercial helicopter with integration of the necessary military hardware. Integration of military hardware has proven to be very difficult. What was the initial planned unit cost for the ARH, and what is the unit cost now?

Answer. The initial Average Procurement Unit Cost in base year 2005 dollars was $7.582 million. Based on the current program office estimate, the current Average Procurement Unit Cost is $8.859 million in base year 2005 dollars.

LIGHT UTILITY HELICOPTER (LUH)

Question. The Army's new light utility helicopter, called the UH–72A, Lakota, is intended to provide general aviation support for continental United States based aviation units of the active and reserve components. As UH–72A aircraft become available for missions such as MEDEVAC, the UH–60s will be freed up for combat unit assignments.

How many aircraft are currently on order, and how many have been delivered?

Answer. To date, 85 UH–72A Lakota aircraft are on contract and 24 aircraft have been delivered.

Question. The fiscal year 2009 request is for $224.5 million to buy 36 aircraft. When will these aircraft be delivered?

Answer. These 36 LUH aircraft are scheduled for delivery during fiscal year 2010.

Question. What is the total acquisition objective? How many will go to the active Army and how many to the reserve component?

Answer. The total LUH acquisition objective is for 345 aircraft. This is an increase of 23 aircraft from the original acquisition objective of 322 aircraft. The active Army will receive 145 aircraft and the reserve component will receive 200 aircraft.

Question. So far all the UH–72A helicopters have been assembled in Germany. When will assembly operations transition to facilities in the United States?

Answer. Currently, seven of the 24 aircraft that have been delivered to the Army are "made in the US" aircraft. Of the total Army Acquisition Objective (AAO) 345 aircraft, 305 will be made in the US and 40 will be made in Germany. However, from the beginning of the program, a portion of each UH–72A has been accomplished at the new American Eurocopter Facility in Columbus, Mississippi to include assembly, customization, paint, testing, and delivery. The EADS is in the process of duplicating the entire German Eurocopter EC145 production line at American Eurocopter in Columbus, Mississippi. The plan for transitioning LUH production is a phased, event-driven approach consisting of overlapping Light Assembly Line (LAL), Full Assembly Line (FAL), and Production Line (PL) phases. The FAL operations are underway and PL operations will begin in April 2009. It is important to note that the phased, event-driven production transition and the phase-in of US sourcing is on track and is not impacting on the Army's required delivery schedule. Production is now increasing to four aircraft per month and all deliveries have been ahead of schedule.

Question. Which units have received UH–72A helicopters thus far and what is the near term fielding plan?

Answer. The UH–72A Lakota has been fielded to the National Training Center (NTC) MEDEVAC at Fort Irwin, California; the Training and Doctrine Command (TRADOC) Flight Detachment at Fort Eustis, Virginia; and the Joint Readiness Training Center at Fort Polk, Louisiana. The Army National Guard is scheduled to receive their first aircraft in June 2008 at Tupelo, Mississippi.

Question. The UH–72A has had some difficulties with too much heat in the cockpit due to the large glass bubble area and a lack of ventilation or air conditioning. The Committee has been informed that in some instances flights have been curtailed or limited due to potentially over heating critical flight instruments. What is the status of developing and fielding a solution for cockpit over heating?

Answer. The cockpit and cabin heat issue identified during the Initial Operational Test (IOT) has been resolved. All aircraft will have an approved ventilation kit and Environmental Control Units (ECUs) that will be installed on all MEDEVAC and VIP versions of the aircraft. All aircraft fielded now have the ventilation kits installed and ECUs are in the process of being installed on the National Training Center MEDEVAC and TRADOC aircrafts and will be completed by mid-May 2008.

Question. While using UH–72A helicopters for MEDEVAC operations at field locations such as the National Training Center (NTC) problems have been encountered with sand ingestion into the engine causing unexpected wear. What has been done to solve the sand ingestion problem, and why was the Army seemingly caught off guard with encountering sand in places such as the National Training Center?

Answer. The EADS-North America and American Eurocopter began development of an Engine Inlet Barrier Filter (EIBF) as a result of customer input from commercial operations in similar environments. The Army anticipated some long-term effects of the harsh desert environment of the National Training Center, but the Army did not think the environment would affect the aircraft as quickly as it did. The confirming results of the Initial Operational Test (IOT) at the National Training Center expedited the final development of the EIBF that is now being installed on an aircraft destined for the NTC. This aircraft is scheduled to be evaluated at NTC in late May 2008. After the evaluation, all the fielded NTC aircraft will be retrofitted as well as future aircraft fielded to NTC.

Question. Is the UH–72A performing in a manner that is sufficiently acceptable for the Army to continue with procurement of the aircraft?

Answer. The UH–72A performance is exceeding all expectations. Monthly aircraft deliveries have been ahead of schedule, the fleet operational readiness rate has exceeded 90 percent, proving the success of full Contractor Logistics Support (CLS) and all cost, schedule, and performance metrics have been met. The UH–72A Lakota is critically needed to replace the aging UH–1 and OH–58 aircraft that remain in the active Army and the reserve components. The UH–72A is needed by the Army

National Guard to perform critical Homeland Security Missions and will allow UH–60 Blackhawk aircraft to be shifted to tactical units in support of the warfighter. The UH–72A Lakota program is a sterling example of a Commercial-Off-The-Shelf (COTS) acquisition for a military application and remains a cornerstone of the Army's aviation transformation.

JOINT CARGO AIRCRAFT (JCA)

Question. The Joint Cargo Aircraft or JCA is planned to satisfy the near battlefield cargo mission with greater speed and range than helicopters, freeing up helicopters for other missions, and replacing aging C–23s and some of the Army's C–12s.

The Army has five JCA on order and the 2009 request for $264 million will fund procurement of another seven aircraft. The Committee is informed that the Army plans to procure a total of 54 Joint Cargo Aircraft. As the program matures and deliveries begin, do you anticipate a growing requirement for JCA?

Answer. Yes. At present, the Special Operations Command (SOCOM) is identifying a requirement for a limited number of JCA. The SOCOM submitted an Unfunded requirement (UFR) for two JCA in the FY09 budget. The program office is not aware of any other emerging JCA quantity requirements.

Question. Is the first JCA on track for a November 2008 delivery?

Answer. Yes, the JCA is on-track for an on-time delivery.

Question. The JCA is a joint Army and Air Force project. How are the Army and Air Force versions of the JCA different?

Answer. Both services are procuring the same version of the C–27J (Joint Cargo Aircraft).

CH–47 CHINOOK HELICOPTER

Question. The fiscal year 2009 budget request includes funding for 16 new-build Chinook helicopters, and conversion of 23 older CH–47D to CH–47F.

Will the 16 new-build helicopters replace aircraft that are being retired or are you expanding the Army helicopter fleet?

Answer. The Army requirement is 513 Chinooks, which includes 452 CH–47F and 61 MH–47G aircraft. The current inventory is 458 Chinooks. These shortages are in active and Army National Guard units. The 16 new-build aircraft will allow the Army to alleviate a portion of the current aircraft shortage.

Question. The budget request includes funding to convert 23 CH–47Ds to become CH–47Fs. What are the key difference or upgrades, and how much of the old aircraft is salvaged to become part of the CH–47F?

Answer. The CH–47F Chinook is a major improvement over the CH–47D. The CH–47F upgrade includes new machined airframes, a digital cockpit, enhanced air transportability, reduced airframe vibration, an upgraded aircraft survivability equipment suite and a digital automated flight control system. The major dynamic components (e.g., gearboxes, transmissions, blades, hubs) are harvested when the CH–47D aircraft are inducted for conversion to the CH–47F. These components are then recapitalized, to bring them to a like-new condition, and installed on the CH–47F aircraft on the production line.

Question. The Chinook helicopter has been around for over 30 years. Should the Army be looking for opportunities to leap ahead in helicopter technology, lift, speed and all weather performance?

Answer. The Chinook has been a workhorse for the Army for the past 40 years. The CH–47F meets or exceeds all the current Army requirements and is anticipated to be the heavy lift helicopter for the Army for the next 20 years. The Army and Air Force are jointly developing a requirements document for a Joint Heavy Lift aircraft. That aircraft will be likely be a super short or vertical take off and landing capable aircraft that will lift over 20 tons. That requirement is still in the early stages of development and any resultant development program would not begin fielding aircraft until the 2020 timeframe. Even if a Joint Heavy Lift aircraft is developed and fielded, the Army will continue to have a requirement for a Chinook-sized aircraft and the CH–47F will fill that requirement.

Question. The Army had decided to produce all the new CH–47Fs with the Common Avionics Architecture System of cockpit instrument display. This was the system developed for Army Special Forces, and it was to be the standard for all Army helicopters. The Committee is informed that the Special Forces design has proven to be unnecessarily complicated for the rest of the Army and that a redesign is needed. What is the status of the cockpit display redesign and is that effort fully funded?

Answer. The cockpit has performed exceptionally well and there is no indication that the cockpit is overly complicated or in need of a redesign. The cockpit was

flown by representative Army pilots during operational testing and determined by the Army and Office of the Secretary of Defense independent evaluators to be operationally effective and suitable. The Common Avionics Architecture System (CAAS) equipped aircraft met or exceeded all operational requirements. To date, the Army has fielded two operational CH–47F units and flown over 4,000 hours with the CAAS cockpit. Users at every level have been pleased with the performance and capability of the CAAS cockpit.

STRYKER

Question. The budget request for fiscal year 2009 proposes $1.1 billion for procurement of 119 Stryker vehicles, including 40 Nuclear, Biological and Chemical Reconnaissance vehicles; and 79 Mobile Gun Systems.

The Army had scheduling problems last year in that the unit selected for field testing of the Stryker Mobile Gun System was deployed in the surge. Has the necessary user testing been accomplished and is the program approved to move ahead?

Answer. Initial Operational Test and Evaluation (IOT&E) on the Stryker Mobile Gun System (MGS) was successfully completed in November 2007. Funding for the Stryker MGS to move forward is pending our compliance with Section 117 of the National Defense Authorization Act for Fiscal Year 2008 (Public Law 110–181). The U.S. Army is in the process of fulfilling that requirement at this time.

Question. What is the status of executing the Stryker funding for the current fiscal year, 2008?

Answer. The Stryker program expects to execute the majority of funding for fiscal year 2008 between June–July 2008. The strategy involves using the cost advantage gained through vehicle contract efficiencies by combining program base funding and supplemental funding contract awards within a 60 day period. With the fiscal year 2008 main supplemental expected in June 2008, this provides a window of opportunity from June 2008 through August 2008 that will allow a potential cost savings of up to $45 million on planned Stryker vehicle procurement. An additional $860 million in survivability enhancements will also be obligated upon receipt of the main supplemental.

Question. The Committee is informed that the Army intends to replace many of the M113 series vehicles, the work horse "Armored Personnel Carriers" that are Viet Nam War vintage, with Strykers and that replacing M113 MEDEVAC vehicles is a priority. Does the Army have the necessary funding to procure the requisite number of Stryker MEDEVAC vehicles to replace the M113s?

Answer. The Fiscal Year 2009 (FY09) President's Budget does not provide funding for any Stryker Medical Evacuation Vehicles (MEV) to replace M113 ambulances. It provides necessary funding to complete Mobile Gun System (MGS) and Nuclear Biological and Chemical Reconnaissance Vehicle (NBCRV) requirements for the base Stryker program which includes 7 Stryker Brigade Combat Teams, the Ready to Fight Fleet, Equipping Force Pool, and other Training and Doctrine Command and testing requirements. Additionally, it provides funding for procurement of 15 NBCRVs to begin FOX vehicle replacement.

However, the FY08 Global War on Terrorism request provides funding for 231 MEVs to replace M113 Ambulances. Additional funding will be needed to procure 670 more Stryker MEVs to replace the remaining M113 Ambulances in Heavy Brigade Combat Teams.

Question. Does the Army plan to add additional Stryker brigades to the Army?

Answer. The Stryker Brigade Combat Teams (BCTs), like all of the Army's BCTs, are performing superbly in Iraq. Stryker Brigades provide our combatant commanders a unique combat capability that ranges across the full spectrum of military operations. Stryker Brigade Combat Teams fit into the Army Force Generation Model the same way as Heavy and Infantry Brigade Combat teams do. Each of our Brigade Combat Teams (Infantry, Heavy, and Stryker) is capable of full spectrum operations. The Army's current plan is to build seven Stryker Brigade Combat teams; six in the active component and one in the National Guard (Pennsylvania). The Army recently received additional authority to build 6 new BCTs. The Army continuously reassesses the mix of BCTs—Stryker, Heavy, or Infantry—with analysis underway that will consider the existing requirements, current operational demand, and our assessment of the future capabilities needed to meet the strategy. Additional maneuver BCTs of any type—Stryker, Heavy, or Infantry—will likely reduce the Army's stress and begin to rebuild strategic depth and flexibility.

LAND WARRIOR

Question. According to the description in the Army's Weapon System handbook for fiscal years 2007 to 2008, Land Warrior is a first-generation, integrated, modular

fighting system that uses state-of-the-art computer, communications, and geo-location technologies to link dismounted Soldiers to the digital battlefield. The Army equipped the 4th Battalion, 9th Infantry, 4th Stryker Brigade Combat Team, of the 2nd Infantry Division, Fort Lewis, Washington with Land Warrior to conduct a comprehensive assessment of the system during that battalion's tour in Iraq. By all accounts, Land Warrior performed well.

Basically, Land Warrior is a digital data sharing and communications device that solders wear as part of their battle uniform. Please expand on that limited description. What does Land Warrior do for the soldier? How heavy is it?

Answer. Land Warrior is a 10 lb modular, integrated Soldier leader system. It enhances the lethality, battle-command capability, survivability, mobility, and sustainability of dismounted combat Soldiers, enabling them to engage and defeat enemy targets while minimizing friendly casualties. Land Warrior facilitates command, control, and sharing of battlefield information and integrates Soldier leaders into the Army Battle Command System network.

There are several components that make up the system. They include a wearable, ruggedized computer; a Soldier Control Unit performing the same functions much like a mouse we use on our personal computers; a radio that transmits both voice and data; a navigation system that provides Global Positioning System (GPS) location as well as dead reckoning when not receiving a GPS signal when the Soldier is inside a building or in dense vegetation; there is a Helmet Mounted Display that shows map data, still satellite imagery, and the location of the Soldier and his fellow Land Warrior in relation to the map or imagery; the system incorporates a Close Combat Optic, Thermal Weapons Sight, Daylight Video Sight, and a Multi-Function Laser and interfaces with the M4 carbine and the M249 Squad Automatic Weapon. The system is powered by a rechargeable lithium-ion battery.

Question. General Thompson, what has been the feedback on the use of Land Warrior in combat in Iraq?

Answer. The feedback from the field has been positive. It has made the unit, 4th Battalion of the 9th Infantry Regiment, equipped with the Land Warrior System more effective. Small unit leaders such as Platoon Leaders have indicated that the situational awareness provided by the system is a combat multiplier.

It gives these leaders the ability to plan and conduct operations in terrain that they have never been in before, because of the situational awareness that it provides. The confidence they have to conduct operations in such conditions is increased because they know where they are. They know where their other friendly elements are, and they know where the enemy is. They can quickly adapt to changes in the situation or the terrain as they take place.

It improves their mobility with the capability to identify obstacles when encountered and quickly transmit that information over the network so that it is displayed on other Land Warrior systems and Combat Platforms, such as the Stryker, and the obstacle can be breached or bypassed more rapidly.

It has improved their lethality with the ability to mass fires on a target. Again, this is a direct result of the information that is quickly transmitted over the network about enemy locations.

The Land Warrior system has proven to be a combat multiplier by increasing battle command, lethality, and improving mobility. Improvements in these areas have increased Soldier's survivability.

Question. The Land Warrior program has been cancelled, with no funding requested for the program in 2008 or 2009. Based on positive feedback from soldiers in Iraq, might the Army consider resurrecting the Land Warrior Program?

Answer. There is certainly a need for a Land Warrior like system. The capability that the Land Warrior provides has been proven and there is a very strong basis of support by the 4th Battalion of the 9th Infantry Regiment using the system in Iraq today. The strategy is to move forward with this capability.

The concept would be that the next thing we need to do is equip a Brigade Combat Team. The Brigade Combat Team would train with the equipment as a part of their pre-deployment training and also as a part of our process of preparing forces and certifying them for deployment. They would then deploy with this capability.

We have a request in the fiscal year 2008 Supplemental Adjustment for $102 million. That amount is approximately what it takes to equip one Brigade Combat Team with this capability.

Question. Does the Army plan to equip additional units that are bound for Iraq with the available sets of Land Warrior?

Answer. We have requested $102 million in the fiscal year 2008 Supplemental Adjustment. That amount is approximately what it takes to equip one Brigade Combat Team with this capability. This request is a direct result of an approved operational need that has been identified. This funding will allow us to build, equip, train, and

certify the unit prior to their deployment early next year. We will continue to evaluate additional requests for the equipment based on operational needs.

Question. Is Land Warrior fully compatible with FCS?

Answer. The Land Warrior system was designed to connect to the Army Battle Command System using the Force XXI Battle Command Brigade-and-Below (FBCB2) network and the tactical internet enabled by the Enhanced Position Locating Reporting System (EPLRS). We are leveraging this same technology in the early phases of Future Combat System (FCS) and during the experiments that are now being conducted at Fort Bliss, Texas involving the first spinouts from the FCS program. Later this year some Land Warrior systems that are currently deployed in Iraq will take part in these experiments once they are returned from theatre. The Land Warrior system will be interoperable using the same interfaces that other FCS non-spinout combat platforms will use to connect to the network.

HIGH MOBILITY MULTIPURPOSE WHEELED VEHICLE (HMMWV)

Question. The budget request includes nearly $1 billion to procure 5,065 HMMWVs. The procurement would be a mix of armored HMMWVs and armor-ready HMMWVs.

With the fielding of MRAP vehicles to accomplish many of the functions requiring an armored tactical wheeled vehicle, and with so many up-armored HMMWVs already purchased, why does the Army need so many additional armored HMMWVs?

Answer. The Mine Resistant Ambush Protected (MRAP) vehicles are not a replacement for the Up-Armored HMMWVs (UAHs). The MRAP Vehicles augment the UAH fleet in theater. There is still a fleet requirement within the Army for UAHs, both in and out of theater, and will be for the foreseeable future. Additionally, the washout rate for an UAH in theater is approximately 3.5 years and battle losses are approximately 125 vehicles per month.

Question. The total program for the HMMWV calls for 170,944 vehicles. Will that number be reduced as more MRAPs are fielded?

Answer. The current HMMWV Objective Table of Organization and Equipment (OTOE) is 166,154 vehicles and the Modified Table of Organization and Equipment (MTOE) is 140,709 vehicles. The Army anticipates that the HMMWV requirements in theater will decrease as more Mine Resistant Ambush Protected (MRAP) vehicles are fielded. We do not, however, anticipate reductions in HMMWV requirements outside of theater because the MRAP does not have the capabilities required to fill the vast majority of HMMWV mission sets. The ongoing Tactical Wheeled Vehicle (TWV) and Program Decision Memorandum II/Combat and Tactical Vehicle (PDM II/CTV) studies will identify those mission sets and roles the MRAP can fill across the TWV and Combat Tactical Vehicle fleets.

Question. Please explain for the Committee the characteristics of new model HMMWVs, the XM1211; XM1212; XM1213 and XM1214?

Answer. The XM series (ECV2) is an improved version of the HMMWV designed to achieve the objective capabilities defined within the current HMMWV Operational Requirements Document (ORD) requirements. It is not a new start system. It is being developed as an option to gain back the performance, protection and payload the current HMMWV lost as a result of adding armor (Fragmentation Kits (FK)). The current HMMWV has a Gross Vehicle Weight (GVW) of 12,100 pounds (lbs), but it currently weighs approximately 15,400 lbs with armor, Objective Gunner's Protection Kit, and additional installed equipment. This is an additional 3,300 lbs of GVW with no payload remaining. The XM series will have FK5 equivalent integrated armor, a GVW of 17,000 lbs, and have a payload of 1,800 lbs.

MINE RESISTANT AMBUSH PROTECTED VEHICLES (MRAP)

Question. As the threat from Improvised Explosive Devices and Explosively Formed Penetrators grew, the limit of how much armor could be applied to the HMMWV was reached. The DoD identified the MRAP-type trucks to provide greater force protection.

General, what is the current Army acquisition objective for MRAPs?

Answer. The current Army Acquisition Objective (AAO) for MRAPs is 10,000 systems (based on the September 2007 interim requirement). A new interim requirement for MRAPs of 12,000 systems is currently in staffing. The final requirement is dependent on many factors, including future actions taken by the enemy.

Question. How many MRAPs does the Army have currently fielded in Iraq; and how many in Afghanistan?

Answer. As of 10 March, 1,434 MRAPs have been fielded to Iraq and 8 to Afghanistan. Additional MRAPs are fielded weekly.

Question. When do you expect to reach your acquisition goal?

Answer. The current plan is to procure the 10,000 systems by October 2008 and field them by December 2008. If a new interim requirement of 12,000 is adopted, it is anticipated that these systems could be produced by February 2009 and fielded by April 2009.

Question. Do the MRAPs as currently fielded protect against Explosively Formed Penetrators? Will additional armor be added to the MRAPs?

Answer. The MRAP family of vehicles provides Warfighters multi-mission platforms capable of mitigating Improvised Explosive Devices (IEDs), underbody mines and small arms fire threats which are currently the greatest casualty producers in the Global War on Terror. In almost 50 IED and Direct Fire events, there have been a few minor injuries and unfortunately one fatality. In a classified session, we can provide you the details of the incidents.

Question. How have the MRAPs been received by soldiers, and how have the MRAPs performed in terms of mobility and utility; and how have they performed when they have been attacked by various threat weapons?

Answer. The majority of MRAPs have been operational for a relatively short period of time (approximately 90 days), so the initial feedback is just beginning to filter in. It is clear that MRAPs are providing significant increase in Soldier Mounted Protection and saving lives. We have tracked almost 50 incidents and experienced one fatality.

MNC–I Commander: "MRAP fielding has provided a decidedly positive impact on crew survivability."

2–502nd IN: Soldiers are very confident operating in this vehicle because of the known improvements in armor protection; this leads to more aggressive operations along routes less traveled.

Question. What is the proper mix of HMMWVs and MRAPs?

Answer. Theater is evaluating the operational mix of MRAPs. The final mix is still to be determined.

Question. Is the Army MRAP requirement fully funded?

Answer. The Army has been funded for 10,000 systems. The Joint Program Office reports sufficient funding to procure up to 12,000 systems.

Question. What are your plans for the MRAP vehicles once the war in Iraq is over?

Answer. The Army continues to work with the Office of the Secretary of Defense and the Joint Staff to meet Joint Force Theater Commanders' requirements for MRAP vehicles.

The Army Tactical Wheeled Vehicle Strategy is an ongoing effort to ensure our Soldiers receive the best capabilities available in ground wheeled vehicles to meet emerging threats.

The MRAP is being integrated into the Tactical Wheeled Vehicle base strategy to balance Performance, Payload, and Protection. We are taking steps to identify their long term role. One example is approximately 1,000 MRAPs are planned to fill new Route Clearing capabilities in Engineer and Explosive Ordnance units.

FAMILY OF MEDIUM TACTICAL VEHICLES (FMTV)

Question. The Congress appropriated just over $3 billion for FMTV trucks in fiscal year 2007. The DoD Appropriations Act for fiscal year 2008 provided $1.8 billion for FMTVs. The Consolidated Appropriations Act, 2008 included, in the bridge fund, $146 million. Another $2.7 billion is under consideration in the main fiscal year 2008 supplemental. The fiscal year 2009 request proposes $290.5 million for 3,171 trucks and 2,743 trailers.

General Thompson please update this Committee on the status of execution of the fiscal year 2007 and 2008 funds that have been appropriated for FMTV.

Answer. Of the Fiscal Year 2007 (FY07) $3,089 million appropriated amount, 31 percent has been executed. The remaining will be executed in April 2008. Of the FY08 $1,986 million appropriated amount, one percent has been executed. The remaining will be executed in June 2008.

Question. Is the FMTV program experiencing production delays?

Answer. No.

Question. Is all appropriated and requested funding executable or will the Army attempt to reprogram funds out of the FMTV program?

Answer. Yes. All appropriated and final Global War on Terrorism (GWOT) requested funds for the FMTV Program are executable.

Question. What is the status of the FMTV contract in terms of planned extensions or new competitions?

Answer. The Army plans to award a one year sole source contract with one year option to the current manufacturer in fiscal year 2008 (FY08). In FY09, the Army

will award a three year competitive requirements type contract. To avoid a break in production, the Army will award a sole source contract to the current manufacturer to allow for the new contractor to ramp-up its production.

SINGLE CHANNEL GROUND AND AIRBORNE RADIO SYSTEM (SINCGARS)

Question. Congress provided nearly $650 million for SINCGARS radios in fiscal year 2007. The fiscal year 2008 Defense Appropriations Act provided $149.6 million for SINCGARS. The fiscal year 2008 supplemental funding request proposed $2,248 million for SINCGARS. However, the Congressional Defense Committees have recently expressed concerns that the Army may be continuing with dated technology and that opportunities may exist to satisfy communications requirements with more modern and enhanced capabilities.

To what extent are SINCGARS radios Joint Tactical Radio System (JTRS) compliant?

Answer. The SINCGARS is interoperable with JTRS. The SINCGARS Waveform is one of the JTRS core waveforms and is a Key Performance Parameter.

Question. Could the Army greatly increase the utility of tactical radios by procuring radios that have multi-band capability and can operate both military and wave forms commonly used by first responders to enhance cooperation between National Guard units and first responders? Are such radios available?

Answer. The Army has already procured in excess of 70,000 PRC–148 Multiband Inter/Intra Team Radios (MBITRs) which can interoperate with State and Federal first responders. The PRC–148 MBITR has the APCO–25 waveform and operates in the spectrum of land mobile radios (LMRs) used by state and federal agencies. Additionally, the Army has procured over 65,000 LMRs which are APCO 25 compliant.

Question. The Army Science board recently reported that the Army should move away from SINCGARS to procure software-defined, Joint Tactical Radio System (JTRS) capable radios. Do you concur?

Answer. SINCGARS for what it does is the best radio for full spectrum operations until JTRS is available. While both the Harris PRC–152 and Thales PRC–148 are Joint Tactical Radio System compliant multiband radios they cannot meet the specifications of the JTRS Operational Requirements Document (ORD). For instance they cannot cross-band, can only operate on one channel at a time, and the HARRIS VRC–110 will not physically fit in some of our Combat Platforms (i.e. Stryker, Abrams and Bradley).

Question. Is it time for the Army to prepare a new Operational Requirements Document (ORD) and proceed with a new competition for tactical radios?

Answer. The Army has reviewed the SINCGARS ORD and determined it still meets the requirement for a combat net radio capable of full spectrum combat operations. The Army is in the process of competing the next SINCGARS procurement to the specifications of the ORD.

ABRAMS TANKS

Question. The Abrams tank has been around for about 30 years. The budget request for fiscal year 2009 proposes nearly $700 million for Abrams tank modifications and upgrades.

Does it make good economic sense to continue to upgrade a fleet of vehicles that dates back 30 years?

Answer. Yes. The Army is equipping and modularizing 30 Heavy Brigade Combat Teams (HBCTs) plus Grow the Army (GTA) (1 HBCT + 3 Combined Arms Battalions (CABs)), which includes the Abrams Main Battle Tank. The Abrams Tank is one of the Army's highest priority recapitalization combat vehicle programs. Although the Abrams Tank has been in the force for 30 years, it continues to be the premier main battle tank and will continue to play a key role in the front line fighting force through 2050, complementing the Future Combat Systems (FCS) BCT. The Army's vision is to maintain the viability and combat effectiveness of the Abrams Tank through 2050. Therefore, it is necessary to continue updating the Abrams fleet to ensure it provides combat overmatch while remaining survivable, lethal, and sustainable. As such, the Army intends to continue future critical RDT&E investments in the Abrams Tank. When FCS begins fielding to the Active Component (AC) in the fiscal year 2017 time frame, the M1A2 SEP will begin cascading to the Army National Guard (ARNG) and the M1A1 fleet will be cascaded out of the force.

Question. How will the Abrams tank fleet benefit from the advances in technology that come from Future Combat Systems research and development?

Answer. The planned Future Combat Systems (FCS) technology insertions to the Abrams Tank will enable the Abrams Tank to maintain combat overmatch and fight alongside FCS within the future battle command structure, while operating within

a common logistic structure. The following are examples of planned FCS technology insertions to the Abrams Tank: FCS Full Battle Command; System Computing (hardware and software); Sensors; Network Transport Layer and Network Architecture; Active Protective System (APS); Armor; and Line Replaceable Modules.

Question. The Committee is aware that the Army will have essentially two Abrams tank fleets. Some tank-units will have M1A1 Abrams, and the rest will have the more capable M1A2 System Enhancement version. Please explain the key differences between the two types of tanks and the Army's plan for allocation to active and guard units?

Answer. The key difference between the M1A1 SA and the M1A2 SEP v2 tank is that the "M1A1 SA is an Analog based system" and the "M1A2 SEP v2 is a Digital based system." Although both the M1A1 SA and M1A2 SEP v2 are equipped with a 1553 data bus, the M1A1 SA analog based system is not capable leveraging the full capacity of the 1553 data bus. The M1A2 SEP v2 is capable of leveraging the full capacity of the 1553 data bus. Another key difference between the two systems is that unlike the M1A2 SEP v2, the M1A1 SA has no Commander's Independent Thermal Viewer (CITV). The CITV on the M1A2 SEP v2 allows the tank commander to employ the "hunter/killer target handoff" capability between himself and the gunner.

The Army's allocation to the Active and National Guard units are provided below:

Heavy Brigade Combat Teams	M1A2 SEP v2	M1A1 SA	
Active	16	2	Modularity Endstate
ARNG	1	6	
Pre Positioned Stock	2	1	
Equipping Force Pool	1	1	
ARNG HBCT		1	Grow the Army Initiative
ARNG Combined Arms Battalion		3	

When FCS begins fielding in the FY17 time frame, the M1A2 SEP v2 fleet will begin cascading to the ARNG and the M1A1 SA fleet will be cascaded out of the force.

Question. The fiscal year 2009 (FY09) funding request includes $351 million to upgrade M1A1s to the M1A2 SEP version. For the current fiscal year, 2008, the base appropriation requested no funding for the Abrams Upgrade program, but the Army requested $1.3 billion in supplemental funding of which $225 million was provided in the bridge appropriation. What is the long term plan for Abrams upgrades and will the Army continue to depend on large supplemental appropriations to fund the program?

Answer. No. The Army has fully funded, in the base budget, the remaining Upgrades from FY09 through FY12 via the M1A2 SEP Upgrade MYP.

BRADLEY INFANTRY FIGHTING VEHICLE (BFV)

Question. The Bradley program recapitalizes earlier variants of the Bradley to A2 Operation Desert Storm variants, and to A3 variants.

What are the key differences between the two variants of the Bradley fighting vehicle?

Answer. The key differences between the M2/M3A3 and ODS SA are the lack of a Commander's Independent Viewer (CIV) on the ODS SA, and the level of digital capability between the two variants. The CIV allows the commander to employ the "hunter/killer target handoff" capability between himself and the gunner, allowing greater situational awareness and lethality for the crew. Also, while both variants have a digital backbone (1553 data bus), several of the ODS–SA turret sub-systems still communicate via analog channels. The M2/M3A3 is a fully digitized system.

Question. How are the two variants allocated between active component brigade combat teams, and Army Guard brigade combat teams?

Answer. The Active Army is allocated 16 M2/M3A3 Heavy Brigade Combat Teams (HBCTs) and two (2) ODS–SA HBCTs. The National Guard is allocated one (1) M2A3 HBCT and six (6) ODS SA HBCTs. Army Pre-Positioned Stock (APS) is allocated two (2) M2/M3A3 HBCTs and one (1) ODS–SA HBCT. The Equipping Force Pool is allocated one (1) M2/M3A3 HBCT and one (1) ODS–SA HBCT. This allocation meets the approved HBCT Modularity Endstate of 20 M2/M3A3 HBCTs and 10 ODSSA HBCTs. For the Grow the Army Initiative (GTA), one (1) ODS–SA HBCT and three (3) ODS–SA Combined Arms Battalions (CABs) have been allocated.

Fielding of the ODS–SA will begin in FY09. Finally, as FCS units are fielded, the A3 fleet will be cascaded to the Guard and the ODS SA fleet will be cascaded out of the force.

Heavy Brigade Combat Teams	M2A3	ODS–SA	
Active	16	2	Modularity Endstate
Guard	1	6	
Pre Positioned Stock	2	1	
Equipping Force Pool	1	1	
Guard HBCT		1	Grow the Army Initiative
Guard Combined Arms Battalion		3	

Question. For fiscal year 2008 the Army requested $140 million in the base request, plus a total additional amount of $1.6 billion between the bridge and main supplementals. For fiscal year 2009 the budget request proposes $180 million in the base request. Will the Army again depend on a large supplemental funding amount to support the Bradley program?

Answer. No, not as large as the FY 08 supplemental (about 75 percent less). The FY09 supplemental request is for $394.8 million, which procures 94 M2/M3A3s.

ARMY PRE-POSITIONED SETS (APS)

Question. The Army drew upon pre-positioned equipment sets to sustain initial combat operations in Iraq. Some equipment was repaired and replaced in pre-positioned sets only to be dawn out again for the surge.

What is the readiness posture of Army pre-positioned sets (APS) today?

Answer. The APS equipment is a proven enabler of the Army's ability to rapidly project forces into an area of operations. Currently, most of the Army Prepositioned Stocks are employed in support of the Global War on Terrorism (GWOT). However, the remaining APS equipment continues to be in a high state of readiness and the Army has unit sets afloat that support port opening operations as well. The Army has an APS Strategy 2015 which articulates the afloat and ashore equipment required to meet the future responsiveness needs of the Combatant Commanders. APS capabilities will be reconstituted to provide the maximum level of strategic flexibility and operational agility.

Question. What is the time line to have all the pre-positioned sets returned to their desired readiness?

Answer. Reconstitution of APS is already underway and the Army has an executable timeline to reset its APS sets according to the APS Strategy 2015. The current approved timeline will reconstitute all of the Army APS sets by the end of FY15, contingent on available resources and operational requirements.

Question. Does the Army intend to add MRAP vehicles to pre-positioned equipment sets?

Answer. Future Mine Resistant Ambush Protected (MRAP) APS fielding will be based on the results of Training and Doctrine Command's (TRADOC) Tactical Wheeled Vehicle Strategy and the ability to meet all Army priorities. The current priority of fill for MRAP is for units deployed in support of Operation Iraqi Freedom/Operation Enduring Freedom (OIF/OEF) and not APS. As of April 6, 2008, the Army has received 22 percent of its scheduled MRAP fieldings. As this fleet matures in the Area of Responsibility (AOR), the Army will review the vehicles' performance over time. In accordance with the APS Strategy 2015, APS sets will have Wheeled Augmentation Sets comprised of armored wheeled vehicles which are currently up-armored High Mobility Multipurpose Wheeled Vehicles (HMMWVs).

Question. Given the deployment capability of U.S. Forces and the uncertain nature of conventional and unconventional threats, are pre-positioned sets a wise investment? Would it be a wiser course of action to take the equipment from the pre-positioned sets and use it to outfit modular brigades and the new Grow-the-Army brigades?

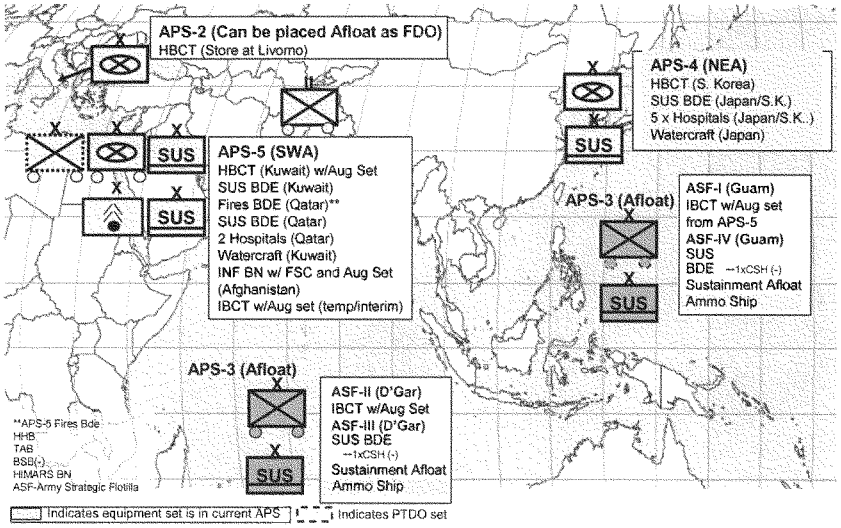
Answer. The last four years have demonstrated that the APS program is flexible, responsive, and critical to the Army's ability to deploy forces in support of Combatant Command (COCOM) requirements and adapt to changing strategic requirements. Army Prepositioned Stocks are a proven valuable strategic asset of the U.S. and enable the nation to rapidly project power in order to deter the actions of any adversary. Diverting the APS equipment to support the building of modular Brigade Combat Teams and Grow the Army effort limits the ability to rapidly reinforce for-

ward units by air movement. The Army remains committed to maintaining an APS pool of equipment in order to meet current contingency planning requirements.

Question. In November 2007, the Army announced a new Army Pre-positioned Stocks Strategy 2015. Please outline the new strategy, and what are the funding requirements for fiscal year 2009?

Answer. APS Strategy 2015's equipment sets provide a balanced suite of global capabilities which will foster the Army's rapid deployment to both combat and Steady State Security Posture (SSSP) operations. The end-state for APS Strategy 2015, illustrated in the attached diagram, consists of five APS sets. APS–1 consists of Operational Project stocks to support both Homeland Defense and Combatant Commands. APS–2 consists of one Heavy Brigade Combat Team (HBCT) set to support European Command (EUCOM), African (AFRICOM) and Central Command's (CENTCOM) areas of responsibility (AOR). APS–3 consists of two Infantry Brigade Combat Team (IBCT) sets with up-armored High Mobility Multipurpose Wheeled Vehicle (HMMWV) and/or Mine Resistant Ambush Protected Vehicle (MRAP) wheel augmentation sets, two Sustainment Brigade sets and two ammunition ships which are multi-apportioned to support PACOM, AFRICOM and CENTCOM's AORs. APS–4 consists of one HBCT, one Sustainment Brigade set and Army watercraft to support Pacific Command's (PACOM) AOR. APS–5 consists of one HBCT set with an up-armored HMMWV and/or MRAP wheel augmentation, one Fires Brigade set, two Sustainment Brigade sets, and Army watercraft stationed at Kuwaiti Naval Base. APS–5 also includes an Infantry Battalion set with a Forward Support Company (FSC) with an up-armored HMMWV and/or MRAP wheeled augmentation set in Afghanistan to support CENTCOM's AOR.

Army Pre-Positioned Sets (APS)



Revised chart removed "rotational units" in APS–2 & 4, changed ASF-V to ASFIII, HBCT symbols have been updated.

To meet the timelines of the APS 2015 Strategy, the Army requested $317.5 million Operation and Maintenance, Army (OMA) and $102.2 million Army Working Capital Funds (AWCF) funds in the FY09 Base Budget for APS. We are only funded for the operations we need. All funding requests were adjusted to show issue of sets or current status of Ship Leases. The FY09 Budget provides the following support:

• APS–1—($31.5 million) Funds operations at Army Sustainment Command to manage APS and maintenance and storage of Operational Projects IPDS, LAMS, Force Provider, Water Support Systems, and Bailey Bridges at Sierra Army Depot.

• APS–2—($13.4 million) Funds operations to maintain limited equipment and ammunition at Livorno Italy and Medical Supplies at Pirmesans, GE to include support to War Reserve Stocks for Allies—Israel.

• APS–3—($156.7 million) Funds operations to maintain equipment for the Port Opening Package and funds lease operations of 1 LMSR for the Port Opening Package, three LMSRs in Reduced Operating Status—10, two ammunition container ships. Funds personnel to begin the reset of equipment and secondary items for APS upload that will occur in FY10. It does not pay for the two remaining LMSRs we downloaded and placed in Reduced Operating Status—30.

• APS–4—($58.5 million) Funds maintenance and operations to maintain the full unit sets and operational projects in Korea, Japan and Hawaii. OPROJs will be filled using FY08 and FY09 Supplemental funds.

• APS–5—($57.4 million) Funds reset of the PTDO IBCT and planned reset of the HBCT. Funds the $12M annual Oman Access Fee.

• WRSI—($102.2 million) Funds buys of potency and dated items (mostly Medical) that need to be replaced in APS–4 and Operational Projects. Funds buy of APS–2 ASL/PLL/UBL stocks. Buys upgrades in Medical sets currently on-hand in Korea.

With the continued support of the Congress to fully resource the Administration's budget requests for Army equipment, the Army will be able to return equipment to pre-positioned stocks by 2015.

[CLERK'S NOTE.—End of questions submitted by Mr. Murtha.]

THURSDAY, MARCH 13, 2008.

FISCAL YEAR 2009 NAVY POSTURE

WITNESSES

DONALD C. WINTER, SECRETARY OF THE NAVY
ADMIRAL GARY ROUGHEAD, CHIEF OF NAVAL OPERATIONS
GENERAL JAMES T. CONWAY, COMMANDANT, MARINE CORPS

OPENING REMARKS OF MR. MURTHA

Mr. MURTHA. The committee will come to order.

Let me welcome the three of you to the committee, and compliments on the way you handled the LCS. You got industry's attention. And what we talked about before the hearing is so important to try to work it out so that we can buy one of them, the quantity. And I don't know how hard it is to fit in your budget, but we do the best we can do, but your recommendations make it easier for us.

We look forward to hearing your comments about whatever you want to talk about. We are concerned about the Navy because we have got so far behind in shipbuilding, so we would be interested to hear how you are going to proceed. And I expect to overcome or get to 313 ships.

Mr. Young.

OPENING REMARKS OF MR. YOUNG

Mr. YOUNG. Well, Mr. Chairman, I am going to forgo an opening statement, but I want to tell a quick story that I think will make everybody in the room feel good.

A young soldier donated bone marrow to save the life of a patient through the bone marrow program that we created here. The soldier, after he recovered from that bone marrow extraction, was deployed fairly quickly to Iraq, and he was assigned to a demolition team, to a group of marines. He called us the other night and said, you know, he said, I was out on patrol, he said, we hit a real really scary, difficult situation. He said, I have never, ever seen anybody respond as quickly, as efficiently, as effectively as those Marines. And he said that his life's goal now is to finish out his time in the Army and become a Marine. He couldn't get beyond telling us how those Marines reacted and how just how great they were. He is singing your praises, sir.

General CONWAY. Thank you.

SUMMARY STATEMENT OF SECRETARY WINTER

Mr. WINTER. Chairman Murtha, Congressman Young, Members of the Committee, thank you for the opportunity to appear before you today. I am here to present the Department of the Navy's plan

to support our Sailors and Marines in their mission to defend our Nation against current and future challenges. The President's fiscal year 2009 budget will assist the Navy and the Marine Corps in accomplishing their complementary and reinforcing missions, while building capabilities necessary to meet future threats.

One of the primary responsibilities of our government is to provide for the Nation's defense. Those responsibilities include the critical requirements to organize, train and equip our Naval forces. For the vast majority of citizens, the only cost imposed on us is financial. America is able to provide for the national defense with such a minimal impact on the citizenry because we are blessed to have among us a generation of people, patriots all, who volunteer to serve. They are the ones who bear many hardships, accept many risks and go in harm's way.

The pay and benefit funding levels in our 2009 budget reflect the compensation levels necessary to continue to attract and retain quality personnel in the Navy and the Marine Corps. Furthermore, although we are doing well in our overall recruiting and retention numbers, I emphasize the need for special pays and bonuses to meet critical subspecialty needs such as our requirements for nurses, physicians and GWOT-stretched communities, such as Explosive Ordnance Disposal personnel.

It is because of the hard work of our Sailors and Marines that we are making progress, fostering maritime security, defeating terrorist networks, progressing towards a stable Iraq, supporting the Afghan Government, countering piracy and proliferation of deadly technology, rendering humanitarian assistance and strengthening partnerships around the world.

Our Sailors and Marines have responded when called and superbly perform their many missions in our Nation's defense. It is truly an honor and a privilege to work with them and to support them as their Secretary.

The Department of the Navy's fiscal year 2009 budget meets the challenge of resourcing the Navy and Marine Corps team across a range of missions from partnership building to combat operations. It invests in our ability to operate, sustain and develop forces that are engaged in the Global War on Terror while preparing the force for the challenges and threats of the future.

We are requesting a total of $149 billion, a 7 percent increase over the fiscal year 2008 baseline. This increase is driven by factors such as rising oil costs and a critical comprehensive growth of the Marine Corps.

Our fiscal year 2009 budget reflects three key priorities which are consistent with those of previous years. They are, first of all, to prevail in the Global War on Terror; secondly, take care of our Sailors, Marines, their families, and particularly the wounded; and lastly, prepare for future challenges across the full spectrum of operations.

To help meet our first priority, prevail in the GWOT, we are adapting our force for current and future missions to include growing the Marine Corps, shaping the force by recruiting and retaining the right people, and addressing critical readiness needs. Among our most critical readiness needs is the ability to train our Sailors and Marines for the threats that they may encounter.

Unfortunately, our Navy has encountered increasing encroachments in our ability to conduct critical training. We recognize that there are on occasion impacts on the citizenry at large associated with such training, but these are necessary costs that are critical to the defense of our Nation. We take extensive precautions to minimize the impact of our training.

We owe it to the American people, and we owe it to those who serve to acknowledge that as in all things in life, there are competing interests and trade-offs, and that we treat the risks of sonar operation at sea or the impact of jet noise the way we treat all public policy issues, balancing risks and costs against legitimate national security interests. I commit to you today that I will continue to keep you apprised of legal challenges and their implications for readiness that we face over the course of the coming year.

Mr. Chairman, if in the future we are unable to properly train our Sailors and Marines, we will have failed to do our duty to them and to the American people.

Another critical issue I would like to highlight concerns doing right by those who go in harm's way. As Secretary of Defense Gates has stated, apart from the war itself, we have no higher priority than to take care of our wounded. Our wounded warriors and their families deserve the highest-priority care, respect and treatment for their sacrifices. Our 2009 budget honors our commitment to ensure that our Sailors and Marines receive the appropriate care, training and financial support that they need.

Finally, to meet the challenges of the future, the 2009 budget provides for a balanced fleet of ships, aircraft and expeditionary capabilities with the fighting power and versatility to carry out blue-green- and brownwater missions wherever called upon. Furthermore, I would like to note that consistent with our commitment to ensure affordability and timely delivery of capabilities, we have launched an acquisition improvement initiative to provide better integration of requirements and acquisition decision processes; improve governance and insight into the development, establishment and execution of acquisition programs; and formalize the framework to engage senior Naval leadership.

Mr. Chairman, I am grateful for the strong support this Committee and the Congress at large has given our Navy and Marine Corps team. I want to thank you on their behalf. Our Navy and Marine Corps is a strong, capable and dedicated team. I appreciate the opportunity to represent them today, and I look forward to your questions.

[The statement of Secretary Winter follows:]

STATEMENT OF

HONORABLE DONALD C. WINTER

SECRETARY OF THE NAVY

BEFORE THE

HOUSE COMMITTEE ON APPROPRIATIONS SUBCOMMITTEE ON DEFENSE

13 March 2008

NOT FOR PUBLICATION
UNTIL RELEASED BY THE
HOUSE COMMITTEE ON APPROPRIATIONS
SUBCOMMITTEE ON DEFENSE

The Secretary of the Navy's FY 2009 Posture Statement

The Navy and Marine Corps Team...fighting today and preparing for future challenges

I. Introduction

Chairman Murtha, Congressman Young and Members of the Committee, it is an honor to appear again before you representing the men and women of the United States Navy and the United States Marine Corps—active, reserve, and civilian—a force of over 800,000 strong.

I am here to present the Department of the Navy's (DON) plan to support our Sailors and Marines in their mission to defend our Nation against current and future challenges as they conduct operations spanning the spectrum, from major combat to humanitarian assistance. The President's Fiscal Year (FY) 2009 Budget will assist the Navy and Marine Corps in accomplishing their complimentary and reinforcing missions, while building capabilities necessary to meet future threats. The FY 2009 budget balances capabilities to support both traditional and irregular warfare demands. It also continues to expand the Marine Corps' capacity and furthers the transformation from a blue water navy into one that can fight and win in the blue, green, and brown waters.

As I reflect upon my time as Secretary of the Navy, nothing is more sobering than the experience of seeing—every single day—the dedication, professionalism, and willingness to sacrifice shown by our Sailors, Marines, civilian employees, and their families. I will attest to you their unwavering commitment to duty. These patriots put themselves in harm's way to protect our Nation. From those who have given the ultimate sacrifice, such as Medal of Honor recipients Lieutenant Michael Murphy and Corporal Jason Dunham, to those who daily take the pledge to support and defend our Nation, our Navy and Marine Corps Team is second to none. It is because of their efforts that we are making progress fostering maritime security, defeating terrorist networks, progressing towards a stable Iraq, supporting the Afghan government, countering piracy and the proliferation of deadly technology, giving humanitarian assistance to people in need after Tsunamis and earthquakes, and strengthening partnerships around the world. The men and women of the Navy and Marine Corps have responded when called upon. It is an honor and privilege to work with them and support them as their Secretary.

Today our Nation is faced with a myriad of challenges and uncertainties across the globe. There have been several unexpected, and sometimes sudden, changes in the security environment over the past few years. Yet many of the strategic imperatives of the United States—particularly with respect to the maritime environment—remain unchanged. It is clear the United States must have the capacity to act in such a fluid and unpredictable environment, and that Naval forces offer unique flexibility to respond swiftly and decisively anywhere in the world. Providing this flexibility requires that the Department of the Navy invest wisely across a wide range of capabilities, and that we take care to deliver a balanced portfolio of capabilities to the Joint force.

Worldwide presence, credible deterrence and dissuasion, projection of power from naval platforms anywhere on the globe, and the ability to prevail at sea are the critical, most fundamental elements of the Navy and Marine Corps strategic posture; these are our indispensable contributions to the joint warfighting capability of the Nation.

The United States is a maritime power, bounded by sea to the east and west. The health of our national economy depends on assuring safe transit through the seas—and the maritime dimension of international commerce is ever increasing. Consider that 70 percent of the earth is covered by water, 80 percent of the world's population lives in close proximity to the coast, and 90 percent of the world's international commerce is transported via the sea. Given our national interests, and the role we play in the world, it is unsurprising that our Sailors and Marines are constantly called upon to react to a wide range of challenges. I suggest that the strength of a nation's naval force remains an essential measure of that nation's status and role in the world. I also submit that maritime dominance by the United States remains vital to our national security, to our position in the world, and to our ability to defend and promote our interests.

Last fall, the Department of the Navy, in collaboration with the U.S. Coast Guard, reaffirmed its emphasis on the traditional capabilities of forward presence, deterrence, sea control, and power projection in its new Maritime Strategy: *A Cooperative Strategy for 21st Century Seapower*. However, the Maritime Strategy also makes clear that we consider our core capabilities to include maritime security and the provision of humanitarian assistance and disaster relief—areas of growing importance. The strategy emphasizes the use of soft power, and highlights the criticality of our foreign friends and allies, while reminding us that the underlying credibility for partnerships and peace is the United States' ability to swiftly defeat a threat with overwhelming and decisive combat power.

The unique nature of our Department is such that the Navy and Marine Corps team is a constantly deployed force, both in peacetime and in war, with the further ability to surge assets worldwide, anytime required. As we consider the current and projected strategic environment, we must anticipate a steadily growing reliance on our unique expeditionary character. This is becoming ever more apparent. The challenge of resourcing our two services across such a large range of steadily growing global missions, from partnership building to combat operations, is one that we have met with the President's FY 2009 Budget.

Reflected in the Budget submittal is the fact that today's Navy and Marine Corps are operating in blue, green and brown waters, in the air and on the shore—and sometimes deep inland—facing a wide variety of threats. On any given day, approximately 40 percent of the fleet is deployed at sea or involved in pre-deployment training. Forward deployed carrier and expeditionary strike groups operate on the high seas, unencumbered by constraints facing land-based forces. They are providing our combatant commanders with many important and powerful combinations of capability: tactical aviation, land attack systems, SEAL and Marine special operations forces (SOF), intelligence and surveillance platforms, amphibious assault and forcible entry capacity, over-the-horizon force projection, and flexible seabasing and at sea logistical support. Our full spectrum of capabilities also includes ship-based ballistic missile defense—providing a shield that not only protects our maritime freedom of movement and access, but

which also contributes to the defense of our allies and our homeland against missile threats. In other words, we are presenting a budget which supports a force in high demand across the globe.

The President's Budget does more than just fulfill our responsibilities in today's complex environment; it continues to evolve our portfolio of capabilities. This is essential to our ability to defend against future threats which could range from the asymmetric—from terrorists to proliferation and/or use of weapons of mass destruction—to the more traditional challenges posed by nation-states and possible future "near peer" competitors.

Evolving our portfolio of capabilities can be challenging, since the Navy and Marine Corps have an operational construct that emphasizes forward deployment and presence. Historically, while the bulk of U.S. forces return home after cessation of a conflict or crisis, our maritime forces often do not. They are continuously present in forward regions, and through their forward engagement they maintain familiarity with the environment and the characteristics of regional actors; they also foster and sustain trust and cooperation with friends and allies. Thus when a threat to our national security emerges overseas, it may well be encountered first by the Navy and Marine Corps. Meeting that threat, whether on land, in the air, on the high seas, or under the sea, will require our forces to be in peak fighting condition. They must be ready to fight and win at any time, and to do so at great strategic distance. We have developed a budgetary plan which addresses these requirements.

We have developed the budget in the face of a demanding and rapidly changing security environment, and there are worrisome trends that bear watching. Nations are developing weapons and systems which seem deliberately intended to threaten our Naval assets, deny access, and restrict our freedom of maneuver. The proliferation of anti-access weapons technology to unfriendly nations is a significant concern. Furthermore, the Department of the Navy, like other parts of the Department of Defense (DoD), has been a target of aggressive foreign intelligence and data-collection activities. As such, we need to invest in the capabilities necessary to preserve our technological advantage. Additionally, aside from growing costs and schedule delays in some acquisition programs, we also struggle with regulatory encroachment and legal challenges that threaten to undercut our ability to effectively train and maintain readiness. We must address these challenges; doing so is fundamental to maintaining our Naval readiness and our capability to defend our Nation.

In summary, the Department of the Navy's FY 2009 budget invests in the Navy and Marine Corps to operate, sustain and develop forces that will remain engaged in the Global War on Terrorism (GWOT), while at the same time preparing the force for the challenges and threats of the future. The FY 2009 budget requests $149.3 billion for these purposes. This is a 7 percent increase over the FY 2008 baseline and is driven by factors such as rising oil costs and the critical, comprehensive growth of the United States Marine Corps.

Priorities for the Department of the Navy

The Department of the Navy is committed to finding solutions that allow the Navy and Marine Corps to balance our current requirements and operational realities with the likely needs of the future. We strive to maintain an agile and flexible force that can not only contribute to

winning our Nation's wars but also can assist in preventing future conflict to the extent possible—whether by dissuasion, deterrence, humanitarian action or disaster relief. As such, our priorities remain consistent with those in previous years. They are to:

- Prevail in the GWOT;
- Take care of our Sailors, Marines, their Families and particularly our wounded; and
- Prepare for future challenges across the full spectrum of operations.

As in the past, for the sake of brevity, some of the key programs are highlighted and can be found in greater detail in the *Highlights of the Department of the Navy FY 2009 Budget.*[1] This statement is designed to reinforce, and build upon, initiatives articulated in previous testimony and budget material.

II. Prevail in the Global War on Terrorism

The Department's top priority remains the Global War on Terrorism. Today, approximately 29,300 Marines and 11,300 Sailors (including individual augmentees) operate ashore, along with 12,000 Sailors at sea. They are conducting and supporting operations in Iraq and Afghanistan, and throughout the U.S. Central Command region, and their contributions are central to the progress being made.

Naval forces provide a major part of the national worldwide rotational presence and an increasing portion of the required support for ground units in OPERATION ENDURING FREEDOM (OEF) and OPERATION IRAQI FREEDOM (OIF). They operate across the spectrum—from low intensity conflict, humanitarian assistance and disaster relief, to high intensity conflict involving airborne strike and Marine Corps forces in coordinated joint and coalition ground operations. To illustrate the wide range of activities undertaken, it is noteworthy that, in 2007, five Carrier Strike Groups and five Expeditionary Strike Groups deployed in support of OEF and OIF. Throughout 2007 the Marine Corps provided three embarked Marine Expeditionary Units (MEUs) forward positioned in all geographic commands. Two of these MEUs were employed ashore in support of Multi-National Force-West and participated in sustained combat operations. Naval aviation, afloat and ashore, in concert with U.S. Air Force and coalition aviation forces, has provided critical strike, overland surveillance, logistical and electronic warfare support to the joint land forces deployed in Iraq and Afghanistan. The Navy has also deployed riverine forces for the first time since Vietnam, operating on Lake Thar Thar and the Euphrates River. The Marine Corps also achieved a milestone with successful deployment of the first MV-22 Osprey squadron in OIF operations. Naval Special Warfare (NSW) forces continue to be actively engaged in combating terrorism. The Navy SEALs and the Marine Special Operations Command have done outstanding work in OIF/OEF and have made critical progress in countering the threat of international terrorism. We will continue to prioritize investment and retention of our highly skilled special operations forces.

In addition to traditional types of maritime activities, the Navy continues to support the GWOT in a variety of non–traditional areas. For example, Navy Sailors are leading a number of

[1] *Highlights of the Department of the Navy FY 2009 Budget*, February 2008.

Provincial Reconstruction Teams in Afghanistan today. Significant numbers of Naval combat support and combat service support personnel are relieving the Army and Marine Corps in select mission areas. In U.S. Central Command, Navy personnel are providing base and port operations support, medical, explosive ordinance disposal, construction battalions, civil affairs, electronic warfare, mobile security forces, detainee operations, intelligence, and headquarters staff support. The Navy also continues command of the detainee mission in Guantanamo Bay, Cuba and at Camp Bucca, a high security prison in Iraq. Executive agent responsibilities are discharged by the Navy for the GWOT-related Combined Joint Task Force Horn of Africa (CJTF HOA) in Djibouti. CJTF HOA has transformed from its initial seafaring force, aimed at blocking terrorists fleeing Afghanistan (and preventing them from establishing new safe havens), into a task force that also conducts military-to-military training and humanitarian assistance over a large geographic expanse of eight countries.

With respect to the Marine Corps, the II Marine Expeditionary Force Forward, augmented by Marines from around the Corps, conducted counterinsurgency operations in Iraq and led the Multi-National Force-West in Al Anbar Province, supported by Army, Air Force, and Navy personnel. The achievements of the Marines in Al Anbar have been widely noted, and their success in creating a permissive environment for local governance and economic development—making significant inroads in security, training, and transfer of responsibility to their Iraqi counterparts—has been crucial. More broadly across the country, Marine Corps Transition Teams have conducted training for Iraqi military, police and border teams. The Marine Corps provided over 800 personnel across more than 50 types of Iraqi transition teams in 2007. Building upon these successes in Iraq, recently the President approved the deployment of 2,200 Marines to Afghanistan in support of the NATO-led International Security Assistance Force mission, and 1,000 Marines to assist in the training and development of the Afghan National Security Forces. In preparation for these overseas missions, the Marine Corps continues to implement comprehensive training programs at home, such as Mojave Viper and Desert Talon.

At sea, the effective conduct of Maritime Security Operations is a critical element of the fight against terrorism. In the Northern Arabian Gulf, our Sailors and Marines are working with Coalition and Iraqi forces in a Coalition Task Group to defend the Al Basra Oil Terminal and the Khawr al Amaya Oil Terminal. The security of these platforms is provided through waterborne patrols in Rigid Hull Inflatable Boats, platform security personnel, and helicopter surveillance. Working with our NATO Allies, the Navy continues to provide support for OPERATION ACTIVE ENDEAVOR, which is an ongoing maritime interdiction effort in the Mediterranean. Similarly, the conduct of operations to dissuade and counter piracy off the West African coast and the actions of the guided missile destroyers USS PORTER, USS ARLEIGH BURKE and USS JAMES E. WILLIAMS off the coast of Somalia this past October are examples of how the Navy is working to provide a secure maritime environment.

Fostering enduring foreign partnerships and friendships is yet another key contributor to the GWOT, as we bolster the capacity of nations to work with us, and to conduct counter-terrorism efforts of their own. The Navy is continuing to develop the concept of Global Fleet Station (GFS), envisioned to be a highly visible, positively engaged, reassuring, and persistent sea base from which to interact with the global maritime community of nations. The Department demonstrated the concept through the GFS pilot in October, using the HSV-2 SWIFT in the

Caribbean, and again with the African Partnership Station in the Gulf of Guinea, using the USS FORT MCHENRY and HSV-2 SWIFT. In addition to targeted outreach activities, the Navy and Marine Corps team extends America's diplomatic reach through the conduct of multinational exercises and port visits. Throughout 2007, the Naval force participated in over 230 bilateral and multinational exercises with partners around the globe.[2] The Marine Corps also participated in over sixty Theater Security Cooperation events, which ranged from deployment of small Mobile Training Teams in Central America to MEU exercises in Africa, the Middle East, and the Pacific. Additionally, several overseas training events were held with foreign special operations forces to improve interoperability with Navy and Marine SOF, and the Department provided support to the stand-up of NATO's new SOF Coordination Center. The cumulative effect of these exercises and events is to foster trust and sustain cooperative relationships with our international partners. This is critical to U.S. national security.

Outreach to foreign populations is also an important part of the Nation's efforts to stem the spread of terrorism. This is an important mission for the Navy and the Marine Corps and is a tangible way that we can demonstrate the compassion and values of the American people. Last year, the Navy and Marine Corps together were at the forefront of numerous humanitarian assistance and disaster relief operations. Sailors and Marines in the Pacific provided desperately-needed humanitarian support to Bangladesh in the aftermath of Cyclone Sidr. The Marine Corps engaged in civil-military and humanitarian assistance operations such as "New Horizons" in Nicaragua and land mine removal training in Azerbaijan. The joint and combined crew aboard the USNS COMFORT gave humanitarian aid during a four month tour in Latin America and the Caribbean. During Pacific Partnership 2007, the joint and interagency crew of the USS PELELIU gave similar aid to the Philippines and other Pacific island nations. We hope that the support given during these missions, whether it was the Seabees' reconstruction of homes and schools devastated by a tsunami, or inoculation and treatment of children and the elderly by Navy and Marine medical professionals, helped convey a positive image of the United States with local populations.

Finally, within the United States, the Department continues its emphasis on providing increased force protection to our Sailors and Marines, particularly in the area of counter-improvised explosive devices (IED). As lead service for the joint Mine Resistant Ambush Protected (MRAP) vehicle program, the Department accelerated production for MRAP vehicles to rapidly field this capability in Iraq and Afghanistan. Through the use of Lean Six Sigma activities and projects, the Department synchronized an effort to build and transport MRAP vehicles to the theater, rapidly identifying and mitigating deficiencies in the MRAP vehicle pipeline. Over 2,000 MRAP vehicles have been fielded to support the Department's joint urgent requirement, over 900 of which are in the hands of Marines and more than 150 fielded to the Navy. Also as part of the broader counter-IED effort, the Department is procuring Biometric

[2] Illustrative of our global security cooperation are exercises involving the Japanese Maritime Self Defense Force and the Indian Navy during TRILAX 07 in the Northern Pacific; PHOENIX EXPRESS 07 with Moroccan, Algerian, and Tunisian forces west of the Gibraltar Strait; BALTOPS 07 in the Baltic Sea with Denmark, France, Germany, Sweden, Poland, Russia, Latvia, Lithuania, the United Kingdom, and NATO; AMAN 07 with Pakistan, Great Britain, China, France, Italy, Malaysia, Turkey, and Bangladesh; UNITAS off of South America's Pacific coast with Chile, Colombia, and Peru; and MALABAR with forces from India.

Tools, the Family of Imaging Systems, counter-IED robotics, and Counter Radio-Controlled IED Electronic Warfare systems.

Adapting the Naval Force for GWOT and Future Missions

The Marine Corps and Navy are being called upon today to conduct surge operations, conduct Iraq unit rotations, provide additional forces to Afghanistan, and prepare for other challenges. The Department has not only addressed these commitments, but is contributing low supply, high demand forces (e.g., Explosive Ordnance Disposal (EOD) units) to support the other services and coalition efforts. Of our deployed EOD teams, over 50 percent operate in support of other services. Additionally, over the course of 2007, the Navy provided 12,985 Active Component Augmentees and 9,527 Mobilized Reservists in support of OEF and OIF globally, and filled approximately 8,000 Individual Augmentee and 4,500 "in-lieu-of" requirements. The Navy has increased several low density, high demand specialties and units, such as Construction Battalions and EOD teams. In October 2007, the Navy commissioned its newest Construction Battalion and Construction Regiment, bringing them to a total of 9 active duty battalions and 3 active duty regiments. Further, in order to relieve stress on Marines and their families, and to address future contingencies, the Marine Corps is growing the force, exceeding its 2007 target of 184,000 Marines; the Marine Corps is on track to meet the goal of 202,000 by FY 2011.

Reshaping of the force is an important and evolutionary process. To do this, the Department is focused on three fronts: recruiting the right people, retaining the right people, and achieving targeted attrition. Recruiting objectives are focused on increasing the quality of the Total Force and seeking qualified Sailors to include special emphasis on filling the ranks of SEAL, NSW, Navy Special Operations, Special Warfare Combatant-Craft Crewmen, EOD, Divers, Hospital Corpsmen, and Women in Non-traditional Ratings (Master-at-Arms and Seabees). Recruiters are also focused on creating a smooth flow of recruits into boot camp by maintaining and mentoring a healthy pool of young men and women in the Delayed Entry Program.

The Department has also implemented initiatives to increase visibility and incentives for medical recruitment. While we have seen improvement in some medical programs, such as in the Nurse Corps with direct accessions, numerous challenges remain in recruiting and retaining medical personnel. Retention challenges exist in critical specialties that require 3-7 years of training beyond medical school. In the Dental Corps, we face challenges in retaining junior officers between 4-7 years, and we also are experiencing high attrition rates for junior officer ranks in the Nurse Corps. To combat the recruiting challenges and continue supporting the increased demand for the OIF/OEF, we implemented increased accession bonuses for the Nurse Corps and Dental Corps; funded a critical skills accession bonus for medical and dental school Health Professions Scholarship Program (HPSP) participants; increased the stipend for HPSP students, as well as Financial Assistance Program participants; expanded the critical skills wartime specialty pay for reserve component medical designators; recently implemented a Critical Wartime Skills Accession bonus for Medical and Dental Corps; and implemented a Critical Skills Retention bonus for clinical psychologists.

We note that the FY 2008 National Defense Authorization Act (NDAA) restricts military to civilian conversions for the medical community through September 30, 2012. Due to the date of enactment of this legislation, it is not reflected in the FY 2009 President's Budget request, but

the plan is now being readdressed. Resolution will require careful planning, and we are working closely with the Office of the Secretary of Defense on this matter.

Incentive programs were a key component of our enlisted recruiting success in 2007. The enlistment bonus continues to be our most popular and effective incentive for shaping our accessions. The authority to pay a bonus up to $40,000 made a significant contribution to our Navy Special Warfare and Navy Special Operations recruiting efforts. Likewise, our Reserve Component success would not have been possible without the availability of enlistment bonuses. Extended incentive authorities towards some of our more specialized skill fields, including nuclear and aviation, will help to recruit and retain these critical skill sets, while renewal of accession bonuses will help to expand the force to newly mandated levels. The continued support of Congress in the creation of flexible compensation authorities affords the Department the tools that will help shape the force for the 21st Century.

The Grow the Force mandate by the President is a long-term plan to restore the broad range of capabilities necessary to meet future challenges and mitigate global risk to national security of the United States. The Marine Corps will grow the force by 27,000 (from 175K to 202K) Marines over five years. This additional capacity and capability will enable full spectrum military operations in support of allies and partners as well as against potential enemies. In 2007, the Marine Corps added two infantry battalions, capacity to the combat engineer battalions and air naval gunfire liaison companies, and planned the training and infrastructure pieces necessary to build a balanced warfighting capability. The Marine Corps has achieved success in recruiting and maintaining quality standards. This is a remarkable achievement for an all volunteer force during a sustained war. The Marine Corps anticipates continued success in meeting recruiting and retention goals to achieve this planned force level. This end strength increase addresses more than current operations in Iraq and Afghanistan. It ensures that the Marine Corps will be able to deal with the challenges of the Long War and will reduce combat stress on Marines and their families by moving towards a 1:2 deployment to dwell ratio. Currently many Marines are on a 1:1 or less deployment to dwell ratio.

Navy and Marine Corps Reserves continue to be vital to successfully fighting the GWOT and in accomplishing routine military operations. The Marine Corps and Navy activated, respectively, 5,505 and 5,007 reservists to fulfill critical billets in OIF and other gaps in headquarters and operational units. At the close of FY 2007, the Navy and Marine Corps Reserves end strength was 69,933 and 38,557 respectively.

Readiness

The Department's budget reflects a commitment to properly price and fund readiness to meet the demands of the Combatant Commands. For FY 2009, the Fleet Response Plan (FRP) is funded to achieve "6+1"—the ability to support deployment of six carrier strike groups within 30 days and one additional group within 90 days. Additionally, the FY 2009 budget funds 45 underway steaming days per quarter for deployed forces and 22 underway days per quarter for non-deployed forces. For the Marine Corps, equipment readiness accounts are focused on supporting the operational and equipment readiness of units engaged in operations in OIF. The Marine Corps has made tradeoffs in this area by cross-leveling equipment from units not in the

fight, and while the force made great strides in its overall readiness to conduct counterinsurgency operations, this has been achieved at the expense of other traditional training, such as amphibious assault and jungle warfare.

Carrier Waiver. The Navy is committed to maintaining an aircraft carrier force of 11. However, during the 33-month period between the planned 2012 decommissioning of USS ENTERPRISE and the 2015 delivery of the USS GERALD R. FORD, legislative relief is requested to temporarily reduce the carrier force to ten. Extending ENTERPRISE to 2015 would involve significant technical risk, challenge our manpower and industrial bases, and require significant resource expenditure; with only minor gain for the warfighter in carrier operational availability and significant opportunity costs in force structure and readiness. The Navy is adjusting carrier maintenance schedules to meet the FRP and ensure a responsive carrier force for the Nation during this proposed ten carrier period.

Law of the Sea Convention. It is critically important to the United States and our friends and allies that the seas of the world remain safe and open for all nations. Accordingly, the Department of the Navy supports U.S. accession to the Law of the Sea Convention. The Treaty codifies important principles of customary international law, such as Freedom of Navigation and rights of passage. Joining the Convention, with the declarations and understandings reflected in Senate Report 110-9 (Senate Foreign Relations Committee), will assist the United States to exercise its leadership role in the future development of open oceans law and policy. As a non-party, the United States does not have full access to the Convention's formal processes (through which over 150 nations participate in influencing future law of the sea developments). By providing legal certainty and stability for the world's largest maneuver space, the Convention furthers a core goal of our National Security Strategy to promote the rule of law around the world.

Suppression of Unlawful Acts (SUA). The Department supports expeditious U.S. ratification of the 2005 Protocol of the Convention for the Suppression of Unlawful Acts against the Safety of Maritime Navigation and the 2005 Protocol to the 1988 Protocol for the Suppression of Unlawful Acts against the Safety of Fixed Platforms Located on the Continental Shelf ("SUA Amendments"), adopted by the International Maritime Organization on October 14, 2005, and signed by the United States on February 17, 2006. The SUA Amendments significantly strengthen the legal regime to criminalize terrorist acts and combat weapons of mass destruction proliferation in the maritime domain making them an important component in the international campaign to prevent and punish such acts.

Encroachment. A critical readiness issue is our ability to be prepared to meet the full spectrum of operations that may arise globally. This requires that we have the ability to properly train our sons and daughters in a manner that effectively prepares them for the threats they may encounter. In order for Naval forces to be able to meet our operational commitments we need installations and ranges, the ability to continue to use them for their intended purposes, and the ability to augment them when necessary to respond to changing national defense requirements and circumstances.

We appreciate the action taken by Congress to recognize the importance of protecting Naval installations from encroachment pressures by enacting section 2863 of the FY 2007 National Defense Authorization Act that establishes prohibitions against making certain military airfields or facilities, including Marine Corps Air Station Miramar, available for use by civil aircraft. We seek your continued support to move forward with plans for the Outlying Landing Field (OLF) that is critically needed to support training requirements for Carrier Air Wing aircraft based at Naval Air Station Oceana and Naval Station Norfolk. The OLF will directly support the Department's ability to meet its national defense commitments under the FRP and provide naval aviators critical training in conditions most comparable to the at-sea operating environment they will face. In response to public comments regarding the previous site alternatives, the Navy has terminated the draft Supplemental Environmental Impact Statement (EIS) and will initiate a new EIS that examines five new site alternatives, three in Virginia and two in North Carolina, based upon new information provided by officials in those states. I ask for your continued support as we work with the Congress and the States of Virginia and North Carolina to preserve and improve the installation and range capabilities needed to properly train our young men and women before we send them into harms way.

Marine Mammals and Active Sonar. The most critical readiness issue relates to the Navy's ability to train using active sonar while minimizing the effect on marine mammals. One of the most challenging threats that our Naval forces face is modern, quiet diesel-electric submarines. These submarines employ state-of-the-art silencing technologies and other advances, such as special hull treatments, that make them almost undetectable with passive sonar and also reduce their vulnerability to detection with active sonar. A diesel-electric submarine so equipped can covertly operate in coastal and open ocean areas, blocking Navy access to combat zones and increasing United States vessels' vulnerability to torpedo and anti-ship missile attacks. Currently, over 40 countries operate more than 300 diesel-electric submarines worldwide, including potential adversaries in the Asia-Pacific and Middle East areas. Naval strike groups are continuously deployed to these high-threat areas. Training with the use of mid-frequency active (MFA) sonar is a vital component of pre-deployment training. The tactical use of MFA sonar is the best means of detecting potentially hostile, quiet, diesel-electric submarines. The inability to train effectively with active sonar literally puts the lives of thousands of Americans at risk.

In January 2008, a federal district court issued an injunction precluding the Navy's ability to train effectively with MFA in critical exercises scheduled to occur in the Southern California Operating Area through January 2009, creating an unacceptable risk that strike groups may not be certified for deployment in support of world-wide operational and combat activities. Because the Composite Unit Training Exercises and the Joint Task Force Exercises off Southern California are critical to the ability to deploy strike groups ready for combat, the President concluded that continuing to train with MFA in these exercises is in the paramount interest of the United States and granted a temporary exemption from the requirements of the Coastal Zone Management Act for use of MFA sonar in these exercises through January 2009. Additionally, the Council on Environmental Quality (CEQ) concluded that the risk that strike groups might not be certified constituted an emergency circumstance requiring alternative National Environmental Policy Act arrangements. These alternative arrangements were accepted by the Navy. Despite these developments, the trial court refused to set aside the injunction. As a result the Navy appealed the court's refusal to give effect to the President's and CEQ's actions by dissolving the

injunction and the court's failure to properly tailor the injunction in the first place to allow the Navy to train effectively. On February 29, the Ninth Circuit upheld the trial court. Acknowledging the Chief of Naval Operations' (CNO's) concern that the injunction issued by the trial court in its current form will "unacceptably risk" effective training and strike group certification, however, the Ninth Circuit also temporarily and partially stayed several features of the injunction. This temporary and partial stay should allow us to complete two training exercises this month, which are critical to preparing two strike groups for deployment.

The Department continues to be a good steward of the environment, while providing the necessary training that is essential to national security and ensures the safety of our people. The Department is engaged in a comprehensive effort to ensure compliance with the National Environmental Policy Act, Marine Mammal Protection Act, Endangered Species Act, Coastal Zone Management Act, National Marine Sanctuaries Act, and Executive Order 12114. Twelve EISs are in development with associated Records of Decision (ROD) scheduled for issuance by the end of calendar year 2009. The Navy implements twenty-nine protective measures developed in conjunction with the National Marine Fisheries Service, the Federal regulator responsible for oversight and implementation of the Marine Mammal Protection Act. These measures afford significant protection to marine mammals while maintaining training fidelity. The Navy has steadily increased funding for marine mammal research from $12.5 million in FY 2004 to $22 million in FY 2009. The Navy's financial commitment constitutes more that half of the world-wide funding for research on the effects of anthropogenic sound on marine mammals. Over the past several years, tremendous progress has been made in expanding the scientific base of knowledge, especially concerning the species identified as the most sensitive to mid-frequency active sonar, deep diving beaked whales. The Navy, working with the National Marine Fisheries Service, is engaged in a three-year controlled exposure study of sound on whales at the Navy's Atlantic Undersea Test and Evaluation Center in the Bahamas. This study, along with other research, development, test and evaluation efforts, will provide further information needed to understand and effectively mitigate the effects of active sonar on marine mammals.

III. Take Care of Our People

In 2007 the Department implemented a Human Capital Strategy that focuses on our most valuable asset, the Department's people. In the strategy, the Department addresses the changes in warfare, workforce, technologies, and processes and lays out the strategic objective to produce and employ the right people with the right skills to support or accomplish 21st Century Naval missions. The development and retention of quality people is vital to our continued success. The Department of the Navy is committed to sustaining quality of service and quality of life programs, including training, compensation, promotion opportunities, health care, housing, and reasonable operational and personnel tempo. The cost of manpower is the single greatest component in the FY 2009 budget. The FY 2009 budget requests $41.6 billion for Military Personnel and includes a 3.4 percent Military Personnel pay raise. This investment is critical to ensuring a Naval force with the highest levels of ability and character.

Comprehensive Care. As Secretary of Defense Gates has stated, "Apart from the war itself, we have no higher priority (than to take care of our Wounded, Ill, and Injured)." Over the sustained

combat operations in the GWOT, the Department has endured the loss of over 830 Marines and 75 Sailors killed in action, and over 8,500 Marines and 600 Sailors wounded in action. These Marines and Sailors and their survivors deserve the highest priority care, respect and treatment for their sacrifices. We must ensure our wounded warriors and families receive the appropriate care, training and financial support they need. Failing them will undermine the trust and confidence of the American people. Consequently, the Department of the Navy initiated a Comprehensive Casualty Care effort in March 2007 to ensure visibility of the full range of needs of service members and their family members and the coordination and expedient delivery of clinical and non-clinical services throughout the continuum of care. Among the initiatives pursued under this effort was a Lean Six Sigma mapping of the casualty care process to identify areas of patient transitions, gaps in service, and unmet needs across key functional service areas to include: Medical, Pay, and Personnel, Family Support, Case Management, Information Technology, and the Disability Evaluation System. The following sections provide some specific examples of the Department's actions and plans for improving care for our people.

Combat Casualty Care. Navy Medicine provides combat casualty care to Navy and Marine Corps units, on Expeditionary Medical Facilities, aboard casualty receiving/treatment ships and hospital ships, and in military hospitals. Recent advances in force protection, battlefield medicine, combat/operational stress control, and medical evaluation have led to improved survival rates for wounded (approximately 97 percent) and enhanced combat effectiveness. In September 2007 Naval Medical Center San Diego stood-up a Comprehensive Combat Casualty Care Center providing inpatient and outpatient services to all levels of combat casualties, including rehabilitative, mental health and prosthetic care. The unit is the military's first and only center for amputee care on the West Coast. This year the Marine Corps is reorganizing Medical Battalions and fielding the Family of Field Medical Equipment, modernizing 34 different medical systems such as the Traumatic Brain Injury (TBI) scanner and the Airframe First Aid Kit.

Wounded Warrior and Safe Harbor. In FY 2007 the Marine Corps expanded its existing programs by establishing the Wounded Warrior Regiment with a Wounded Warrior Battalion on each coast to provide better continuity of care for wounded warriors. Specifically, these organizations provide wounded warriors a location to recuperate and transition in proximity to family and parent units. The Navy has a number of programs ensuring care for all wounded, ill and injured Sailors and their families. Those severely wounded, ill, and injured Sailors and their families receive non-medical case management and advocacy from the Navy's Safe Harbor Program. Safe Harbor provides assistance in dealing with personal challenges from the time of injury through return to duty or transition to civilian life.

Post Traumatic Stress Disorder. Specific improvements for post traumatic stress disorder include both preventive and post deployment care. The Marine Corps is employing Operational Stress Control and Readiness teams to provide early intervention, outreach, and prevention at the unit level in close proximity to operational missions, reducing stigma associated with conventional mental health care. The Navy is enhancing the Operational Stress Control Program and is completing phase two of the in-theater Behavioral Health Needs Assessment Survey to identify mental health needs, guide development of appropriate prevention and treatment programs, and ensure adequate in-theater mental health support. To date in FY 2008, Navy

Medicine expanded the Deployment Health Clinic (DHC) concept to a total of 17 Centers. These DHCs logged over 30,000 visits encompassing the entire range of post deployment healthcare symptoms. These clinics are designed to be easily accessible, non-stigmatizing portals for effective assessment and treatment of deployment-related mental health issues. Three additional DHCs are planned for 2008. Specialized training is also being provided to the Chaplain Corps and non-mental health medical personnel to include mind, body and spiritual practices. Augmenting the ability to deliver the highest quality of Psychological Healthcare available, Navy Medicine committed $7 million to stand-up a Naval Center for the Study of Combat Stress that will support all of the varied and diverse mental health needs.

Traumatic Brain Injury (TBI). The Department is engaged in activities to address TBI and remains committed to the further expansion of TBI research and availability of services for our service members. Navy Medical Research Command uses new techniques to identify transmissibility of blast wave energy into the brain, focusing on the nexus between the blast wave energy transmission and the resulting brain pathology. Navy researchers serve on the Health Affairs Senior Executive Advisory Committee on TBI sensor development and coordinate closely with the U.S. Army Program Executive Office in the development of helmet mounted monitors. The National Naval Medical Center's Traumatic Stress and Brain Injury Program serves blast-exposed or head-injured casualties aero-medically evacuated out of theater. Over 1,082 blast-exposed service members have been evaluated for psychological health and traumatic brain injury. In May 2007, Naval Medical Center San Diego stood up a Traumatic Stress and Brain Injury Program, and in September 2007, Camp Lejeune stood up a similar program.

Physical and Medical Evaluation Boards. The Department refined the physical and medical evaluation board process to ensure timely, comprehensive and transparent actions balancing the rights of the individual and the needs of the service. Actions include upgrading the Council of Review Board website to provide transition services and links to government agencies with post-service benefits. Additional upgrades are underway to provide a portal for members to monitor case processing. The Department is also participating in the joint DoD-VA Disability Evaluation Pilot in the National Capital Region that is designed to further streamline the process and ensure a smooth transition to civilian life for service members leaving active duty.

Family Readiness. The Department remains committed to the readiness and resilience of Navy and Marine Corps families, including the spouses, children, parents, and other extended family members committed to caring for Sailors and Marines. To that end, the Department operationalized family support programs to better empower Sailors and Marines to effectively meet the challenges of today's military lifestyle. The Marine Corps is redesigning and enhancing family readiness programs that most directly prepare Marines and their families, including: Unit Family Readiness Program, Marine Corps Family Team Building Program, Exceptional Family Member Program, School Liaison Program, and Children, Youth and Teen Program. As a companion effort, the Marine Corps will address quality of life deficiencies at remote and isolated installations, expand communication connections between separated Marines and their families, and make needed improvements to quality of life facilities and equipment throughout the Marine Corps. The Navy increased emphasis on prevention, education, and counseling to Navy families undergoing frequent and often short notice deployments. It has created school

liaison positions to work with school districts and Navy families to ensure teachers and other school officials understand the pressures and issues facing military children. The Navy provides brief, solution-focused clinical counseling services to more family members, as well as increasing home visitation services to new parents who have been identified as requiring parenting support. To better reach Individual Augmentee families who do not live near a military installation but who have access to a computer, the Navy has begun virtual Individual Augmentee Family Discussion Groups to ensure outreach information, referral and ongoing support.

The Department has developed an aggressive child care expansion plan, adding over 4,000 new child care spaces within the next 18 months. This expansion includes construction of new Child Development Centers (including facilities open 24/7), commercial contracts, and expanding military certified home care. Combined, these initiatives will reduce the waiting time for child care from 6-18 months to less than 3 months. To assist parents and children with the challenges of frequent deployments, an additional 100,000 hours of respite child care will be provided for families of deployed service members. In efforts to combat youth obesity, the Navy has implemented a new world-wide youth fitness initiative called "FitFactor" to increase youth interest and awareness in the importance of healthy choices in life.

National Security Personnel System (NSPS). The Department of the Navy has successfully converted ~30,000 employees into NSPS, with an additional ~30,000 scheduled to convert by 30 October 2008. The DON is already seeing a return on investment: an unprecedented training effort focused on performance management, greater communication between employees and supervisors, people talking about results and mission alignment, and increased flexibility in rewarding exceptional performance. While mindful of new legislative restraints, maintaining key human resource elements of NSPS, including pay-for-performance, is vital to the system's success and the Department's ability to respond to ever-changing national security threats.

Safety. Fundamental to taking care of Sailors, Marines and DON civilian employees is establishing a culture and environment where safety is an intrinsic component of all decision making, both on and off-duty. Safety and risk management are integrated into on and off duty evolutions to maximize mission readiness and to establish DON as a world class safety organization where no mishap is accepted as the cost of doing business.

The Secretary of Defense established a goal to achieve a 75 percent reduction in baseline FY 2002 mishap rates across DoD by the end of FY 2008. In FY 2007 the DON recorded our lowest number of serious operational mishaps and the lowest rate of serious aviation mishaps in our history.

One particular challenge that we continue to face is loss of Sailors and Marines to fatal accidents on our nation's highways—111 in FY 2007. While our rates are actually better than U.S. national statistics, and FY 2007 was one of our best years ever, we find these losses untenable—we can and must do better. In particular, the growing popularity of sport bikes, or high powered racing motorcycles, represents our biggest challenge. We are restructuring our motorcycle training, and in partnership with the Motorcycle Safety Foundation, we have developed a new hands-on Sport Bike Rider Safety Course. We are also implementing methods

and technology to more rapidly assess our personnel to accurately identify those individuals at high risk for private motor vehicle mishaps. They will be targeted for intervention in an effort to further reduce mishaps and our DON risk profile.

IV. Prepare for Future Challenges

Building a Balanced Fleet

Today's Navy and Marine Corps must confront threats in the maritime domain ranging from near-peer competitors, to non-state and transnational actors, to rogue nations and pirates. To meet the challenge the FY 2009 Budget provides for a balanced fleet of ships, aircraft and expeditionary capabilities with the fighting power and versatility to carry out blue, green, and brown water missions on a global basis.

To ensure affordability and timely delivery of capabilities will require improvements in the acquisition process—ensuring stable requirements and clarity in design criteria, better program management expertise, and new measures to incentivize contractors to complete programs on cost and within schedule, while delivering a quality product for military use. Military use also includes other factors such as habitability conditions that support quality of life, reduced variability of part types, and supportable logistics and sustainment. In addition, independent cost, schedule, and risk assessments are conducted and used to establish the foundation of program plans.

The Department has launched an acquisition improvement initiative, planning for which has included the Secretary, CNO, and Commandant of the Marine Corps (CMC), and which will enforce discipline across the Department without altering existing Office of the Secretary of Defense and Joint Chiefs of Staff-level processes. Actions comprising the acquisition improvement initiative include the following:

Acquisition Governance

Led by CNO/CMC, the requirements phase comprises three "requirements gates:" (1) Approval of Initial Capabilities Document; (2) Approval of Analysis of Alternatives; and (3) Approval of Capabilities Development Document and Concept of Operations. During this phase the focus is on what we buy and the process ensures completeness and unanimity of requirements, agreed upon by top leadership early in the acquisition process.

The acquisition phase, led by the Component Acquisition Executive, consists of three "acquisition gates:" (1) Approval of the System Design Specification; (2) Approval to release the System Development and Demonstration Request for Proposals; and (3) A Sufficiency Review of the entire program. During this phase the focus is on "how we buy," emphasizing clear system design specifications, leveraging commonality within parts and systems, and the use of open architecture. During this phase CNO and CMC remain in support of the acquisition force to ensure stability in the requirements.

Each "gate review" includes a comprehensive assessment using detailed metrics to determine the health of the program and ensures that the program is ready to proceed through the next phase of the acquisition process. The key benefits are 1) better integration of requirements and acquisition decision processes; 2) improvement of governance and insight into the development, establishment, and execution of acquisition programs; and 3) formalization of a framework to engage senior Naval leadership throughout the review process.

Acquisition Workforce

To reinvigorate the acquisition workforce the Department has aggressively pursued investment in several key areas. Using a model of our total workforce, we've identified certain imbalances and redundancies which Systems Commands and Program Executive Officers will initiate corrective action for in FY 2008. Further, the Department will create a common business model across Systems Commands to allow maximum flexibility of workforce utilization while sharpening the skill sets of our acquisition professionals. Further, we are creating common templates for acquisition program leadership that will ensure adequate staffing of programs throughout their life cycle. Notably we have adjusted the programmatic leadership structure of the DDG 1000 and Littoral Combat ships to benefit from these common templates.

Finally, to bolster our acquisition leadership, we have selected a Vice Admiral to serve as Principal Deputy Assistant Secretary for Research Development and Acquisition.

FY 2009 Acquisition Programs

Shipbuilding. The FY 2009 shipbuilding budget provides for seven new ships: one VIRGINIA-Class (SSN-774) nuclear-powered attack submarine, one DDG 1000 Destroyer, two Littoral Combat Ships (LCS), two Dry Cargo Ammunition (T-AKE) ships and one Joint High Speed Vehicle (JHSV). The Navy also will procure an additional JHSV for the Army in FY 2009. The budget also includes the next increment of funding for CVN-78; research and development funds for CG(X), the future cruiser; the first increment of funding for the Refueling Complex Overhaul for the USS THEODORE ROOSEVELT (CVN-71); funding for an engineered refueling overhaul for an SSBN; and continued modernization for guided missile cruisers, guided missile destroyers, submarines and aircraft carriers.

Naval Aviation. The Department of the Navy requires a robust aviation capacity including attack, utility, and lift capabilities. The Department is in the midst of an extensive, long-term consolidation and recapitalization of aircraft in the Naval inventory to achieve a more efficient and effective warfighting force. The FY 2009 budget requests funding for 206 aircraft. The FY 2009 budget supports the acquisition of the F-35 Joint Strike Fighter (JSF), the EA-18G Growler, the MV-22B, the KC-130J, the E-2D; the MH-60, the UH-1Y and AH-1Z helicopters; and the continued development of the P-8A Multi-Mission Maritime Aircraft (MMA), the CH-53K and VH-71 programs.

The Department will continue to recapitalize our aging inventory with upgrades or new variants of existing aircraft where suitable and cost effective. For example, the Navy helicopter

community is replacing six different aircraft with the MH-60R and MH-60S, while the Marine Corps is buying the UH-1Y, AH-1Z and CH-53K to replace older variants of those aircraft.

Command, Control, Communications, Computers (C4). Effective C4 capabilities are key to ensuring that our forces have accurate situational understanding to enable decision superiority. The Navy and Marine Corps have planned several programs to deliver agile and interoperable network-centric capabilities to ensure success for Naval, Joint and Coalition forces, including naval contributions to the National Security Space. The Department is planning the replacement for the Navy Marine Corps Intranet with the Next Generation Enterprise Network. The Marine Corps is developing the Command and Control Harmonization Strategy. Capitalizing on emerging capabilities such as the Tactical Communications Modernization Program and the Very Small Aperture Terminal, the Marine Corps intends to deliver an end-to-end integrated, cross functional capability across the force.

Intelligence, Surveillance and Reconnaissance (ISR). The Navy and Marine Corps are in the process of reviewing current ISR capabilities and formulating a long-term ISR strategy. This strategy, when completed, will ensure the Department's current and future ISR capabilities are used to the fullest extent possible and will maximize the use of other services' and national capabilities to enhance the Department's variety of missions. The Marine Corps' use of Department of Army's unmanned aircraft system, Shadow, is an example of leveraging another service's capability. Shadow meets the Marine Corps requirements for a transportable ISR asset capable of providing tactical commanders with day and night, battlefield and maritime reconnaissance. The Navy, with unique maritime domain ISR requirements, is integrating manned and unmanned capabilities with the Broad Area Maritime Surveillance (BAMS) Unmanned Aircraft System (UAS) and the P-8A program. The BAMS UAS will provide a persistent, multi-sensor, maritime intelligence, surveillance, and reconnaissance capability with worldwide access. Additionally, the Department of Navy is working closely with the Office of the Undersecretary of the Defense for Intelligence to ensure the current Distributed Common Ground System - Navy and Marine Corp family of systems meet DoD standards, share technology and minimize duplication.

Maritime Domain Awareness. The responsibility for Global Maritime Security lies with many departments, agencies, and organizations across the spectrum of our government, international partners, and industry. Each of these stakeholders bring a part of the solution, and taking the lead in establishing a global capability from those parts is one of the single most important new steps of the Department of the Navy. Protection of the global maritime domain is fundamental to our national security, and requires an integrated approach across the Naval forces, with our Federal maritime partners, with certain State and local authorities, and indeed with the entire global maritime community. We have embarked on the organizational behavior changes necessary to bring those disparate stakeholders together, and are investing in creation of an enduring operational capability for the Nation.

Infrastructure Investment

Facilities. The FY 2009 budget requests $3.2 billion for military construction projects at active and reserve Navy and Marine Corps bases, a substantial increase over the enacted $2.3 billion in

FY 2008. Much of the funding growth is to build training and housing facilities to support the Marine Corps growth in end strength over the next five years. Both Navy and Marine Corps will sustain existing facilities at 90 percent of the DoD model requirement.

Base Realignment and Closure (BRAC). The FY 2009 budget requests $871.5 million to continue implementation of the 2005 BRAC Commission recommendations. This request invests in construction (including planning and design) and operational movements at key closure and realignment locations. FY 2009 plans may require some adjustment to ensure consistency with the approved FY 2008 budget.

Walter Reed National Medical Center Bethesda. BRAC action 169 called for closure of Walter Reed Army Medical Center, realignment of tertiary and complex care missions to National Naval Medical Center Bethesda, and establishment of Walter Reed National Military Medical Center Bethesda. The Department of Defense approved an expanded scope and acceleration of the original program. The Naval Facilities Engineering Command is managing the EIS for Bethesda and a ROD is scheduled for May 2008.

Family and Bachelor Housing. Privatization for housing in the continental United States is on its way towards completion. The privatization of unaccompanied housing is proceeding smoothly at our first pilot project in San Diego. The construction of new apartments is well underway with completion of the first building scheduled for December 2008. Moreover, the project won an industry customer service award in its first year of operation in recognition of the dramatic improvement in resident satisfaction in existing housing that was privatized. We have broken ground on our second pilot project in Hampton Roads in our effort to bring the benefits of bachelor housing privatization to Sailors on the East Coast. This year's budget reflects the continuation of the Marine Corps' quality of life initiative to construct additional housing to address the substantial, long-standing shortfall of adequate housing for single Marines. The objective is to provide quality bachelor housing for all sergeants and below for our 'pre-grow the force' end strength by FY 2012 and to support 202,000 Marines by FY 2014. Our FY 2009 budget request also includes a military construction project to replace bachelor housing at Naval Station San Clemente, completing elimination of inadequate bachelor housing in the Department.

Wounded Warrior Housing. The Department of the Navy completed inspections of all housing for wounded, ill, and injured to ensure quality and accessible living quarters. Annual inspections will ensure continued oversight by Department of Navy leadership. In addition, Wounded Warrior Barracks are under construction at Camp Lejeune and Camp Pendleton. Both barracks will provide 100 two-person American with Disabilities Act compliant rooms allowing for surge capability.

Marine Corps Relocation to Guam. The FY 2009 budget continues detailed studies, plans and environmental analyses for the U.S./Government of Japan Defense Policy Review Initiative (DPRI) to relocate about 8,000 Marines and their dependents from Okinawa, Japan to Guam by 2014. The facilities, housing, logistics and environmental requirements are being developed from the ground up to support mission requirements as well as business-case prudence. The measured investment in FY 2009 is crucial to the five-year $10.27 billion ($4.18 billion from the

U.S. and $6.09 billion from the Government of Japan) construction program scheduled to commence in FY 2010.

Naval Station Mayport. The Navy is preparing an EIS that examines several alternatives for best utilizing the facilities and capabilities of Naval Station Mayport after the retirement of the USS JOHN F KENNEDY (CV 67). The options being evaluated include:

- Cruiser/Destroyer (CRUDES) homeporting
- Amphibious Assault Ship (LHD) homeporting
- Nuclear-Powered Aircraft Carrier (CVN) capable
- CVN homeporting
- Amphibious Ready Group (ARG) homeporting

Preparation of the Mayport EIS is on schedule. The draft EIS is scheduled for release in March 2008, with the final EIS expected in December 2008 and the ROD in January 2009.

Environmental Stewardship

Energy Initiatives. Energy efficiency is key to reducing life cycle costs and increasing the sustainability of installations and facilities. The Department has led the way in supporting the Energy Policy Act of 2005 (EPAct05) by adopting the Leadership in Energy and Environmental Design (LEED) Silver standard as a primary consideration for all DON military construction projects. Using the LEED Silver standard, new energy-efficient projects have been completed on several installations, including Recruit Training Center Great Lakes and Naval Amphibious Base Little Creek. DON also has a comprehensive energy program responding to the requirements of EPAct05 and Presidential Executive Order 13423, evidenced by an 8.85 percent reduction in FY 2007 energy consumption and an extensive renewable energy program.

Minimizing the overall environmental effects. The recently-announced Low-Impact Development (LID) policy is an example of how the Department is emphasizing reduction of impact to the environment. The goal of the policy is "no net increase" in the amount of nutrients, sediment, and storm water escaping into the watersheds surrounding facilities and installations. The use of cost-effective LID Best Management Practices such as rainwater collection systems in construction and renovation projects is central to achieving this goal.

Alternative Fuels. The Department has been a leader in the use of alternative fuels. The Navy and Marine Corps both reduced petroleum consumption in their vehicle fleets by more than 25 percent from 1999 to 2006, and together used almost two million gallons of biodiesel in 2006. Further gains in alternative fuel implementation will be supported by the Department's new Petroleum Reduction and Alternative Fuel Vehicle Strategy, which challenges the Navy and Marine Corps to build on already substantial progress to meet and exceed the established Federal goals contained in Executive Order 13423 and the Energy Independence and Security Act of 2007. We are also expanding our use of alternative fuels in our tactical fleet, to include ships, aircraft and ground vehicles. In FY 2009 we will lay the groundwork for a testing and certification program for alternative fuel use. The Navy is also actively pursuing energy conservation initiatives, through energy conserving alterations in propulsion plants and conservation practices in operations.

V. Management Process Improvement

Complementary action to our acquisition improvement initiatives is our commitment to enhance process improvement across the Department of the Navy to increase efficiency and effectiveness and responsible use of resources. The Enterprise Resource Planning (ERP) program, planned for implementation throughout the Department, began initial implementation at Naval Air Systems Command in October 2007. It is an integrated business management system that modernizes and standardizes business operations and provides management visibility across the enterprise. The Department continues to champion the use of Lean Six Sigma as the primary toolset as a means toward increasing readiness and utilizing resources efficiently. Over 4,420 leaders have completed Lean Six Sigma training, and there are over 2,000 projects underway. The Department's Financial Improvement Program leverages ERP and strengthens control of financial reporting. The Marine Corps expects to be the first military service to achieve audit readiness.

A major process improvement initiative to ensure that the Department applies fundamental business precepts to its management is the Secretary of the Navy's Monthly Review (SMR). The SMR is a senior leadership forum, involving CNO, CMC and Assistant Secretaries, designed to afford greater transparency across the Department and set into motion actions that garner maximum effectiveness and efficiency for the Department. The SMR reviews a portfolio of the bulk of Department activities and programs involving manpower, readiness, acquisition, infrastructure, etc. Using Lean Six Sigma tools and other business tools, this forum reviews the most urgent issues and discusses and implements appropriate solutions. Ultimately, this monthly interaction serves as a means to synchronize the Department's actions to comprehensively address complex problems, accomplish strategic objectives, and better position for challenges in the future.

The Department will incorporate the Chief Management Officer (CMO) into the Secretariat in FY 2008. The CMO will have responsibility for improving Department business operations to carry out objectives. These initiatives are all steps to make process improvement a way of thinking in carrying out daily business throughout the organization.

VI. Conclusion

Thank you for this opportunity to report to you on the Department of the Navy. I provide the FY 2009 budget to you and ask for your support for this plan that will enable the Department to prevail in GWOT, take care of our people and prepare for future challenges. The uniformed men and women of the Department of the Navy, and our civilian workforce, depend on our collective support and leadership. I appreciate the opportunity to set forth the President's FY 2009 Budget and look forward to working with you in furtherance of our maritime capabilities and our national security.

Mr. MURTHA. Admiral Roughead.

SUMMARY STATEMENT OF ADMIRAL ROUGHEAD

Admiral ROUGHEAD. Chairman Murtha, Congressman Young, distinguished Members of the Committee, on behalf of our 600,000 Sailors, civilians and families, I appear before you today.

Together with Secretary Winter and General Conway, I am privileged to be a part of the leadership team that is committed to our Nation's safety, security and prosperity. Today our Navy stands ready with the agility, the flexibility and the confidence to do what no other navy in the world can do. Four weeks ago we successfully and temporarily converted a portion of our sea-based Ballistic Missile Defense program to engage a failing satellite.

Sea-based Ballistic Missile Defense is here, it is real, and it works. But that is only part of what your Navy does for the Nation. We are exercising our new maritime strategy every day, a strategy that is far more than just a glossy brochure. Our carriers are projecting power in the Arabian Gulf, our destroyers are demonstrating our resolve in the Mediterranean, an amphibious ship is engaged in piracy operations on the east coast of Africa, and another is delivering humanitarian assistance to the west coast of Africa. Our frigates are intercepting drug traffickers in the Caribbean Sea, our Riverine forces are patrolling vital infrastructure on the Euphrates River in Iraq, and our submarines patrol silently around the globe.

We have 118 ships and over 58,000 people on deployment out and about doing the work of the Nation. But as you so well know, our operations come at a cost to our people, our current readiness and the future Fleet, and those are my three priorities. Our people, our Sailors, our Marines and their families know they have your support. We must continue to invest in their futures and in the young men and women of America who will follow in their wake.

In the context of this generational war, it is imperative that we continue to care for our wounded warriors and support the health care needs of all of our Sailors and Navy civilians. Likewise, your support for the critical skills reenlistment bonuses has enabled us to retain the Sailors that we need.

Supporting our future force cannot be done without readiness to fight today. To this end, quality shore installations, responsive depot-level maintenance facilities and unfettered ability to train responsively are necessities. Where area access and shore support is denied, the Commandant and I have been moving forward together with the sea-basing alternative. These elements are essential to support our Fleet Response Plan, which has enabled us to meet requirements and will sustain us through the requested temporary carrier force level adjustment.

Of my three focus areas, building tomorrow's Navy to be a balanced, appropriately sized force is the most immediate imperative and challenge. Fiscal realities, however, have led us to assume more risk in shipbuilding, ship operations and weapons. Achieving the 313-ship floor at current funding levels will require us to improve processes, collaborate with industry and make difficult decisions in the near term.

I am pleased that the first two DDG 1000 contracts have been awarded. Our surface combatants are an essential element of our force, and it is important that we do not deplete the combatant line as we build toward 313 ships.

I remain strongly committed to funding those programs that provide critical capabilities to our forces. There is no substitute for the Littoral Combat Ship in closing the littoral capability gap. Current F/A–18 Hornets are needed to assuage a 2016 strikefighter shortfall. Surface combatant superiority will be maintained through DDG–51 modernization. Multimission maritime aircraft will recapitalize our maritime patrol antisubmarine warfare capabilities, and sea-based Ballistic Missile Defense will ensure future theater and national defense and enable access for our Joint Forces.

These critical programs for our future Fleet require appropriate disciplined investment now. The 2009 budget and its associated force structure plans will meet our current challenges with a moderate degree of risk. Clearly we have many challenges of which building tomorrow's Fleet is the greatest, but with these challenges it is our opportunity to have a balanced and global Fleet which will defend the Nation and assure our prosperity for generations to come.

On behalf of our Sailors, our Navy civilians and our families, thank you again for the opportunity to appear before you and for all the support for our Navy today and our Navy of tomorrow. I look forward to your questions.

Mr. MURTHA. Thank you.

[The statement of Admiral Roughead follows:]

STATEMENT BY

ADMIRAL GARY ROUGHEAD

CHIEF OF NAVAL OPERATIONS

BEFORE THE

HOUSE COMMITTEE ON APPROPRIATIONS
SUBCOMMITTEE ON DEFENSE

13 MARCH 2008

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UNTIL RELEASED BY THE
HOUSE COMMITTEE ON APPROPRIATIONS
SUBCOMMITTEE ON DEFENSE

CNO's Posture Hearing
FY 2009 Budget

Introduction

Chairman Murtha, Congressman Young, and members of the Committee, it is an honor to appear before you today representing the nearly 600,000 men and women, Sailors and civilians of our Navy. In 2007, the Navy answered all bells. Surge and rotational expeditionary forces performed brilliantly and we responded to global contingencies and requirements. The FY 2009 budget and its associated force structure plans represent the capabilities needed to meet current challenges with a moderate degree of risk. I appreciate your continued support as our Navy defends our nation and our vital national interests.

In 2007, the Navy, Marine Corps, and Coast Guard released the *Cooperative Strategy for 21st Century Seapower*. The strategy represents unprecedented collaboration among the three Services. It also incorporates input from American citizens obtained through a series of "Conversations with the Country" that included the maritime Services, business and academic leaders, and the general public.

The maritime strategy is aligned with the President's National Strategy for Maritime Security and the objectives articulated in the National Security Strategy, the National Defense Strategy, and the National Military Strategy. It recognizes that the maritime domain is vital to national security and prosperity. Nearly three-quarters of the Earth's surface is water; 80 percent of the world's population lives on or near coastlines; and 90 percent of the world's trade, including two-thirds of the world's petroleum, moves on the oceans to market. The oceans connect us to populations around the world and our Navy's presence and active engagement is vital to our collective security.

In addition to the Navy's engagement in Iraq and Afghanistan, international military, political, and economic events beyond those borders have direct and indirect implications for the Navy. Examples include China's rapid build up of a blue water navy and their development of cyber and space warfighting capabilities. Russia's first Mediterranean deployment in 15 years and increased defense spending demonstrate their desire to emerge as a global naval power. North Korea's long-range ballistic missile program and their missile proliferation history reinforce the need for a credible, forward deployed ballistic missile defense capability. Militaries in Central and South American seek aircraft and submarines to back their regional and international objectives. Iran's confrontational activities at sea this past January, when the USS PORT ROYAL, USS HOPPER, and USS INGRAHAM encountered five small Iranian boats operating provocatively in the Strait of Hormuz, heightened tensions. Conflict is likely to continue into the future and the Navy's global commitments are likely to increase. As U.S. ground forces reset, reconstitute, and revitalize, the Navy will remain on station to respond to threats and crises.

The new maritime strategy recognizes the many existing and potential challenges to national security and prosperity. To address these challenges, the strategy articulates six core capabilities our maritime Services provide: forward presence, deterrence, sea control, power

projection, maritime security, and humanitarian assistance and disaster response (HA/DR). The first four capabilities are paramount because they enable the defense of our nation and its interests. Forward presence, deterrence, sea control, and power projection must remain the cornerstones of what makes our Navy a dominant global force.

The Navy will continue to enhance cooperation with existing and emerging partners and build bridges of trust among the international community. Proactive global involvement is a strategic imperative for the Navy and our nation, since trust cannot be surged in times of crisis.

Execution of the maritime strategy is already underway in current operations. As we plan and resource for the future, the maritime strategy will guide our efforts. The execution of our current readiness and force structure plans faces many challenges, but affordability is the most pressing. I refuse to cede our technological advantage to competitors; however current readiness, manpower, and escalating procurement costs make pacing the threat exceptionally difficult. We will continue to improve processes, work with industry, and maximize cost saving initiatives. Stable procurement plans must be affordable and realistic to deliver the balanced future Fleet. While I am satisfied that the force structure plans deliver required capabilities, the balance among capability, affordability, and executability in these plans is not optimal. This imbalance has the potential to increase significantly warfighting, personnel, and force structure risk in the future.

Our operations, people, and equipment continue to serve our nation well, but it comes at a significant cost. It is my duty as CNO to ensure our Navy is always ready to answer our nation's call anytime, anywhere, now and in the future. This duty shapes my priorities and will influence the decisions and recommendations I will make regarding the future of our Navy.

Priorities for FY 2009

My vision for the Navy is that we remain the preeminent maritime power, providing our country a naval expeditionary force committed to global security and prosperity. We will defend our homeland and our nation's vital interests around the world. We will prevent war, dominate any threat, and decisively defeat any adversary. The Navy will remain a powerful component of Joint warfare by exploiting cutting edge technology and cooperating closely with the other Services, the interagency community, allies, and international partners. We will remain a superbly trained and led team of diverse Sailors and civilians, who are grounded in our warfighting ethos, core values, and commitment to mission readiness and accomplishment.

To achieve this vision, the Navy must address existing and emerging challenges and create new opportunities. My priorities are to:

- Build tomorrow's Navy
- Remain ready to fight today
- Develop and support our Sailors and Navy civilians.

I will demand that we accurately articulate requirements and remain disciplined in our processes. Achieving the right balance within and across these focus areas will provide dominant seapower for our nation, today and tomorrow.

Building Tomorrow's Navy

Our Fleet must have the right balance of capability and the capacity. Three hundred thirteen ships represent the minimum force necessary to provide the global reach, persistent presence, and strategic, operational, and tactical effects. Our FY 2009 budget requests seven new ships: two LCS, one DDG 1000, one SSN, two T-AKE, and one JHSV, and 47 new ships over the Future Years Defense Plan (FYDP) (FY 2009-2013). I support a stable shipbuilding plan that provides an affordable, balanced force and preserves our nation's industrial base. I intend to develop further our Navy's relationship with industry to reinforce our commitment to a stable shipbuilding plan.

As we pursue operational capability at reduced cost, we take into account several industrial factors. Level loading of ship and aircraft procurements help sustain appropriate employment levels, retain skills, and promote a healthy U.S. shipbuilding industrial base. Common hull forms, common components, and repeat builds of ships and aircraft that permit longer production runs also reduce construction costs. Our Navy's shipbuilding plans incorporate open architecture for hardware and software systems and they increase the use of system modularity. These initiatives reduce the cost of maintenance and system upgrades, and keep the Navy's Fleet in service longer.

I seek your support for the following initiatives and programs:

Aircraft Carrier Force Structure

The Navy is committed fully to maintaining an aircraft carrier force of 11. During the 33-month period between the planned 2012 decommissioning of USS ENTERPRISE and the 2015 delivery of USS GERALD FORD, however, legislative relief is requested to temporarily reduce the carrier force to 10. Extending ENTERPRISE to 2015 involves significant technical risk, challenges manpower and industrial bases, and requires expenditures in excess of two billion dollars. Extending ENTERPRISE would result in only a minor gain in carrier operational availability and adversely impact carrier maintenance periods and operational availability in future years. We are adjusting carrier maintenance schedules to support the Fleet Response Plan (FRP) and ensure a responsive carrier force for the nation during this proposed 10-carrier period. I urge your support for this legislative proposal.

Littoral Combat Ship (LCS)

LCS fills critical warfighting requirements. It offers speed, draft, and modularity that no other ship offers. USS FREEDOM (LCS-1) and USS INDEPENDENCE (LCS-2) enter service soon and their performance at sea will enable us to decide on the appropriate acquisition strategy for the class. Controlling and reducing LCS costs are key to an affordable shipbuilding plan and we have already improved management oversight, implemented stricter cost controls, and incorporated selective contract restructuring to ensure delivery on a realistic schedule. Although recent changes to the LCS program resulted in the reduction of 13 ships across the FYDP, I remain committed to procuring 55 LCS by FY 2023. I appreciate your continued support for this

important ship class, including our FY 2009 request for $1.47 billion for procurement of two additional ships and associated modules and continued research and development (R&D).

Joint Strike Fighter (JSF)

The increased operational tempo (OPTEMPO) of our legacy aircraft is consuming service life at an accelerated rate. The recent groundings of high demand P-3 aircraft highlight the need to bring the next generation of aircraft in service and retire our aging aircraft. The JSF provides expanded capability that will meet the needs of our Navy, Joint Forces, and international partners. Because of the high OPTEMPO of the current strike aircraft fleet, and despite JSF's initial operational capability (IOC) and delivery in 2015, we anticipate a shortfall of strike aircraft from 2016-2025. Further delays in JSF will exacerbate this strike fighter gap. Navy's FY 2009 investment of $3.4 billion includes procurement of eight aircraft and continued R&D for aircraft and engine development.

CG(X)

The next generation Guided Missile Cruiser CG(X) will be a highly capable major surface combatant tailored for Air and Missile Defense. CG(X) will provide maritime dominance, independent command and control, and forward presence. It will operate as an integral unit of Joint and Combined Forces. The CG(X) design and development program will feature revolutionary acquisition and spiral development practices that incorporate advanced technologies and next generation engineering systems. By replacing the TICONDEROGA (CG 47) class of ships at the end of its 35-year service life, CG(X) capitalizes on the developments made through DDG Modernization and DDG-1000. We are conducting a rigorous analysis to examine alternatives for CG(X) consistent with the National Defense Authorization Act requirement for nuclear power. Our FY 2009 R&D request for $370 million will support CG(X) and associated radar development.

DDG 1000

Congressional approval of split funding for the dual lead DDG 1000 ships supports an acquisition approach that motivates cooperative completion of detail design. Collaboration between Northrop Grumman Ship Systems and Bath Iron Works during the detail design process has enabled these shipyards to produce the two lead ships simultaneously. Consequently, the DDG 1000 detail design will be more mature prior to start of construction than any previous shipbuilding program. Our budget request in FY 2009 will procure the third ship of the class.

Ballistic Missile Defense (BMD)

The increasing development and proliferation of ballistic missiles can threaten the homeland and our friends and allies. Ballistic missiles can also impede our military operations. Maritime ballistic missile defense provides protection for forward-deployed joint forces and regional allies while contributing to the larger defense of the United States through the Ballistic Missile Defense System (BMDS). Maritime ballistic missile defense directly contributes to the Navy's core capability of deterrence, and enables our core capabilities of power projection and

sea control. The Aegis BMD directorate of the Missile Defense Agency has developed the Navy's BMD capability which is installed on 17 ships including three cruisers and 14 guided missile destroyers with installations continuing in 2008. These Navy surface ships support the BMDS by cueing ground-based sensors and intercepting Short to Intermediate Range Ballistic Missiles with ship-based interceptors (SM-3 missiles). The Near Term Sea-Based Terminal Program provides the ability to engage a limited set of Short Range Ballistic Missiles (SRBMs) with modified SM-2 Block IV missiles. The Navy will continue to work closely with the Missile Defense Agency to deliver improved capability and capacity to defend against this proliferating threat. While development and procurement funding is covered under the Missile Defense Agency budget, Navy has committed $16.5 million in FY 2009 for operations and sustainment of Aegis BMD systems.

Navy Networks

Afloat and ashore networks enable warfighting command and control capability. Data, hardware, and applications must be arranged in a way that enables rapid upgrades to accommodate exponential increases in demand. Incorporation of open architecture and common computing environment in our networks will require us to redesign network architecture to free us from proprietary control. Open architecture will drive us to commonality and standardization, introduce efficiencies, promote better data protection, and network security. It will also allow our future war fighters to fight collaboratively and more effectively.

The first step in achieving this new network architecture is putting it to sea. The Consolidated Afloat Networks and Enterprise Services (CANES) system achieves an open, agile, flexible and affordable network architecture that will move us forward. CANES embraces cross-domain solutions that enable enhanced movement of data. It is a revolutionary change in our information technology infrastructure and it is absolutely vital for us to excel in 21st century warfare. $21.6 million is aligned to CANES in the FY 2009 budget request, all of which is redirected from existing budget lines.

Research and Development

Science and Technology (S&T) give the Navy warfighting advantage. Last year the Secretary of the Navy, the Commandant of the Marine Corps, and my predecessor completed and published a combined Naval S&T strategy that ensures our investments accomplish the vision and goals of the Navy and Marine Corps. Selecting research for future Naval force capabilities must be balanced with fiscal realities. The S&T strategy identifies thirteen research focus areas and sets high-level objectives that guide investment decisions. S&T investments present a balance between applied science, focused on near term challenges, and basic research that advances the frontiers of science. We aggressively focus on transitioning S&T into programs of record and push these programs of record out to the Fleet through our Future Naval Capabilities program at the Office of Naval Research (ONR). The FY 2009 budget requests $1.8B for Navy's S&T programs, an increase of 6% over the requested FY 2008 level.

Ready to Fight Today

Maintaining warfighting readiness demands a Navy that is agile, capable, and ready. As operational demands and Joint Force posture in the Middle East subside, I expect the Navy's posture, positioning, and OPTEMPO to increase, not decrease. OPTEMPO, as expressed in terms of steaming days, reflects the underway time of our conventionally powered ships. OEF/OIF and additional global commitments have caused a significant difference between budgeted and actual steaming days. The Navy has funded this difference with war supplemental funding. Trends indicate that anticipated operational requirements will continue to exceed peacetime levels in FY 2009. Additionally, increased OPTEMPO drives accelerated force structure replacement and higher maintenance and manpower costs that must be funded.

As the nation's strategic reserve, the Navy must be ready to generate persistent seapower anywhere in the world. The Navy must also establish and evolve international relationships to increase security and achieve common interests in the maritime domain.

We generate forces for the current fight and employ our Navy much differently than in years past. We simultaneously provide ready naval forces and personnel for Joint Force Commanders, sustain forward presence, fulfill commitments to allies, and respond to increasing demands in regions where we have not routinely operated, specifically in South America and Africa.

The Fleet Response Plan (FRP) has enhanced our ability to meet COCOM requests for forces for the last six years. FRP provides Naval forces that are well-maintained, properly manned, and appropriately trained to deploy for forward presence and surge missions. FRP increases operational availability and generates more forward presence and surge capability on short notice than was possible in the past. The unscheduled deployment of a second carrier to the Middle East in January 2007 is an example of how FRP provides the nation with options to defend its vital interests. FRP also allows the Navy to respond to global events more robustly while maintaining a structured, deliberate process that ensures continuous availability of trained, ready Navy forces.

Balancing capacity and capability across the spectrum of warfare is essential. The challenge will be maintaining dominance in traditional roles while meeting existing and emerging threats in asymmetric and irregular warfare. My goal is to influence the entire range of military operations from large scale conflict to maritime security and HA/DR. Areas of particular interest to us are:

Anti-Submarine Warfare (ASW): Sonar-The Key ASW Enabler

Submarines remain an immediate threat and their roles and lethality are increasing. More countries are buying submarines; some are building anti-access strategies around them. Maintaining the ability to detect, locate, track, and destroy submarines is essential and our active sonar systems, particularly medium frequency active (MFA) sonar, are the key enablers.

The Navy's use of sonar is being challenged in federal court by various lawsuits which seek to prohibit or severely limit it during vital combat certification exercises, such as those conducted in our Southern California operating areas. In more than 40 years of sonar use in Southern California waters, not a single injury to marine mammals has been linked to sonar. The Navy has worked closely with the National Marine Fisheries Service (NMFS) to establish effective, science-based mitigation measures. By implementing these measures NMFS does not expect adverse population level effects for any marine mammal populations during Fleet training exercises scheduled in Southern California in 2008. MFA sonar provides a robust and absolutely vital capability to detect submarine threats. Limiting our ability to train and exercise with MFA sonar will degrade operational readiness and place our forces at risk.

Our measures provide an appropriate balance between good stewardship of the environment and preparing our forces for deployment and combat operations. Our Sailors must be trained to the best of their abilities with all of the technological tools available to fight and win. It is vital that our Navy be allowed to train and exercise with MFA sonar.

Intelligence

Our Navy provides a vital intelligence, surveillance, and reconnaissance capability around the globe. These capabilities produce warning and awareness in support of the planning and execution of maritime and joint operations. We are expanding our intelligence capability through development of trained human intelligence (HUMINT) personnel, investment in operational intelligence at our Maritime Operation Centers, and expanded synchronization with theater, joint, and national intelligence capabilities.

Maritime Domain Awareness

Maritime security supports the free flow of commerce for all nations. Maritime Domain Awareness is knowing what is moving below, on, and above the sea. Without a high level of Maritime Domain Awareness the free flow of commerce is jeopardized. The goal of Maritime Domain Awareness is to establish a level of security regarding vessels approaching our coastlines, while not infringing upon each nation's sovereignty or sharing inappropriate information.

In partnership with the Coast Guard we established the Office of Global Maritime Situational Awareness (GMSA). GMSA works with the Office of Global Maritime Intelligence Integration in developing the national maritime picture. The first spiral of Maritime Domain Awareness capability arrives in the Central Command and Pacific Command in August 2008 with later spirals in the Atlantic and Caribbean.

Seabasing

Seabasing represents a critical warfighting capability. It will assure access to areas where U.S. military forces are denied basing or support facilities. In the near term, our amphibious and prepositioned ships (including MPF(F)) are the key ships in the seabase. They provide the required lift for the Marine Corps across the range of military operations. These ships and Marines, and the defensive and strike capabilities of our surface combatants and aircraft, provide operational maneuver and assured access for the force while significantly reducing our footprint ashore.

The Navy is exploring innovative operational concepts combining seabasing with adaptive force packaging that will further support national security policy and the Combatant Commanders' objectives worldwide. Our 30-Year Shipbuilding Plan provides for seabasing that covers the spectrum of warfare from Joint Forcible Entry to persistent and cooperative Theater Security Cooperation.

Future Joint Sea Basing requirements are still being defined but will be significantly greater than today's Navy and Marine Corps warfighting capabilities. The next generation long range heavy lift aircraft, joint logistics support system, intra-theater lift and sea connectors will provide these future capabilities.

Shore Installations

Our shore installations are extensions of our warfighting capabilities and among our most complex systems. Our installations must be ready to deliver scalable, agile, and adaptive capabilities to meet the requirements of our Fleet, Sailors, and families. We must reverse our historical trend of underinvestment in our shore establishment. I will leverage and expand upon the successes of our Navy Ashore Vision 2030 and enhance the linkage between our installations, our warfighters, mission accomplishment, and quality of service.

In the past, we accepted significant risk in our shore establishment to adequately fund Fleet readiness. As a result, the condition, capability, and current and future readiness of our shore installations degraded to an unacceptable level by industry standards. I directed the implementation of a systematic and consistent approach to assess the material condition of our shore establishments and develop a comprehensive investment strategy to arrest and reverse the decline of our shore establishment.

We will take advantage of every opportunity to leverage the joint capabilities we share with other Services and the capabilities of the supporting communities where we work and live. The power of this leverage is highlighted in our new Public-Private Venture Bachelor Quarters at San Diego and Norfolk. With the authorities granted by Congress and very progressive private partners, we provide our Sailors the best housing I have seen during my naval career. These quarters will have a dramatic impact on Sailors' decisions to reenlist.

We owe our Sailors, their families and our civilian workforce, who selflessly serve our Nation, world-class facilities and services to enhance their productivity and effectiveness and to

motivate them to remain in the Navy. The decline in the shore infrastructure must be reversed by a prudent review of current capacity and a forward leaning investment strategy that defines our shore footprint for the foreseeable future. The shore establishment is a critical system for the Navy and provides the foundation for our training, manning, and equipping. It is imperative we invest and sustain our shore establishment at the right level to ensure a ready, mobile, and capable Navy.

Depot Level Maintenance

The increased OPTEMPO of our ships and aircraft in combat operations elevates the importance of performing timely depot level maintenance. Depot level maintenance ensures continued readiness and the safety of our men and women operating our ships and aircraft. Adequate funding for depot level maintenance ensures we do not incur unnecessary risk by extending our ships and aircraft well past their periodicity of maintenance. In addition to the challenges of maintaining our ships and aircraft, the capacity of the industrial base remains challenging. Consistent, long term agreements for the efficient use of shipyards are necessary to keep our ships and aircraft in the highest states of readiness.

United Nations Convention on the Law of the Sea

The Law of the Sea Convention codifies navigation and overflight rights and high seas freedoms that are essential for the global mobility of our armed forces. It directly supports our National Security Strategy. I believe strongly that the Convention furthers our national security interests. Our maritime security efforts necessitate that we become a party to the Law of the Sea Convention, the bedrock legal instrument in the maritime domain, to which 154 nations are party. Our current non-party status constrains our efforts to develop enduring maritime partnerships. It inhibits our efforts to expand the Proliferation Security Initiative and elevates the level of risk for our Sailors as they undertake operations to preserve navigation rights and freedoms, particularly in areas such as the Strait of Hormuz and Arabian Gulf, and the East and South China Seas. Accession to the Law of the Sea Convention is a priority for our Navy.

Developing and Supporting Our Sailors and Navy Civilians

Our talented and dedicated Sailors and Navy civilians are absolutely essential to our maritime dominance. Attracting, recruiting, and retaining in a competitive workplace is increasingly more expensive. We must devote adequate resources and shape our policies to ensure our people are personally and professionally fulfilled in their service to our nation. We have identified a steady-state force level of 322,000 AC/68,000 RC end strength as the optimum target for our projected force structure. It is critical that future funding sustains this level.

Recruiting, developing, and retaining diverse and highly capable men and women are imperatives. The Navy must address the changing national demographic to remain competitive in today's employment market. Only three out of ten high school graduates meet the minimum criteria for military service. The propensity to serve is declining among youth and more often influencers of these youth, such as parents and teachers, are advising against military service.

"Millennials" are the generation of youth currently entering the workplace and they comprise 43 percent of our Navy. Born into a globalized world saturated with information and technology, Millennials are more accomplished for their age than previous generations. They are a technology-savvy and cyber-connected group who may find the military's hierarchical command and control structure contradictory to the flat social networks they are used to navigating. The different paradigm under which this generation views the world and the workplace has implications for how the Navy attracts, recruits, and retains top talent. Additionally, to better meet the needs of the U.S. Marine Corps, we must increase the throughput at the U.S. Naval Academy. I urge your support of our legislative proposal to increase the number of Midshipmen at the Naval Academy.

The *Strategy for Our People* ensures we have the best and brightest on our team. The strategy outlines six goals for achieving a total Navy force of Sailors and civilians that is the right size and possesses the right skills to best meet the needs of the Navy. These goals are: capability-driven manpower, a competency-based workforce, effective total force, diversity, being competitive in the marketplace, and being agile, effective, and cost-efficient. Many of the efforts currently underway in support of the strategy are discussed in further detail below.

Recruiting Initiatives

The Navy Recruiting Command is relentless in its pursuit of attracting the best young men and women in America to serve in our Navy. Recruiting priorities are currently focused on attracting personnel for the Naval Special Warfare/Naval Special Operations, nuclear power, medical, and chaplain communities. Recruiting Command is constantly searching for new ways to recruit America's talent. For example, the Medical Leads Assistance Program employs Navy officers as ambassadors for generating interest in Navy Medicine. In the NSW and Naval Special Operations communities, we provide mentors for recruits before enlistment and during training with the two-fold goal of improving recruiting results and ensuring applicant success at Recruit Training Center (RTC) and Basic Underwater Demolition/SEAL training (BUD/S).

To recruit nuclear-trained officers and chaplains, we encourage our personnel to share their story with the American public. Through visits to college campuses and career fairs, nuclear-trained officers share their experiences of operating nuclear reactors on board carriers and submarines. These visits have improved short-term Nuclear Propulsion Officer Candidate recruiting and our officers will continue to cultivate personal relationships with faculty and university representatives to ensure long-term program health. Through the Reserve Officer Goals Enhance Recruitment (ROGER) program, Reserve chaplains use their network of ministerial relationships to share their experiences as Navy chaplains and provide information on how to become active or Reserve chaplain candidates.

Over the past five years, Navy Reserve Junior Officer recruitment has declined. To encourage young officers to stay Navy, we authorized a mobilization deferment policy for officers who affiliate with the Navy Reserve within the first year after leaving active duty. Combined with a $10K affiliation bonus, we have had some success in improving the recruitment of Reserve officers, but this market remains a challenge. We established a Reserve

Retention and Recruiting Working Group to identify near-term and long-term solutions that will achieve sustainable success.

Development Initiatives

Our people deserve personally and professionally fulfilling careers that provide continuous opportunities for development. We offer multiple programs and we partner with outside organizations so that Sailors and Navy civilians can pursue job-relevant training, continuing education, and personal enrichment. One such program is a pilot called "Accelerate to Excellence." This program provides enlisted recruits in specific ratings the opportunity to earn an Associate's Degree at a community college while undergoing specialized training after boot camp.

The Navy also provides developmental opportunities for officers and enlisted personnel through Professional Military Education (PME). PME is designed to prepare leaders for challenges at the tactical, operational, and strategic levels of war. The PME continuum integrates advanced education, Navy-specific PME, Joint PME (JPME) and leadership development in a holistic manner. The competencies, professional knowledge, and critical thinking skills Sailors obtain from PME prepare them for leadership and the effective execution of naval missions. PME graduates are 21st century leaders who possess the capacity to think through uncertainty; develop innovative concepts, capabilities, and strategies; fully exploit advanced technologies, systems, and platforms; understand cultural/regional issues; and conduct operations as part of the Joint force.

Enrollment in JPME courses is up: JPME Phase I in-residence enrollment is up 5 percent; JPME Phase I non-residence enrollment is up 15 percent; JPME Phase II enrollment is up 50 percent. Congressional support to allow Phase II JPME to be taught in a non-residency status would enable Sailors to pursue professional development while continuing their current assignments.

In addition to JPME courses, the Navy supports Joint training through the Navy Continuous Training Environment (NCTE). NCTE is a distributed and simulated Joint and coalition training environment that replicates real-life operations. NCTE integrates into the Joint National Training Capability (JNTC) training architecture and satisfies COCOM requirements at the operational and tactical level.

Retention Initiatives

As the Navy approaches a steady-state force level of 322,000 AC/68,000 RC end strength, attracting and retaining Sailors with the right skills is critical. In FY 2008, the goal is to shift our focus beyond numbers to ensure we have the right skill sets in the right billets at the right time. This approach increases opportunities for advancement and promotion by assigning personnel to positions that utilize and enhance their talents, and emphasizes continued professional growth and development in stages that align to career milestones.

The Navy is also addressing retention through Active Component to Reserve Component (AC2RC) transition. This program is changing the existing paradigm under which a Sailor leaves the Navy at the end of their obligated service and is instead promoting service in the Reserve Component as an alternative to complete detachment. The Perform to Serve (PTS) program screens Zone A Sailors, who are at the end of a four to six year enlistment for reenlistment within their rating or for rating conversion. The Manpower, Personnel, Training, and Education (MPTE) enterprise is adding RC affiliation to Sailors' PTS options at the end of Zone A enlistment. Additionally, RC affiliation will become increasingly seamless as we shift responsibility from Navy Recruiting Command to Navy Personnel Command.

Taking Care of Families

When a Sailor or civilian joins the Navy team our commitment extends to their family. Mission success depends upon the individual readiness of our people and on the preparedness of their families. Supporting Navy families is critical to mission success.

Keeping families ready and prepared alleviates some of the stress associated with deployments. Our continued commitment to programs and resources that maximize family readiness remains high. We continue to improve and expand child care programs and centers. Crisis management and response procedures coupled with enhanced ombudsman programs demonstrate our commitment to give deployed Sailors confidence that their families are in good hands.

In 2007, Navy programs cared for 45,780 children ages six months to 12 years and served over 70,000 youth, ages 13 to 18, in 124 child development centers, 103 youth centers, and 3,115 on and off-base licensed child development homes. In response to the needs of Navy families, we have launched an aggressive child care expansion plan that adds 4,000 child care spaces within the next 18 months and reduces waiting lists in most places below the current six-month average.

At the end of FY 2007, we successfully privatized 95 percent of the continental U.S. (CONUS) and Hawaii family housing. We aggressively monitor the ratification of Navy housing residents and our Public Private Venture (PPV) efforts are clearly resulting in continuous improvement in the housing and services provided to our Sailors and their families. The ability of the private partner to renovate and replace family housing units at a much quicker pace than MILCON has positively impacted the quality of Navy housing.

Taking care of our families includes proactively reducing financial stresses placed on Sailors and families. We are focused on family counseling in response to increased OPTEMPO as a result of OEF/OIF. We provided one-on-one job search coaching services to 21,730 Navy family members and made 10,830 military spouse employment ready referrals to employers. Fleet and Family Support Center (FFSC) financial educators provided more than 186,000 Sailors and family members seminars/workshops focusing on financial fitness, increased our financial counseling services to military spouses by more than 50 percent, and launched a robust campaign to encourage wealth building and debt reduction.

Health Care

We have some of the best medical professionals in the world serving in the Navy. Health care options the Navy offers its people are valuable recruitment and retention incentives. Still, health care costs are rising faster than inflation. Operations in OEF and OIF increased the demand for medical services in combat and casualty care. Part of this demand is straight forward: our wounded need traditional medical care and rehabilitation services. The other part of this demand is more complex and addresses the increased occurrences of mental health disorders resulting from combat operations. Medical professionals are rapidly learning more about assessing and treating the effects of mental health issues associated with war such as post traumatic stress disorder (PTSD) and traumatic brain injury. We are implementing these lessons to more effectively treat these Sailors.

Wounded Warrior/Safe Harbor Program

Care for combat wounded does not end at the Military Treatment Facility (MTF). The Navy has established the Safe Harbor Program to ensure seamless transition for the seriously wounded from arrival at a CONUS MTF to subsequent rehabilitation and recovery through DoD or the Department of Veterans Affairs (VA). Since its inception, 162 Sailors including 143 Active and 19 Reserve members have joined the program and are being actively tracked and monitored, including 126 personnel severely injured in OEF/OIF. Senior medical staffs personally visit and assist seriously injured Sailors and their families to ensure their needs are being met.

Conclusion

We are truly a ready, agile, and global Navy. To ensure that we maintain our naval dominance, we must achieve the optimal balance of building the Navy of tomorrow as we remain engaged and ready to fight today while fully supporting our people.

I will continue to work closely with the Secretary of the Navy, the Commandant of the Marine Corps, Congress, and industry to build the levels of trust and collaboration necessary to resource, acquire, and effectively manage a Fleet of the right size and balance for our nation.

Despite the challenges, I am very optimistic about our future and the many opportunities ahead. The dedication of our Sailors and Navy civilians is inspiring. They are truly making a difference and it is an honor to serve alongside them. I thank you for your continued support and commitment to our Navy and for all you do to make the United States Navy a force for good today and in the future.

ANNEX I

2007 – Year in Review

Operations

In 2007, the US Navy deployed the USS ENTERPRISE, DWIGHT D. EISENHOWER, JOHN C. STENNIS, RONALD REAGAN, and NIMITZ Carrier Strike Groups (CSGs) as well as the USS IWO JIMA, BOXER, BATAAN, BONHOMME RICHARD, and KEARSARGE Expeditionary Strike Groups (ESGs) with their embarked Marine Expeditionary Units (MEUs). In January 2007, when the President called for the surge of two carriers to the Central Command (CENTCOM) area of responsibility, we responded. Within weeks we positioned two CSGs in the North Arabian Sea and deployed a third CSG to fulfill our Western Pacific commitments while our forward deployed carrier in Japan completed a maintenance availability. Throughout 2007, our globally postured seapower kept the homeland and our citizens secure from direct attack and advanced our interests around the world.

Our expeditionary forces gave our leaders options for responding not only to emerging threats but to natural disasters as well. Our forward-deployed posture enabled the Navy and Marine Corps to rapidly respond and provide aid following three natural disasters last year. USNS GYSGT FRED W. STOCKHAM provided relief to the victims of the tsunami that struck the Solomon Islands in April 2007. In September 2007, USS WASP and USS SAMUEL B. ROBERTS participated in Central American relief efforts following Hurricane Felix. USS KERSARGE/22nd MEU and USS TARAWA/11th MEU responded to the cyclone that devastated Bangladesh in November 2007.

In 2007 we contributed to the Joint Force with expert planning and execution across the spectrum of operations. When the Air Force grounded its F-15 aircraft, Navy F/A-18 aircraft from USS ENTERPRISE assumed Air Force missions in Afghanistan. This flexibility and continuity allowed our NATO forces and the International Security Assistance Force to continue their missions without degradation in air cover.

Our Navy also contributed high-demand, highly-qualified expeditionary units to OEF and OIF through accelerated deployments of SEABEES, Explosive Ordinance Disposal teams, and SEALs. The Naval Expeditionary Combat Command (NECC), established in 2006, has already deployed RIVRON ONE (Mar 07) and RIVRON TWO (Oct 07) in support of OIF. Our riverine capability is growing; RIVRON THREE has been organized, trained and equipped, and will deploy in the spring of 2008. NECC's mission enables our Navy to better balance its force across the blue, green, and brown-water environments, ensuring effective Navy expeditionary warfighting, closing capability gaps, and aligning seams in global maritime security operations. Combatant Commander (COCOM) demand for NECC capabilities remains high. New and evolving expeditionary capabilities are becoming operational and supporting ongoing operations.

Last year the Navy deployed Coast Guard Law Enforcement Detachments (LEDETs) on board our ships and together we disrupted illegal trafficking of more than 188,907 pounds of cocaine. This accounted for more than 53 percent of the total cocaine removed by the Coast

Guard in FY 2007 (a record year at 355,755 total pounds). These LEDETs also detained 68 suspected smugglers, seized five vessels, and sunk 13 vessels engaged in illicit traffic.

Our Navy and Coast Guard also worked together in CENTCOM maritime security operations. In the Northern Arabian Gulf we are protecting Iraqi oil platforms, maintaining Iraqi territorial sea integrity, assisting in local policing of the offshore waters, and training Iraqi naval forces. We are working together in OIF, conducting Maritime Interception Operations, high-value asset escorts, and coastal security patrols with coalition and Iraqi naval forces. LEDETs deployed aboard Navy ships have trained hundreds of Iraqi navy and marine personnel in security and law enforcement, boarding procedures, self-defense, small boat tactics, and small boat maintenance. The Navy's African Partnership Station (APS) ship, USS FORT MCHENRY, has coordinated training sessions with the Coast Guard and has embarked Coast Guard Auxiliary members as interpreters for country visits.

In 2007, USNS COMFORT and USS PELELIU conducted two proactive humanitarian assistance missions in South America and the Western Pacific, respectively. The results were extraordinary. Navy personnel embarked on COMFORT and PELELIU, together with Joint, NGO, and foreign medical officers, visited 20 countries; treated more than 130,000 medical patients, 29,000 dental patients, and 20,000 animals; conducted more than 1,400 surgeries; completed more than 60 engineering endeavors; and spent over 3,000 man-days in community relations projects. These missions of support, compassion, and commitment are enduring and they are codified in our maritime strategy.

We continue to meet COCOM Theater Security Cooperation (TSC) objectives with well-trained, combat ready forces. We are developing the concept of Global Fleet Stations (GFS), which will allow the Navy to coordinate and employ adaptive force packages within a regional area of interest. The pilot GFS, carried out by the High Speed Vessel SWIFT and closely coordinated with the State Department, conducted bilateral engagement activities in seven Latin American nations. This effort enhanced cooperative partnerships with regional maritime services and improved operational readiness for the participating partner nations. We conducted bi-lateral and multi-lateral exercises with navies in the Gulf of Guinea, the Mediterranean Sea, the Arabian Gulf, and waters in Latin America, and the Atlantic, Pacific, and Indian Oceans. The most notable exercises include MALABAR 07-2 with Indian, Japanese, Australian, and Singaporean navies; FRUKUS with French, Russian, and British navies; and PHOENIX EXPRESS with European and North African navies. Meanwhile, Exercise VALIANT SHIELD 2007 brought together three CSGs, six submarines, and many Navy and Joint capabilities to validate our effectiveness in multi-dimensional, full-spectrum, joint warfare. We remain the most dominant and influential Navy, globally and across all maritime missions.

Our engagement with other nations last year included cooperation through our foreign military sales (FMS) program. FMS is an important aspect of our security cooperation program which improves interoperability, military-to-military relations, and global security. The Navy's FMS program builds partner nation maritime security capabilities through transfers of ships, weapon systems, communication equipment, and associated training programs. The sale of USS TRENTON to India, USS HERON and USS PELICAN to Greece, and USS CARDINAL and USS RAVEN to Egypt are recent examples of our FMS program. Other countries remain

interested in our mine sweepers, our frigates, and newer technologies coming online in the near future. We pursue these opportunities but never at the expense of our own needs.

Manpower

The men and women of the United States Navy are the core of every successful operation we conduct. I am impressed and inspired by our Sailors' ability to perform exceptionally well under all circumstances. Our Sailors are engaged globally: in special operations and combat support in Iraq; in flying combat sorties in support of OEF and OIF; in providing security protection for oil platforms; in conducting civil affairs missions; in participating in TSC activities in the Horn of Africa; and in ships and submarines deployed worldwide. Additionally, over 17,000 individual augmentees (IAs) were trained and deployed to support OEF and OIF missions.

Last year we met recruiting and retention goals and exceeded our active enlisted accession goal for the ninth consecutive year. We achieved 100 percent of our reserve enlisted accession goal. We met 97.9 percent of our active officer goal, with shortfalls residing primarily in medical and chaplain accessions. New and enhanced special and incentive pay authorities enacted in both the FY 2006 and FY 2007 National Defense Authorization Acts helped our Navy attain its goals in key mission areas and improve performance in others. Our Navy continues to aggressively recruit the best talent our nation has to offer. This is a demanding task considering an increasingly challenging recruiting environment.

Our AC and RC remain aligned through Active Reserve Integration (ARI). As demonstrated through force generation, deployment and redeployment, it is clear that RC forces meet two significant needs of our Navy. First, reservists deliver capability and capacity in support of major combat operations, and second, reservists provide operational augmentation to meet routine military missions. To use the full potential of our RC effectively, we continue to capitalize on RC involvement in operational support missions. This builds on ARI successes to date and will lead to the institutionalization of our operational Navy Reserve. We continue to monitor AC strength reductions and evaluate the impact of our force shaping programs with respect to the RC.

Our Navy continues to pursue diversity. We are in the final phase of a three-phase diversity campaign. In Phase III, we hold senior Navy leadership personally accountable for ensuring that we build the most diverse organization possible. We also instituted a mentoring regimen focused on developing and retaining top talent from all demographics.

Equipment

Our Navy's mission in projecting power and presence overseas depends upon a modern, technologically advanced Fleet. The quality, condition, and capabilities of our ships and aircraft are critical.

In 2007, we christened six ships: the aircraft carrier GEORGE H. W. BUSH, the guided missile destroyers STERETT and TRUXTUN, the dry cargo/ammunition ships ALAN

SHEPARD and RICHARD E. BYRD, and the fast attack submarine NORTH CAROLINA. We also commissioned four ships: the guided missile destroyers KIDD and GRIDLEY, the amphibious transport dock NEW ORLEANS, and the fast attack submarine HAWAII.

Despite these accomplishments, decommissionings resulted in a net gain of only two ships in 2007. We reluctantly, but prudently, cancelled construction of the third and fourth LCS due to challenges in controlling cost and schedule. The rate at which we are growing our Fleet will challenge our ability to fulfill the core capabilities of the maritime strategy. I am committed to taking the steps necessary to build the future Fleet and re-establish the vital trust needed among the Department, Congress, and industry to get our Navy above a 313-ship floor.

Building the future Fleet is also about aircraft. In 2007, we rolled out the first E-2D Advanced Hawkeye. Despite several successes in aircraft delivery, the high demand for air assets in OEF and OIF expended a significant portion of the limited service life remaining on our EA-6B electronic attack aircraft, MH-60 multi-mission helicopters, F/A-18 C/D strike-fighter aircraft, and P-3 maritime patrol aircraft. The accelerated depletion of service life could translate into aircraft shortfalls if the expended aircraft are not replaced.

ANNEX II

Programs and Initiatives to Achieve Navy Priorities

Surface Warfare

LCS

Designed to be fast and agile, LCS will be a networked surface combatant with capabilities optimized to assure naval and Joint force access into contested littoral regions. No other ship can deliver what LCS offers in terms of flexibility. LCS will operate with focused-mission packages that deploy manned and unmanned vehicles to execute a variety of missions, including littoral anti-submarine warfare (ASW), surface warfare (SUW) and mine countermeasures (MCM). LCS will employ a Blue-Gold multi-crewing concept for the early ships. The crews will be at a "trained to qualify" level before reporting to the ship, reducing qualification time compared to other ships.

The LCS program has experienced significant cost overruns for the lead ships in the class. After a series of increases in contractor-estimated costs of completion, the Navy and industry initiated a thorough analysis of the program. The Navy revalidated the warfighting requirement and developed a restructured program plan for LCS that improves management oversight, implements more strict cost controls, incorporates selective contract restructuring, and ensures delivery within a realistic schedule.

Construction progress on LCS #1 and LCS #2 is on track to support delivery of these ships in 2008. By exercising active oversight and strict cost controls in the early years, the Navy will ensure delivery of LCS to the Fleet over the long term. Our FY 2009 request for $1.47 billion will continue R&D and construction of LCS and associated modules.

DDG 1000

DDG 1000 introduces valuable technological advances that will provide essential risk reduction. This multi-mission surface combatant will provide independent forward presence and deterrence and it will operate as an integral part of joint and combined expeditionary forces. DDG 1000 will capitalize on reduced signatures and enhanced survivability to maintain persistent presence in the littorals. Our FY 2009 request for DDG 1000 is for $3.0 billion in shipbuilding and research funds.

CG(X)

CG(X) will be a highly capable major surface combatant tailored for joint air and missile defense and joint air control operations. CG(X) will provide airspace dominance and protection to Joint forces operating in the Seabase. CG(X) will replace the CG-47 Aegis class and improve the Fleet's air and missile defense capabilities against advancing threats, particularly ballistic missiles. IOC will be in 2019. $370 million in research and development for FY 2009 supports CG(X) development to include radar development. The Navy is conducting a rigorous analysis

to examine alternatives for CG(X), understanding that the National Defense Authorization Act requirement for nuclear power applies to CG(X).

Aegis Ballistic Missile Defense (BMD)

Aegis BMD is the seabase component of the Missile Defense Agency's (MDA) Ballistic Missile Defense System (BMDS). It enables surface combatants to support ground-based sensors and provides a capability to intercept short and medium-range ballistic missiles with ship-based interceptors (SM-3 missiles). The Gap Filler Sea-Based Terminal Program provides the ability to engage a limited set of short range ballistic missiles with modified SM-2 Block IV missiles from Aegis BMD capable ships. While development and procurement funding is covered under the MDA budget, the Navy has committed $16.5 million in FY 2009 for operations and sustainment of Aegis BMD systems.

Since 2002, Navy and MDA have executed twelve successful intercepts in fourteen flight tests (11 Exo-atmospheric SM-3 engagements and one Endo-atmospheric SM-2 Block IV engagement). Operational ships have capability today with Aegis BMD program and components installed on 17 ships, including three cruisers (engagement capable) and 14 DDGs (nine engagement capable and five Long Range Surveillance and Track (LRS&T) capable). Additional installations are planned for 2008 to provide a total of 18 engagement-capable ships. In addition to these hardkill capabilities, the Navy is focused on delivering a robust capability against ballistic missiles across the enemy kill chain to include softkill and counters to Intelligence, Surveillance, and Reconnaissance (ISR), detection, cueing, and tracking prior to the launch of anti-ship ballistic missiles. The development of future capability will be informed through robust modeling and simulation to evaluate trade-offs among capabilities across the kill chain as well as the BMD capacity required to prevail in various geographic areas of concern.

Aegis Cruiser Modernization

AEGIS cruiser modernization is vital to achieving the 313 ship force structure. A large portion of total surface force modernization (including industrial base stability) is resident in this program, which includes both Combat System and Hull, Mechanical, and Engineering (HM&E) upgrades. $426.5 million in FY 2009 supports this program.

DDG 51 Modernization

The DDG 51 modernization program is a comprehensive 62 ship program that will upgrade hull, mechanical, electrical, and combat systems. These upgrades support reductions in manpower and operating costs, achieve 35+ year service life, and allow the class to pace the projected threat well into the 21st century. Our FY 2009 budget request includes $325.7 million for this effort.

Surface Ship Torpedo Defense (SSTD)

Torpedo defense must keep pace with the increasing torpedo threat to our ships. The AN/SLQ-25A "Nixie" is the Navy's fielded SSTD system. We will counter the future torpedo threat with

an Anti-Torpedo Torpedo (ATT) System now in development. Increment I will deliver improved Torpedo Detection, Classification, and Localization (TDCL) and ATT salvo capability to cruisers and destroyers. Increment II will expand this capability beyond surface combatants. Increment I IOC is planned for FY 2017. We are currently assessing these plans to deliver Increment II. The FY 2009 budget provides $59.3 million to support this program.

Standard Missile-6 (SM-6)

The Navy's next-generation Extended Range, Anti-Air Warfare interceptor is the SM-6. It will be used by legacy and future ships, and with its active-seeker technology it will defeat anticipated theater air and missile threats well into the next decade. The FY 2009 budget of $345.4 million in research, development, and procurement will support an IOC in FY 2010.

Long Range Land Attack Projectile (LRLAP)

Long Range Land Attack Projectile (LRLAP) is the primary munition for the DDG 1000 Advanced Gun System (AGS). AGS and LRLAP will provide Naval Surface Fire Support (NSFS) to forces ashore during all phases of the land battle. All program flight test objectives have been met including demonstration of threshold range (63nm), in-flight guidance, gun launch survival, and repeatability. $97 million in FY 2009 supports continued development.

Harpoon Block III Missile

Harpoon Block III meets requirements for an all weather, precision, ship and air launched, anti-ship missile capability. $68 million in FY 2009 supports development of an upgrade to existing Harpoon Block IC missiles that will add data link and GPS capability to improve accuracy and target selectivity.

Extended Range Munition (ERM)

The Extended Range Munition (ERM) is a five-inch, rocket-assisted, guided projectile providing range and accuracy superior to that of conventional ammunition. The program includes modifications to existing five-inch guns and fire-control systems. The projectile uses a coupled GPS/INS guidance system and unitary warhead with a height-of-burst fuse. A 20-round reliability demonstration in September 2008 is planned prior to land-based flight and qualification testing. $39 million in FY 2009 supports this program.

Cooperative Engagement Capability (CEC)

CEC is an advanced sensor netting system enabling real-time exchange of fire-control quality data between battle force units. CEC provides the integrated, precision air defense picture required to counter the increased agility, speed, maneuverability, and advanced design of cruise missiles, manned aircraft, and (in the future) tactical ballistic missiles. $123.3 million in FY 2009 supports this program.

CEC's acquisition strategy implements open architecture based hardware with re-hosted existing software. A critical element is the P3I hardware that reduces cost, weight, cooling, and power requirements. The Integrated Architecture Behavior Model (IABM) will be implemented as a host combat system software upgrade. IABM will replace the cooperative engagement processor functionality and enable joint interoperability with common track management across the Services.

Tomahawk/Tactical Tomahawk (TACTOM)

TACTOM provides precision, all-weather, and deep-strike capability. TACTOM provides more flexibility and responsiveness at a significantly reduced life cycle cost compared to previous versions. Additionally, it includes flex-targeting, in-flight retargeting, and two-way communications. Tomahawk Block IV is in a full-rate, multi-year procurement for FY 2004-2008. The FY 2009 budget provides $357 million which will support a new sole-source firm fixed-price contract to continue TACTOM development and procurement.

Submarine Warfare

VIRGINIA Class Fast Attack Nuclear Submarine (SSN)

We must maintain an SSN force structure to meet current operational requirements and face potential future threats. The VIRGINIA class emphasizes affordability and optimizes performance for undersea superiority in littoral and open ocean missions.

The FY 2009 budget requests $3.6 billion for submarine construction, technical insertions, and cost reduction developments. Navy has worked closely with industry to reduce the cost per submarine and increase the build rate to two submarines per year starting in FY 2011. The Multi-Year Procurement (MYP) authority received in the FY 2008 NDAA supports an FY 2009-2013 MYP contract that will mitigate future force level deficiencies and achieve cost reduction goals through Economic Order Quantity savings and better distributed overhead costs.

ASW Programs

The Navy continues to pursue research and development of Distributed Netted Sensors (DNS); these are rapidly deployable, autonomous sensors that provide the cueing and detection of adversary submarines. Examples of technologies included in our FY 2009 request of $46 million are:

- Reliable Acoustic Path, Vertical Line Array (RAP VLA). A passive-only distributed system exploiting the deep water propagation phenomena. In essence, a towed array vertically suspended in the water column.

- Deep Water Active Distributed System (DWADS). An active sonar distributed system optimized for use in deep water.

- Deployable Autonomous Distributed System (DADS). A shallow water array, using both acoustic and non-acoustic sensors to detect passing submarines. DADS will test at sea in FY 2008.

- Littoral ASW Multi-static Project (LAMP). A shallow water distributed buoy system employing the advanced principles of multi-static (many receivers, one/few active sources) sonar propagation.

Further developing the Undersea Warfare Decision Support System (USW-DSS) will leverage existing data-links, networks, and sensor data from air, surface, and sub-surface platforms and integrate them into a common ASW operating picture. This networked approach will allow our forces to plan, conduct, and coordinate ASW operations in near real time. We are requesting $19.75 million in FY 2009 for USW-DSS.

To effectively attack the threat, the Navy has continued a robust weapons development investment plan that includes $127 million requested in the FY 2009 for capabilities, such as:

- High-Altitude ASW Weapons Concept (HAAWC). Since current maritime patrol aircraft must descend to low altitudes to deliver ASW weapons on target, they often lose communications with sonobuoys or distributed sensor fields. HAAWC will allow the aircraft to remain at high altitude and conduct effective attacks while simultaneously enabling the crew to maintain and exploit the full sensor field. This capability supports the P-8A Multi-mission Maritime Aircraft.

- Common Very Lightweight Torpedo (CVLWT). The Navy is developing a 6.75-inch torpedo suitable for use in surface ship and submarine anti-torpedo torpedo defense.

Platform Sensor Improvements. To counter the threat of quieter, modern diesel-electric submarines, we are continuing to work on both towed array and hull-mounted sonar systems. Our $512 million request in FY 2009 includes the following:

- TB-33 thin-line towed array upgrades to forward-deployed SSNs provide near-term improvement in submarine towed array reliability over existing TB-29 arrays. TB-33 upgrades are being accelerated to Guam-based SSNs.

- Continued development of twin-line thin-line (TLTL) and vector-sensor towed arrays (VSTA) are under development for mid to far-term capability gaps. TLTL enables longer detection ranges/contact holding times and it improves localization and classification of contacts. VSTA is an Office of Naval Research project that would provide TLTL capability on a single array while still obviating the bearing ambiguity issue inherent in traditional single line arrays.

21" Mission Reconfigurable Unmanned Underwater Vehicle System (MRUUVS)

21" MRUUVS is a submarine launched and recovered, reconfigurable UUV system that will provide robust, clandestine minefield reconnaissance and general ISR in denied or inaccessible

areas. The MRUUVS program has been restructured, moving IOC from Fiscal Year 2013 to 2016, when clandestine mine countermeasure capability from LOS ANGLES class submarines will be delivered. ISR capability and VIRGINIA class host compatibility could occur in follow-on increments approximately two years after IOC. FY 2009 funds $30.1 million to support the MRUUVS program.

Expeditionary Warfare

Maritime Prepositioning Force (MPF) (Future)

MPF(F) provides a scalable, joint-seabased capability for the closure, arrival, assembly, and employment of up to a Year-2015-sized Marine Expeditionary Brigade force. MPF(F) will support the sustainment and reconstitution of forces when required. MPF(F) is envisioned for frequent utility in Lesser Contingency Operations, and when coupled with Carrier or Expeditionary Strike Groups, MPF(F) will provide the nation a rapid response capability in anti-access environments.

The MPF(F) program was shifted one year to allow the Navy and Marine Corps to better define requirements prior to awarding the initial Mobile Landing Platform contract. The FY 2009 budget provides $42 million in research and development and $348 million in advanced procurement for MPF(F) LHA(R).

LEWIS & CLARK Dry Cargo/Ammunition Ship (T-AKE)

T-AKE will replace aging combat stores (T-AFS) and ammunition (T-AE) ships. Operating with an oiler (T-AO), they can substitute as a station ship, which would allow us to retire four fast combat support ships (AOE 1 Class). $962 million in FY 2009 funds the 11th and 12th T-AKE. The lead T-AKE ship was delivered in June 2006 and has completed operational evaluation (OPEVAL).

LPD 17

LPD 17 functionally replaces LPD 4, LSD 36, LKA 113, and LST 1179 classes of amphibious ships for embarking, transporting and landing elements of a Marine landing force in an assault by helicopters, landing craft, and amphibious vehicles. $103 million in the FY 2009 budget request supports the LPD 17 program.

Joint High Speed Vessel (JHSV)

The Joint High Speed Vessel (JHSV) program is an Army and Navy joint program to deliver a high-speed, shallow draft surface ship capable of rapid transport of medium payloads of cargo and personnel within a theater to austere ports without reliance on port infrastructure for load/offload. The FY 2009 budget provides $175 million to procure the first JHSV vessel.

Remote Minehunting System (RMS)

RMS uses a diesel-powered, high-endurance, off-board, semi-submersible vehicle to tow the Navy's most advanced mine hunting sonar, the AN/AQS-20A. The system will be launched, operated, and recovered from surface ships. RMS will provide mine reconnaissance, detection, classification, localization, and identification of moored and bottom mines. $49.86 million in FY 2009 supports this program.

Air Warfare

CVN 21

The CVN 21 program is designing the next generation aircraft carrier to replace USS ENTERPRISE (CVN 65) and NIMITZ-class aircraft carriers. The lead ship has been designated as the USS GERALD R. FORD (CVN 78). These ships will provide improved warfighting capability and increased quality of life for our Sailors at reduced acquisition and life cycle costs. $2.8 billion in shipbuilding funds for FY 2009 supports acquisition of CVN-78 scheduled for delivery in late FY 2015.

F-35 Joint Strike Fighter (JSF)

JSF program will develop and field a family of multi-mission strike fighter aircraft using mature/demonstrated 21st century technology to meet warfighter needs of the Navy, Marine Corps, Air Force, and international partners, including the United Kingdom, Italy, Netherlands, Denmark, Turkey, Norway, Australia, and Canada (with ongoing foreign military sales discussions with Israel, Singapore, and Spain). Navy's FY 2009 investment of $3.4 billion includes procurement of eight aircraft and continued research and development for aircraft and engine development.

P-8A Multi-mission Maritime Aircraft (MMA)

The P-8A will replace the P-3C Orion aircraft and will recapitalize the Maritime Patrol ASW, Anti-Surface Warfare, and armed ISR capabilities that currently reside in P-3 squadrons. The P-8A is the only aircraft with this operationally agile capability set. It will fulfill COCOM requirements for combat and theater security operations, and homeland defense. IOC is planned in FY 2013. $1.1 billion in funding is included in the FY 2009 budget.

EA-18G Growler

The EA-18G Growler will replace the EA-6B aircraft and provide carrier-based Airborne Electronic Attack (AEA). The inventory objective of 85 aircraft will support 10 operational carrier air wing squadrons and a Fleet Replacement Squadron. IOC will be in FY 2009. $1.8 billion supports development and procurement of 22 aircraft in FY 2009.

MV-22B Osprey

MV-22 Osprey is the Marine Corps medium-lift assault support aircraft that will replace legacy CH-46Es and CH-53Ds. Current operational projections hold CH-46Es in service through FY 2018, and CH-53Ds through FY 2013. The CH-46Es are playing a critical role in the War on Terror, flying more than four times their peacetime utilization rate making delivery of the MV-22 more critical. The MV-22's improved readiness, survivability, and transformational capability (twice the speed, three times the payload, and six times range of the airframes it is replacing) will vastly improve operational reach and capability of deployed forces. The aircraft is approved for Full Rate Production and entered a Congressionally-approved, Joint, five-year, multi-year procurement in FY 2008. The FY 2009 budget of $2.2 billion procures 30 aircraft. The total requirement is 360 MV-22s for the Marines, 48 MV-22s for the Navy, and 50 CV-22s for Special Operations Command.

F/A-18E/F Super Hornet

The Navy's next generation, multi-mission Strike Fighter provides a 40 percent increase in combat radius, a 50 percent increase in endurance, a 25 percent increase in weapons payload, three times more ordnance bring-back, and five times more survivability than F/A-18C models. Approximately 65 percent of the total procurement objective has been delivered (317 of 493). F/A-18E/F is in full rate production under a second five-year multi-year contract (Fiscal Years 2005-2009). $1.9 billion in FY 2009 procures 23 aircraft as part of that contract.

F/A-18A/B/C/D Hornet

The F/A-18 Hornet is naval aviation's principal strike-fighter. It serves the U.S. Navy and Marine Corps, as well as the armed forces of seven countries. This multi-mission aircraft has maintained its combat relevance through improvements and upgrades to weapons, communications, navigation, and defensive electronic countermeasure systems. Although the F/A-18A/B/C/D are out of production, the existing inventory of 667 Navy and Marine Corps aircraft will continue to comprise half of the carrier strike force until 2013. These aircraft are scheduled to remain in the inventory through 2022. $322 million in FY 2009 supports improvements to the F/A-18 A/B/C/D variants.

E-2D Advanced Hawkeye

The E-2D Advanced Hawkeye (AHE) program will modernize the current E-2C weapons system by replacing its radar and other aircraft system components to improve nearly every facet of tactical air operations. The modernized weapons system will maintain open ocean capability while adding transformational littoral surveillance and Theater Air and Missile Defense capabilities against emerging air threats in the high clutter, electro-magnetic interference, and jamming environments. AHE is one of four pillars of the Naval Integrated Fire Control-Counter Air capability. The FY 2009 budget of $1.1 billion procures three aircraft and funds continued research and development.

MH-60R/S Multi-Mission Helicopter

The MH-60R multi-mission helicopter program will replace the surface combatant-based SH-60B and carrier-based SH-60F with a newly manufactured airframe and enhanced mission systems. The MH-60R provides forward-deployed capabilities, including mine sweeping, surface warfare (SUW), and ASW, to defeat area-denial strategies, which will enhance the ability of the Joint force to project and sustain power. Full Rate Production was approved in March 2006. $1.2 billion in FY 2009 procures 31 aircraft.

The MH-60S supports: Carrier and Expeditionary Strike Groups in Combat Logistics, Search and Rescue, Vertical Replenishment, Anti-Surface Warfare, Airborne Mine Countermeasures, Combat Search and Rescue, and Naval Special Warfare mission areas. Armed Helicopter capability achieved IOC in FY 2007. The Airborne Mine Countermeasures capability will achieve IOC with the AWS-20 Sonar in FY 2008. $550 million in FY 2009 procures 18 aircraft.

C-40A Clipper

The C-40A Clipper is a replacement for legacy DC-9/C-9B and C-20G aircraft. It provides flexible, time-critical, and intra-theater logistical support. It will serve as a connector between strategic airlift points of delivery to Carrier Onboard Delivery and Vertical Onboard Delivery locations. The inventory objective is 17 aircraft, and nine have been purchased. $155 million in FY 2009 procures two aircraft.

CH-53K

The CH-53K Heavy Lift Replacement (HLR) is the follow on to the Marine Corps CH-53E Heavy Lift Helicopter. The CH-53K will more than double the CH-53E lift capability under the same environmental conditions. The CH-53K's increased capabilities are essential to meeting the Marine Expeditionary Brigade of 2015 Ship-to-Objective Maneuver vision. Major systems improvements of the new helicopter include larger and more capable engines, expanded gross weight airframe, better drive train, advanced composite rotor blades, modern interoperable cockpit, external and internal cargo handling systems, and survivability enhancements. The procurement objective of 156 aircraft has increased to 200 due to Marine Corps end strength growth to 202K. FY 2009 provides $571 million for research and development.

EPX (EP-3E Replacement)

EPX will replace the EP-3E as a transformational multi-intelligence platform capable of providing strike targeting to warfighters. FY 2009 provides $75 million in research and development to recapitalize the EP-3 airborne electronic surveillance aircraft. The Navy had originally partnered with Army's Aerial Common Sensor (ACS) program on this aircraft until the contract was terminated in FY 2006. After conducting further mission analysis, the Navy recognized it required significantly higher performance than that of the Army ACS program. The Navy developed the EPX program to respond to its requirement.

Broad Area Maritime Surveillance (BAMS)

BAMS is an unmanned aircraft designed to enhance Maritime Domain Awareness. It will be forward deployed, land-based, autonomously operated, and unarmed. Along with P-8A, BAMS is integral to the Navy's airborne ISR recapitalization strategy. $480 million in research and development funding in FY 2009 continues the Navy's commitment to provide a persistent multi-sensor (radar, Electro-Optical/Infra Red, Electronic Support), maritime intelligence, surveillance, and reconnaissance capability with worldwide access.

Navy Unmanned Combat Air System (UCAS)

The Navy UCAS will develop and demonstrate low observable (LO), unmanned, air vehicle suitability to operate from aircraft carriers in support of persistent, penetrating surveillance and strike in high threat areas. $276 million in FY 2009 research and development funds advance UCAS objectives.

MQ-8B Fire Scout Vertical Takeoff UAV (VTUAV)

The Navy's Vertical Takeoff and Landing Tactical UAV (VTUAV) is designed to operate from all air capable ships, carry modular mission payloads, and operate using the Tactical Control System (TCS) and Tactical Common Data Link (TCDL). VTUAV will provide day/night real time reconnaissance, surveillance and target acquisition capabilities, communications relay, and battlefield management to support the LCS core mission areas of ASW, Mine Warfare, and SUW. In May 2007, the program successfully completed a Milestone C review and was approved for Low Rate Initial Production. IOC moved from the fourth quarter of FY 2008 to the first quarter of FY 2009 due to a combination of software development delays and the availability of LCS to complete Fire Scout OPEVAL on schedule. $65 million in development and procurement funding in FY 2009 supports engineering manufacturing development, operational testing and achievement of IOC.

Joint Standoff Weapon (JSOW)

JSOW is a low-cost, survivable, air-to-ground glide weapon designed to attack a variety of targets in day/night and adverse weather conditions at ranges up to 63 nautical miles. All variants employ a kinematically efficient, low-signature airframe with GPS/INS guidance capability. A Block III improvement effort will add anti-ship and moving target capability in FY 2009. The $172 million in FY 2009 funding supports this development and continues production to build to our inventory objectives.

Decision Superiority/Networks

Consolidated Afloat Networks Enterprise Services (CANES)

CANES is evolving from the existing Integrated Shipboard Networking System (ISNS) program of record. It consolidates and enhances the requirements for five existing afloat network programs into a single support framework for all C4I applications that currently require

dedicated infrastructure. The operational need for CANES has been well defined in existing network requirements documents and in the Global Information Grid Enterprise Services/Mission Area Initial Capability Documents. CANES will capitalize on industry best practices of common hardware, unified fielding, and "plug and play" software capability to produce fiscal savings, operational flexibility, and enhanced agility to warfighting applications. $21.6 million is aligned to CANES in the FY 2009 budget, all of which was redirected from existing budget lines.

Next Generation Enterprise Network (NGEN)

NGEN Block 1 is the follow-on to the Navy Marine Corps Intranet (NMCI) and replaces the services currently provided by NMCI. Future NGEN Blocks will upgrade services provided by NMCI and the OCONUS Navy Enterprise Network. NGEN will also integrate with shipboard and Marine Corps networks to form a globally integrated, Naval Network Environment to support network operations. NGEN will leverage the Global Information Grid (GIG) and, where possible, utilize DoD enterprise services. The FY 2009 budget provides $60 million to support the NGEN program.

Information Assurance (IA)

We are tailoring our approach to IA to concentrate our personnel and resources on protecting the Navy information battlespace. Navy Information Systems Security Program (ISSP) / Computer Network Defense (CND) are the Navy's IA programs that procure secure communications equipment for Navy ships, shore sites, aircraft, the Marine Corps, and U.S. Coast Guard. ISSP and CND will defend our Navy networks in depth. This will enhance the warfighter confidence in using the network as a weapons system. Navy Information Assurance uses a layered protection strategy, using Commercial Off-The-Shelf (COTS) and Government Off-The-Shelf (GOTS) hardware and software that collectively provides an effective network security infrastructure. Our FY 2009 Budget request includes $101 million for these IA efforts.

Mobile User Objective System (MUOS)

MUOS is the next generation Ultra High Frequency (UHF) narrowband satellite communications (SATCOM) system, replacing UHF Follow-On. MUOS supports Communications-On-The-Move (COTM) to small and less stable platforms (handhelds, aircraft, missiles, UAVs, remote sensors) in stressed environments (foliage, urban environment, high sea state). MUOS will provide the communications infrastructure to facilitate command and control of a netted, distributed force with delivery of IOC in 2010. $1.03 billion in the FY 2009 budget funds the MUOS program.

COBRA JUDY Replacement (CJR)

$101.4 million funds the acquisition of a single ship-based radar suite for world-wide technical data collection against ballistic missiles. This replaces the current COBRA JUDY / USNS OBSERVATION ISLAND, which is scheduled to be removed from service in 2012. Upon achieving IOC in 2012, the Navy will transfer the CJR to the U.S. Air Force for operation and maintenance. The CJR program has entered the production stage.

Distributed Common Ground/Surface Systems (DCGS)

DCGS-N is the Navy's Intelligence, Surveillance, Reconnaissance, and Targeting (ISR&T) system. Funded at $124 million in FY 2009, DCGS-N will receive and process multiple data streams from various ISR sources to provide time-critical aim points and intelligence products. This program will enhance the warfighter's Common Operational Picture (COP) and is being fielded afloat and ashore.

Deployable Joint Command and Control (DJC2)

DJC2 is a Secretary of Defense and Chairman of the Joint Chiefs of Staff priority transformation initiative providing Combatant Commanders (COCOM) with a standardized, deployable, and scalable Joint C2 headquarters capability tailored to support Joint Task Force (JTF) operations. DJC2 enables a COCOM to rapidly deploy and activate a JTF headquarters equipped with a common C2 package with which to plan, control, coordinate, execute, and assess operations across the spectrum of conflict and disaster relief missions. This budget request of $35 million provides for operations and sustainment for the six existing systems, as well as continued research and development.

Maritime Headquarters with a Maritime Operations Center (MHQ/MOC)

The MHQ/MOC program creates a network of Navy headquarters that are trained and accredited to command Navy and Joint forces at the operational level of war. It transforms Navy operational headquarters into fully functional and scalable Command and Control Joint Task Force-capable Headquarters. It also automates and links key Navy and Joint planning processes in a globally networked environment.

Since the initiative began in FY 2008, we have validated the MHQ/MOC concept and developed architectures, processes and tasks to support its implementation. U.S. Fleet Forces Command is establishing an accreditation process and metrics. The 5th Fleet Prototype is providing operational verification of common tasks, processes and systems. The FY 2009 budget provides $35 million to support MHQ/MOC.

Cyber Asset Reduction and Security (CARS)

The Cyber Asset Reduction and Security (CARS) initiative improves network security and optimizes resources by reducing legacy networks, applications, and systems to the minimum necessary for the Navy to conduct its business. CARS has reduced the Navy's total network inventory. From January 2006 until December 2007, the Navy has reduced its networks from 1200 to 625, a 43 percent reduction. We intend to reduce them to approximately 200 by September 2010, an 83 percent reduction. Network reduction, in conjunction with efforts for data center, web site, and portal consolidation, will reduce the Navy's physical IT servers, external circuits, and applications.

TRIDENT

TRIDENT is a maritime intelligence production capability within the Office of Naval Intelligence that provides tailored, focused, timely intelligence support to Naval Special Warfare (NSW) and Joint special operations forces operating in the maritime domain. For $9.7 million in FY 2009, TRIDENT production directly supports OEF/OIF and responds to ongoing initiatives to improve intelligence support to NSW. TRIDENT has deployed four Tactical Intelligence Support Teams (TIST) in Iraq since April 2006.

Automatic Identification System (AIS)

AIS leverages commercially available technology to provide a shipboard Very High Frequency (VHF) maritime band transponder system capable of sending and receiving ship information, including navigation, identification, and cargo data. AIS improves significantly the Navy's ability to distinguish between legitimate and suspicious merchant ships. Navy warships using AIS have dramatically increased situational awareness, safety of ship, and intelligence gathering. $16 million in FY 2009 will support continued fielding of AIS to the Fleet.

Navy Enterprise Resource Planning System (Navy ERP):

Navy ERP is an integrated business management system that modernizes and standardizes Navy business operations, provides management visibility across the enterprise, and increases effectiveness and efficiency. The program will align Navy to DoD's business enterprise architecture and provide real-time, end-to-end data to enable informed decisions. The current program of record delivers functionality in three releases: financial management and acquisition, wholesale and retail supply chain management, and intermediate-level maintenance support. The FY 2009 budget provides $145 million for the Navy ERP program.

Infrastructure/Environment

Undersea Warfare Training Range (USWTR)

The proposed USWTR is a 500-square nautical mile instrumented underwater training range in shallow littoral waters on each coast. USWTR will support undersea warfare (USW) training exercises for the Atlantic and Pacific Fleet. Undersea hydrophones will provide real time tracking and a record of participants' activities to evaluate tactics, proficiency, and undersea warfare combat readiness. The instrumented area will be connected to shore via a single trunk cable.

Pending signature of the environmental Record of Decision (ROD) for the East Coast USWTR in May 2009, the Navy will commence hardware procurement in FY 2010. The west Coast Shallow Water Range is being analyzed as part of the Environmental Impact Statement for the Southern California Range Complex and the ROD is scheduled for signature in January 2009. The shallow water ranges for both coasts will be completed in FY 2015. The Navy has requested $17.6 million in FY 2009 for the program.

Facilities Recapitalization and Sustainment

Facilities Recapitalization is comprised of modernization and restoration. Modernization counters obsolescence by renewing a facility to new standards or functions without changing the facility size. Restoration includes efforts to restore degraded facilities to working condition beyond design service life or to fix damage from natural disaster, fire, etc. While MILCON is the major contributor to the Navy's recapitalization program, O&M Restoration and Modernization (RM) remains a critical contributor to recapitalizing our existing infrastructure. The FY 2009 Restoration and Modernization funding request of $300 million provides targeted investment in critical facilities.

Facilities sustainment includes those maintenance and repair activities necessary to keep facilities in working order through their design service life. The FY 2009 funding request of $1.7 billion is a funding level that maintains our facilities and retains mission capability in the short term. While the Navy has historically taken significant risk in shore infrastructure investment, we intend to reduce this risk by aggressively validating requirements through an enterprise approach based on capacity, configuration, and condition of the infrastructure and by identifying and demolishing excess infrastructure.

Marine Mammal Research/Sound in Water Effects

The Navy is committed to proactive compliance strategies to meet legal requirements. The Navy also identifies and funds marine mammal research, especially research related to mid-frequency active sonar. The Navy has requested $18.1 million for its proactive compliance efforts in FY 2009. Filling in gaps in scientific data through continued acoustic research, enhances Navy compliance with the Marine Mammal Protection Act (MMPA), Endangered Species Act (ESA), Coastal Zone Management Act (CZMA), and National Environmental Policy Act (NEPA). This research is especially important considering the increasing pressure placed on the Navy to restrict its use of active sonar, even when it adversely impacts training and readiness. In addition to MMPA standards, the Navy firmly believes that science must both define the effects of active sonar on marine mammals and also serve as the appropriate basis for mitigation measures that ensure a proper balance between national security and protection of natural resources.

NIMITZ-Class Refueling Complex Overhaul (RCOH)

RCOH subjects NIMITZ-class aircraft carriers to comprehensive modernization upgrades, maintenance, and nuclear refueling to extend the service life of NIMITZ-class carriers to approximately 50 years. This is nearly 20 years longer than the originally planned service life. Execution of RCOH is required to maintain an 11 aircraft carrier force. A notional RCOH consists of 3.2 million man-days and a 36-month industrial period conducted at Northrop Grumman Newport News, Virginia. USS CARL VINSON (CVN 70) is on track to complete RCOH in March 2009. FY 2009 funding of $628 million primarily supports RCOH for USS THEODORE ROOSEVELT.

Utilities Privatization (UP)

The Navy and Marine Corps have 645 utilities systems that are eligible for privatization on 135 activities/installations worldwide. Five hundred seventeen (80 percent) of these systems have reached Source Selection Authority (SSA) decisions. Of the 517 systems, 410 have been determined to be exempt, 28 have been awarded for privatization and 79 are being processed for exemption or award. 128 systems are still being reviewed for an SSA decision. $1.3 million requested in our FY 2009 budget supports these ongoing initiatives.

BRAC 2005

The DoN BRAC Program Management Office (BRAC PMO) manages and oversees the DoN prior BRAC and BRAC 2005 actions and budget. The BRAC PMO oversees the efforts of Commander, Navy Installation Command (CNIC) and Commandant of the Marine Corps (CMC) realignment and closure efforts, and is responsible for completing property disposal and environmental remediation actions. The Navy is coordinating with other Services and agencies to support implementation of Joint actions.

The DoN BRAC program provides $871 million in FY 2009 to continue implementation of BRAC actions. The FY 2009 program finances construction (including planning and design), operational movements at key closure and realignment locations, and the necessary environmental studies at receiving locations to fulfill National Environmental Policy Act (NEPA) requirements.

U.S.-Japan Realignment Roadmap on Guam

On May 1, 2006, the U.S. Japan Security Consultative Committee (SCC) approved the relocation of approximately 8,000 personnel for 3rd Marine Expeditionary Force and their 9,000 dependents from Okinawa Japan to Guam by 2014 as outlined in the U.S.-Japan Realignment Roadmap. The Roadmap stipulates that Japan will pay up to $6.09B of the estimated $10.3B cost for Guam facilities. The Secretary of Defense directed the Secretary of the Navy to work with the Secretaries of the Air Force, Army, Chairman of the Joint Chiefs of Staff, and PACOM, to establish a Joint Guam Program Office (JGPO) to facilitate, manage, and execute requirements for rebasing the Marines from Okinawa to Guam. The FY 2009 budget request of $33.8 million continues planning and development for a National Environmental Policy Act (NEPA)-required Environmental Impact Statement (EIS).

Family Housing

Family housing supports readiness by providing Sailors and their families suitable, affordable, and safe housing. The Navy's housing strategy includes reliance on private sector housing, public/private ventures, and military construction. By the end of FY 2007, 95 percent of CONUS family housing had been privatized. Eighteen privatization projects have been awarded for 40,355 homes. To date, Navy has secured $4.9 billion in private sector investment from $277 million of Navy funds; a leverage ratio of 18:1. The agreements now in place will result in

the elimination of the last inadequate house by 2011. The FY 2009 budget provides $462 million to support family housing.

Global Force Posture Review

As part of the Navy's ongoing contribution to the Defense Department's initiative to transform the US global defense posture, the Navy conducted its own agility assessment of the strategic placement of its aircraft carrier force. This assessment is aligned with the Quadrennial Defense Review (QDR) decision to build a Fleet that includes 11 CSGs. It is also consistent with the movement of other Service capabilities away from an Atlantic focus. As indicated in the 2006 QDR, the principle move for the Navy will be to assure the availability of six operational nuclear-powered aircraft carriers in the Pacific theater "to support engagement, presence, and deterrence." The Navy continues to review current and alternate carrier ports to ensure the strategic Navy force disposition will promote a forward-leaning nuclear-powered carrier force that will strengthen our engagement and shaping capabilities, reassure our allies, and deter potential conflicts.

Child Development Centers

Navy Child Development and Youth Programs provide quality care for over 98,000 children through 131 Child Development Centers, 103 Youth Development Programs, 3,021 Child Development Homes, and 86 School Age Care Programs. The average waiting time for childcare is six months in non-Fleet concentration areas and up to 12 months in Fleet concentration areas. FY 2009 budget request increases the number of child care spaces by 5,270 to provide service to 80 percent of potential need. The FY 2009 funding supports the construction of new Child Development Centers, the use of interim modular classrooms, the expansion of Child Development Home program, and additional contract civilian spaces.

Manpower

Human Intelligence (HUMINT)

The Navy continues to revitalize its HUMINT capability. The Navy's goal is to field a professional cadre of HUMINT collectors and to support personnel capable of executing the full range of HUMINT source operations in support of naval and national requirements. In conjunction with the Naval Criminal Investigative Service, the Navy continues to move forward with establishing a world-wide HUMINT program capable of successfully meeting the emerging threats in the 21st century. In the past year, Navy has successfully deployed its first tactical HUMINT teams into Iraq and experienced a very high success rate in the Al-Anbar province. Meanwhile, elements of the Office of Naval Intelligence continue to facilitate the exchange of Maritime Domain Awareness information between U.S. Navy and regional security partners. These elements provide maritime-focused collection capability that can capitalize on regional opportunities to further prosecute OEF/OIF and carry out other important missions. Naval Maritime Interdiction Operations Intelligence Exploitation Teams (MIO-IET) continue to increase on-scene intelligence collection and exploitation during MIO boardings. The FY 2009 budget provides $17 million to support HUMINT and MIO-IET efforts.

AFRICOM

On December 15, 2006, the President directed the establishment of a Unified Command for Africa no later than October 1, 2008. The Secretary of Defense issued follow-on AFRICOM Implementation Guidance (AIG) outlining the necessary requirements and details to include stand up of a Sub-Unified Command under USEUCOM by October 1, 2007. The primary roles of the command are non-kinetic missions for security cooperation; humanitarian relief; stability, security, transition, and reconstruction activities (SSTR); partnership capacity; and MIL-to-MIL activities.

The Navy has filled the IOC requirement of 33 Navy billets. We also intend to fill our portion of the FOC manpower requirements for USAFRICOM in addition to approximately 100 billets for the associated Naval Component Command.

Language, Regional Expertise & Culture (LREC)

Achieving Navy's maritime strategy depends in part on our ability to communicate with and comprehend adversaries, allies, and partners. Consistent with the Defense Language Transformation Roadmap and the Navy Strategic Plan (NSP), the program incentivizes language proficiency, increases regional content in Navy Professional Military Education (NPME), and provides non-resident language instruction to all Sailors and delivers in-residence training to more officers. $51.1 million requested in FY 2009 continues existing efforts and begins new initiatives of enhanced non-resident and resident language training.

Navy Education

Professional Military Education (PME)

Our fully fielded PME continuum provides career-long educational opportunities for professional and personal development that support mission capabilities. It contributes significantly to the development of 21st century leaders who have the capacity to think through uncertainty; develop innovative concepts, capabilities, and strategies; fully exploit advanced technologies, systems, and platforms; understand cultural/regional issues; and conduct joint operations.

Navy PME (NPME), with Joint PME embedded at every level, provides a common core of knowledge for all Sailors. A primary level program was implemented via distance learning in June 2006. The initial targeted audience is junior unrestricted line officers and senior enlisted Sailors. Introductory and basic level PME courses for more junior Sailors were fielded in January 2008. Our FY 2009 request of $180.2 million allows the continuation of career-long educational opportunities for our Sailors.

Joint Professional Military Education (JPME)

JPME teaches the principles of Joint warfare and prepares leaders to conduct operations as a coherent Joint force. Our path enhances our belief in the value of jointness and systematically develops Navy leaders who are strategically minded, capable of critical thinking, and skilled in naval and Joint warfare. PME completion is linked with career progression. For example, intermediate-level PME with JPME Phase I is required for

screening unrestricted line officers for command beginning in FY 2009. In August 2006, the Naval War College implemented in-residence instruction of JPME Phase II into the senior-level course. To support Maritime Component Commanders, the Naval War College has also implemented the Maritime Staff Operations Course to strengthen maritime and joint planning and war fighting.

The Naval Reserve Officers Training Corps (NROTC)

The NROTC program comprises 59 active units at 71 host institutions of higher learning across the nation. With $178 million requested in FY 2009, the program is adequately funded to provide four and two year scholarships to qualified young men and women to help prepare them for leading increasingly technical Navy and Marine Corps organizations as commissioned officers. The program continues to be a key source of nuclear power candidates and nurses and it increases officer corps diversity. We are increasing strategic foreign language skills and expanding cultural awareness among NROTC Midshipmen as well.

The United States Naval Academy

The Naval Academy is our naval college and it prepares young men and women morally, mentally, and physically to become professional officers of competence and character in the U.S. Navy and Marine Corps. Midshipmen attend the academy for four years. They graduate with a Bachelor of Science degree from one of 21 subject areas and are commissioned as Ensigns in the Navy or Second Lieutenants in the Marine Corps. The Naval Academy offers one of the most socially diverse educational experiences in America. Midshipmen come from all fifty states, forty-eight countries, and represent a mix of races, socio-economic groups, and religions. Naval Academy graduates serve at least five years in the Navy or Marine Corps. Renowned for producing officers with solid technical and analytical foundations, the Naval Academy is expanding its capabilities in strategic languages and regional studies. The $128.6 million requested in the FY 2009 budget supports the Naval Academy mission.

The Naval Postgraduate School (NPS)

NPS is the Navy's principal source for graduate education. It provides Navy and defense-relevant, degree and non-degree, resident and nonresident, programs to enhance combat effectiveness. NPS provides essential flexibility for students to satisfy Navy and DoD emergent research needs. The flexibility also helps develop warfighters whose demanding career paths and deployment cycles can make graduate education opportunities difficult to achieve. NPS supports Navy operations through naval and maritime research and maintains an expert faculty capable of working in, or serving as, advisors to operational commands, labs, systems commands, and headquarters. The $92.3 million requested in FY 2009 sustains this unique national asset, provides lab upgrades, and increases opportunities for distance learning.

The Naval War College (NWC)

The Naval War College provides professional maritime and joint military education, advanced research, analysis, and gaming to educate future leaders. Its mission is to enhance the professional capabilities of U.S. and international students to make sound decisions in command, staff and management positions in naval, joint, and multinational environments. The College also contributes to the evolution and establishment of international relationships and building Global Maritime Partners. The faculty, staff, and students support combat readiness through developing expertise at the operational level of war. The $63 million requested in FY 2009 supports increased support of Joint Forces Maritime Component Command/Coalition Forces Maritime Component Command analysis and gaming capability, the China Maritime Studies Institute, initial investment for MHQ/MOC, support for JPME I and JPME II accreditation, funding for JPME I at the Naval Postgraduate School, and for NWC Maritime Staff Operations curriculum development.

Enlisted Retention (Selective Reenlistment Bonus)

Sailors are the Navy, and retaining the best and brightest Sailors has always been a Navy core objective and key to success. We retain the right people by offering rewarding opportunities for professional growth, development, and leadership. With reenlistment rates returning to historic levels after peaking in FY 2003, current reenlistment efforts are focused on shaping and stabilizing the force. Selective Reenlistment Bonuses (SRBs) are a key tool enabling us to offer attractive incentives to selected Sailors we want to retain. $359.6 million requested in FY 2009 will provide for over 76,000 new and anniversary payments and ensure the Navy will remain selective in FY 2009.

Sexual Assault Victim Intervention (SAVI)

SAVI has three major components: awareness and prevention education, victim advocacy and intervention services, and collection of reliable data on sexual assault. Per the FY 2005 National Defense Authorization Act requirements, the Navy SAVI Program was transitioned from a program management to case management focus. Existing installation program coordinator positions were increased and became Sexual Assault Response Coordinators (SARCs), which is a standard title and position across the Department of Defense. SARCs are accountable for coordinating victim care/support and for tracking each unrestricted sexual assault incident from initial report to final disposition. Navy also provides 24/7 response capability for sexual assaults, on or off an installation, and during deployment through the use of Victim Advocates who report to installation SARCs. The $6.2 million requested in the FY 2009 budget enables us to maintain this expanded SAVI program fleet-wide.

Family Advocacy Program (FAP)

The FAP addresses prevention, identification, reporting, evaluation, intervention, and follow-up with respect to allegations of child abuse/neglect and domestic abuse involving active duty and their family members or intimate partners. Maintaining abuse-free and adaptive family

relationships is critical to Navy mission readiness, maintenance of good order and discipline, and quality of service for our active duty members and their families.

RC Sailors, when activated or in a drill status, fall under the guidelines of DON Family Advocacy Program policy and have access to Navy programs until 18 months after deactivation. They also have access to Fleet and Family Support programs, which include new parent support and other prevention programs. FAP ensures proper balance for our Sailors' physical and mental health.

Sea Warrior Spiral 1

Sea Warrior comprises the Navy's training, education, and career management systems that provide for the growth and development of our people. The first increment, or "Spiral 1", of Sea Warrior is Interactive Detailing. This system allows Sailors to have greater insight and involvement in identifying and applying for Navy positions of interest to them professionally and personally. Spiral 1 Sea Warrior is a funded Navy program and its development follows a standard, rigorous acquisition engineering and program management processes. Additional Sea Warrior spirals will be developed in accordance with future capability needs and as clear requirements are defined.

In 2007 we fielded the first version of the Career Management System (CMS) with Interactive Detailing. This new system allows Sailors ashore to review their personal and professional information, view available jobs, and submit their detailing preferences through their career counselors. The next step is to provide the same to Sailors on ships. This portion of the system has been tested in the laboratory and is in the process of being installed and tested on selected ships.

The successful development and testing of these increments of additional functionality to the CMS system are the first steps in achieving our vision of enabling all Sailors to review available jobs and submit their own applications for their next assignment (consistent with policy and access) by June of 2009.

Health Care

Combat Casualty Care

Combat casualty care is provided by Navy medical personnel assigned to and serving with Marine Corps units in Expeditionary Medical Facilities, aboard casualty receiving/treatment ships and hospital ships, and in military and VA hospitals. A full range of health services to support the war fighter is provided in this integrated continuum of care, from the battlefield to our CONUS hospitals. We are redesigning Expeditionary Medical Facilities to become lighter, more mobile, and interoperable in a Joint environment.

Recent advances in force protection, battlefield medicine, combat/operational stress control, and medical evacuation have led to improved survival rates and enhanced combat effectiveness. Since the start of OEF/OIF the Marine Corps has fielded new combat casualty care capabilities, including: updated individual first aid kits with QuikClot and advanced tourniquets, robust

vehicle first-aid kits for convoy use, and Combat Lifesaver training. Navy Medicine leads advanced technology research for the development of new systems to provide forward resuscitative surgery, en route care, and the use of innovative technologies.

Post Traumatic Stress Disorder (PTSD)

Though there has been a slight increase in new cases since FY 2003, the prevalence of PTSD remains about one percent of the total Navy active duty population. The number of cases of PTSD in active duty Sailors was 1,046 in FY 2003, 964 in FY 2004, 1,221 in FY 2005 1,280 in FY 2006, and 1,399 thru September 12, 2007. To reflect recent advancements in prevention and treatment of stress reactions, injuries, and disorders, the Navy/Marine Corps Combat/Operational Stress Control (COSC) doctrine is under revision and becomes effective in April 2009.

Quality Medical Care

Navy Medicine provides high quality, compassionate, cost-effective care. This care is a worldwide continuum from those wounded in battle to those operationally deployed, to those in garrison support, and to those who have retired from the uniformed service. Navy Medicine is continuously assessing its medical capabilities to improve and has adjusted to ensure the right health care capabilities are deployed as far forward as possible. These improvements are based on experience, lessons learned, and on requirements mandated by the warfighter. Changes have been made in the training of the physicians, nurses, and corpsmen who first encounter injured service members and in treatment methods. Recruitment and retention of health professionals remains a major focus.

Post-Deployment Health Care

Navy Medicine has developed new delivery models for deployment-related concerns and is working with the Office of Seamless Transition to improve coordination with the VA. Navy Medicine has established 17 Deployment Health Centers (DHC) as non-stigmatizing portals of care for service members and their families in areas of Fleet and Marine concentration. These centers support operational commands in ensuring medical care for those returning from deployment.

SUMMARY STATEMENT OF GENERAL CONWAY

General CONWAY. Chairman Murtha, Congressman Young and distinguished Members of the Committee, I pledge to always provide you with forthright and honest assessments of your Marine Corps. I bear that in mind as I come to report to you on the posture today of our Service.

In your written statement, I provided you a list of priorities that would enable your Corps to best serve our Nation's security interests both today and in the uncertain future. But, in brief, our young warriors in combat are my number one priority. Those magnificent patriots have been extremely effective in disrupting insurgents and the al Qaeda in the al-Anbar Province.

In the spirit of jointness, I must note that it is not just Marines; rather Marines, Sailors and Soldiers are composite over time that has brought success in the al-Anbar. Your Marines are still supporting the surge in Iraq where we have already shifted from population to protection to transitioning security responsibilities to Iraqi security forces, and they are actively stepping up to the task.

In answer to the most recent call from the Secretary of Defense, we are also deploying more than 3,400 Marines to Afghanistan. Your Marines will assist a joint force in either gaining or maintaining momentum there. We fall in on our expeditionary ethos of living hard and fighting well as part of an air-ground team. This deployment will keep us at surge levels well into October.

I have just returned from a visit to Iraq and Afghanistan, and, ladies and gentlemen, I am pleased to report to you that your Marines are demonstrating an amazing resiliency in the face of multiple deployments to dangerous lands. In spite of one-to-one deployment-to-dwell regimen that has virtually no chance of getting better until the fall, the factors that we track monthly to determine the health of the force, and those include desertion and UA rates, suicide, divorce, child or spousal abuse and reenlistment rates, are all as good or better than they were in 2001.

We do have a significant issue with our families. Simply put, they are proud of their contributions to this war, but they are tired. We owe it to those families to put our family service programs onto a wartime footing. For too long our programs have been borne on the backs of volunteers, perhaps acceptable during peacetime, but untenable during a protracted conflict. The Congress has been exceptionally supportive, enabling us to make good on promises to do more.

Of course, we look well beyond today in our obligation to the Nation, and we have learned lessons of trying to build the force as we fight. In our response to a clear need, we are growing the Corps to 202,000 Marines. We do this without lowering our standards, and we are ahead of our goals. During the last fiscal year, we needed to bring aboard 5,000 additional recruits. We actually grew 7,000 additional Marines, 96.2 percent of them high school graduates.

But more than just manpower, this growth requires training, infrastructure and equipment to meet the needs of our Nation. You have helped us meet those requirements with steady support and encouragement, and for that we certainly thank you.

The Marine Corps retains the mission to provide the multi-capable force for our Nation, a two-fisted fighter, if you will, able to destroy enemy formations with our air-ground team in a major contingency, but also able to fall back on our hard-earned irregular warfare skills honed over decades of conflict. By far the most complex of our congressionally mandated missions, amphibious operations require deliberate training and long-term resourcing to achieve a high level of proficiency. The operational expertise, special equipment sets and amphibious lift are not capabilities that we can rapidly provide in the face of a threat.

Finally, on behalf of your Marines, I extend great appreciation for your support thus far, and I thank you in advance for those efforts on behalf of your brave Service men and women in harm's way. I assure you that the Marine Corps appreciates the increasing competition for the Nation's discretionary resources and will continue to provide a tangible return on every dollar spent. Thank you, Mr. Chairman, for the opportunity to comment.

Mr. MURTHA. Thank you very much.

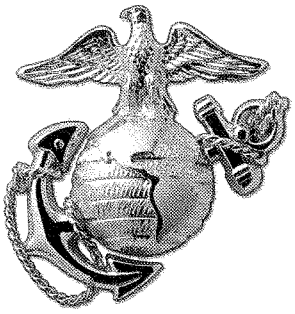
[The statement of General Conway follows:]

Statement of

General James T. Conway
Commandant of the Marine Corps

Before
House Appropriations Committee
Subcommittee on Defense

THE POSTURE OF THE UNITED STATES MARINE CORPS



2008

General James T. Conway

Commandant of the States Marine Corps

General Conway was born in Walnut Ridge, Arkansas and is a graduate of Southeast Missouri State University. He was commissioned in 1970 as an infantry officer. His company grade assignments included multiple platoon and company commander billets with both the 1st and 2nd Marine Divisions; Executive Officer of the Marine Detachment aboard the USS KITTY HAWK (CVA-63); series and company commander at the Marine Corps Recruit Depot in San Diego; aide to the Commanding General, and Director, Sea School.

As a field grade officer, he commanded two companies of officer students and taught tactics at The Basic School; he also served as operations officer for the 31st Marine Amphibious Unit to include contingency operations off Beirut, Lebanon; and as Senior Aide to the Chairman, Joint Chiefs of Staff. Promoted to Lieutenant Colonel, he was reassigned to the 2d Marine Division as Division G-3 Operations Officer before assuming command of 3d Battalion, 2d Marines in January 1990.

He commanded Battalion Landing Team 3/2 during Operations DESERT STORM and DESERT SHIELD. Selected for colonel, he served as the Ground Colonels' Monitor, and as Commanding Officer of The Basic School. His general officer duties included Deputy Director of Operations, J-34, Combating Terrorism, Joint Staff, Washington, D.C.; and President, Marine Corps University at Quantico, VA. After promotion to major general, he assumed command of the 1st Marine Division. In November 2002, Major General Conway was promoted to lieutenant general and assumed command of the I Marine Expeditionary Force. He commanded I Marine Expeditionary Force during two combat tours in Iraq. In 2004, he was reassigned as the Director of Operations, J-3, Joint Staff, in Washington, D.C.

General Conway graduated with honors from The Basic School, the U.S. Army Infantry Officers' Advanced Course, the Marine Corps Command and Staff College and the Air War College.

General Conway's personal decorations include the Defense Distinguished Service Medal with palm, Navy Distinguished Service Medal, Legion of Merit, Defense Meritorious Service Medal, Meritorious Service Medal with two Gold Stars, Navy Commendation Medal, Navy Achievement Medal and the Combat Action Ribbon.

Executive Summary

Chairman Murtha, Congressman Young, and Distinguished Members of the Subcommittee; I have pledged to always provide you forthright and honest assessments of your Corps. I bear that in mind today as I report to you on the posture of your Corps.

Your Marine Corps is fully engaged in what we believe is a generational struggle against fanatical extremists; the challenges we face are of global scale and scope. This Long War is multi-faceted and will not be won in one battle, in one country, or by one method. Your Marines are a tough breed and will do what it takes to win—not only in these opening battles of Iraq and Afghanistan, but also in the subsequent conflicts which we endeavor to prepare for today.

In the face of great hardship, your Marines have made a positive and selfless decision to stay resolved. More than 332,000 Marines have either enlisted or re-enlisted since September 11, 2001; more than 208,000 have deployed to Iraq or Afghanistan—a telling number for a force of less than 200,000 Marines. Make no mistake, they joined or decided to re-enlist knowing they would go into harm's way.

They have answered the Nation's call and are fully engaged in this fight—serving with distinction as the professionals they are. It falls on us, then, to fully support them—we owe them the full resources required to complete the tasks ahead. Now more than ever, they need the sustained support of the American people and the Congress to provide them the help they need to fight today's conflict, prepare for tomorrow's, and fulfill our commitment to our Marine families.

Without question, Marines in combat are our number one priority. Taken as a whole, combat operations are indeed stressing our forces and families. That said, the Marine Corps will not fail her country when called. In fact, in answer to the most recent call to provide ready forces to serve our Nation, the Marine Corps is deploying more than 3,200 Marines to Afghanistan in addition to supporting ongoing surge operations in Iraq and other force requirements worldwide.

It is with these great men and women in mind that the Marine Corps has shaped its priorities—which are enduring and serve not only the conflict of today, but also the inevitable crises that will arise in our Nation's future. Through this budget request, we seek to:

Right-size the Marine Corps for today's conflict and tomorrow's uncertainty. To fulfill our obligations to the Nation, the Marine Corps will grow its personnel end strength to 202,000 Active Component Marines by the end of Fiscal Year 2011. This increase will enable your Corps to train to the full spectrum of military operations and improve the ability of the Marine Corps to address future challenges of an uncertain environment. Our growth will enable us to recover our ability to respond in accordance with timelines outlined in Combatant Commander war plans—thereby, reducing operational risk. More than just manpower, this growth will require training, infrastructure, and equipment to meet the needs of our Nation.

Reset the force and prepare for the next contingency. To meet the demands of this war, we must reset the force so that we can simultaneously fight, train, and sustain our Corps. The Long War is taking a considerable toll on our equipment, and we continue to make tough choices on how best to apply the resources we are provided. Congress has responded rapidly and generously to our requests for equipment and increased protection for our Marines and Sailors. We are committed to fulfilling our responsibility to manage these resources prudently as we modernize our force.

Modernize for tomorrow to be "the most ready when the Nation is least ready." Congressionally-mandated to be "the most ready when the Nation is least ready," your multi-capable Corps is committed to fulfilling this responsibility. We remain focused and steadfast in our responsibility to be the Nation's premiere expeditionary Force-in-Readiness. To do so, we continue to adapt our organization and equipment to provide our country the best Marine Corps in the world.

Provide our Nation a naval force that is fully prepared for employment as a Marine Air Ground Task Force across the spectrum of conflict. The newly published Maritime Strategy reaffirms our naval character and reemphasized our enduring relationship with the Navy and, now, Coast Guard. Current operations limit our ability to aggressively commit forces to strategy implementation at this time. However, as we increase our end-strength to 202,000 Marines and as security conditions continue to improve in Iraq, the Marine Corps will transition our forces to other battles in the Long War. The most complex mission in the Maritime Strategy is the

Congressionally-mandated mission of amphibious forcible entry. Such an operation requires a high level of proficiency and long-term resourcing and is not a capability that we can create on short notice.

Take care of our Marines and their families. Our most precious asset is the individual Marine. Our Marines and families have been steadfast and faithful in their service to our country, and we have an equally enduring obligation to them. As such, we are committed to putting our family programs on a wartime footing—our Marines and families deserve no less.

Posture the Marine Corps for the future beyond the horizon. The United States faces a complex mix of states who sponsor terrorism, regional and rising peer competitors, failing states that undermine regional stability, and a variety of violent non-state actors—all serving to destabilize legitimate governments and undermine security and stability of the greater global community. We see this global security context as a persistent condition for the foreseeable future.

The Marine Corps continues to create a multi-capable force for our Nation —not only for the current operations in Iraq and Afghanistan, but also for subsequent campaigns of the Long War. We are committed to ensuring we remain where our country needs us, when she needs us, and to prevail over whatever challenges we face.

On behalf of your Marines, I extend great appreciation for your support thus far and thank you in advance for your ongoing efforts to support our brave service men and women in harm's way. I promise you that the Corps understands the value of each dollar provided and will continue to provide maximum return for every dollar spent.

James T. Conway
General, U.S. Marine Corps
Commandant of the Marine Corps

I. Marines and Sailors in Combat are our Number One Priority

Marines in the operating forces have been pushed hard by the tempo and frequency of operational deployments; yet, their morale has never been higher—because they believe they are making a difference. Thanks to the Congress, your Marines know that the people of the United States and their Government are behind them. Your support has been exceptional—from the rapid fielding of life-saving equipment to the increase of Marine Corps end strength. With your continued support, your Marines will continue to make progress in their mission.

USMC Commitments in the Long War

Over the past year, your Marines deployed to all corners of the globe in support of our Nation. With more than 24,000 Marines deployed throughout the U.S. Central Command's Area of Responsibility, Operations IRAQI FREEDOM (OIF) and ENDURING FREEDOM (OEF) remain our largest commitment. The Marine Corps continues to support surge operations in Iraq in the form of two additional infantry battalions and the enabling forces that accompany them. As part of the Marine Air Ground Task Force in Iraq, these forces have proven extremely effective in the disruption of insurgent activities in the Al Anbar province.

As part of these forces, Marine Corps provides more than 250 personnel to OEF-Afghanistan. Approximately 100 of these Marines are members of a Marine Special Operations Company that routinely engages in combat operations with partnered Afghan and U.S. Special Forces units. The remaining Marine complement to Afghanistan forms the nucleus of seven Embedded Training Teams (ETTs); these detachments provide strong mentorship to Afghan National Army units in the continuing fight against the Taliban.

Taken as a whole, these recurring commitments of Marine forces in support of combat operations is indeed a stressing challenge on our forces and families. That said, the Marine Corps is fully cognizant of the regional and global effects of progress in Iraq, Afghanistan, and the Middle East. In fact, in answer to the most recent call to provide ready forces to serve our Nation, the Marine Corps is deploying a Marine Expeditionary Unit (MEU)-sized Marine Air Ground Task Force and an additional Battalion to conduct combat operations in Afghanistan. These 3,200 Marines are in addition to surge operations in Iraq and other force requirements worldwide.

The Marine Corps also deployed forces to participate in over sixty Theater Security Cooperation events, which ranged from small Mobile Training Teams in Central America to Marine Expeditionary Unit exercises in Africa, the Middle East, and the Pacific. The Marine Corps also took part in civil-military and humanitarian assistance operations such as New Horizons events in Nicaragua, land mine removal training in Azerbaijan, and disaster relief in Bangladesh after a devastating cyclone.

II. Right-size the Marine Corps for Today's Conflict and Tomorrow's Uncertainty

To meet the demands of the Long War, as well as the unforeseen crises that will inevitably arise, our Corps must be sufficiently manned, well trained, and properly equipped. Like the Cold War, the Long War is a long-term struggle that will not be measured by the number of near-term deployments or rotations; it is this long-term view that informs our priorities and plan for growth.

To fulfill our obligations to the Nation, the Marine Corps will grow its personnel end strength to 202,000 Active Component Marines. This increase will enable your Corps to train to the full spectrum of military operations and improve the ability of the Marine Corps to address future challenges of an uncertain environment. Our growth will enable us to recover our ability to respond in accordance with timelines outlined in Combatant Commander war plans—thereby, reducing operational risk.

Current wartime deployment rates dictate an almost singular focus to prepare units for their next rotation and counterinsurgency operations. This focus and the deployment rate of many units threaten to erode the skills needed for Marine Corps missions such as combined-arms maneuver, mountain warfare, and amphibious operations. Our deployment cycles must not only support training for irregular warfare, but also provide sufficient time for recovery and maintenance as well as training for other contingency missions. By increasing dwell time for our units, we can accomplish the more comprehensive training needed for the sophisticated skill sets that have enabled Marine Air Ground Task Forces to consistently achieve success in all types of operations.

Just as importantly, this growth will relieve strain on those superb Americans who have volunteered to fight the Nation's battles. We must ensure that our personnel policies, organizational construct, and training enable our Marines to operate at the "sustained rate of fire." This means that we must have sufficient dwell time, equipment for training, and resources for our Marines *and their families* to sustain their efforts over time. Our recently begun growth to 202,000 Marines will significantly enhance our ability to operate at the "sustained rate of fire."

Our goal, during the Long War, is to achieve a 1:2 deployment-to-dwell ratio for all of our active forces; for every seven months a Marine is deployed, he or she will be back at home station for fourteen months. Right now, many of our forces are at a 1:1 deployment-to-dwell ratio or less—which cannot be sustained in the long-term. We also aim to implement a 1:5 deployment to dwell ratio for our reserve forces and, eventually, achieve a peacetime deployment-to-dwell ratio goal is 1:3 for our active forces.

As we grow, we will develop all the elements of our Marine Air Ground Task Force in a balanced manner to meet the diverse challenges of an uncertain future. This growth includes:

- An increase in our end strength to 202,000 Marines;
- Adequate expansions of our infrastructure to provide for our Marines, their families, and their equipment; and
- The right mix of equipment for the current and future fight.

This additional end strength will result in three Marine Expeditionary Forces—balanced in capacity and capability. The development of Marine Corps force structure has been the result of a thorough and ongoing process that supports the Combatant Commanders and accomplishes our Title 10 responsibilities. The process addresses all pillars of combat development (Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel, and Facilities) and identifies our required capabilities and the issues associated with fielding them. The most recent assessment revealed a requirement to front-load structure for recruiters and trainers to support our personnel growth and a phased introduction of units balanced across the Marine Air Ground Task Force.

In Fiscal Year 2007, we stood up two infantry battalions: 1st Battalion, 9th Marines and 2nd Battalion, 9th Marines. We also added capacity to our combat engineer battalions and air naval gunfire liaison companies. Our plan will gradually improve the deployment-to-dwell ratio of some of our other habitually high operational tempo units—such as military police, unmanned aerial vehicle, helicopter, air command and control, combat service support, and explosive ordnance disposal units.

Growing the Marine Corps as we simultaneously fight the Long War is a challenge, but we are committed to being the best stewards of the Nation's resources and working with the Congress to achieve these important goals.

Growing to 202K Marines

The Marine Corps surpassed its Fiscal Year 2007 authorized end strength goal of 184,000 and is on track to meet the goal of 189,000 Marines for Fiscal Year 2008 as well as our target end strength of 202,000 Marines by Fiscal Year 2011.

Recruiting. A vital factor in sustaining our force and meeting end strength goals is continuing to recruit qualified young men and women with the right character, commitment, and drive to become Marines. With over 70 percent of our end strength increase comprised of Marines on their first enlistment, our recruiting efforts are a critical part of our overall growth.

While exceeding Department of Defense quality standards, we continue to recruit the best of America into our ranks. In Fiscal Year 2007, the Marine Corps achieved over 100 percent of the Active Component accession goal necessary to grow the force as well as 100 percent of our reserve recruiting goals. We reached this goal without compromising the high quality standards the American people expect of their Marines.

We forecast that both active and reserve recruiting will remain challenging in Fiscal Year 2008, particularly given the increased accession missions needed to meet our end strength growth. We will need the continued indispensable support of Congress to sustain our existing programs and other incentives essential to achieving our recruiting mission.

Retention. Retention is the other important part of building and sustaining the Marine Corps. As a strong indicator of our force's morale, the Marine Corps has achieved unprecedented numbers of reenlistments in both the First Term and Career Force. The expanded reenlistment goal, in which we sought to reenlist over 3,700 additional Marines, resulted in the reenlistment of 31% of our eligible First Term force and 70% of our eligible Career Force—compared to the 22% first term and 65% career force reenlistments in Fiscal Year 2006. This achievement was key to reaching the first milestone in our end strength increase – 184,000 Marines by the end of Fiscal Year 2007—without sacrificing our high quality standards. In fact, a recent Center for Naval Analyses study concluded that the quality of our First Term force who reenlist has improved steadily since Fiscal Year 2000.

For Fiscal Year 2008, our retention goals are even more aggressive, but we fully expect to meet them. Our continuing success will be largely attributable to several important enduring themes. First, Marines are motivated to "stay Marine" because they are doing what they signed up to do—fighting for and protecting our Nation. Second, they understand our culture is one that rewards proven performance; our Selective Reenlistment Bonuses are designed to retain top quality Marines with the most relevant skill sets.

There is no doubt that your Marines' leadership and technical skills have rendered them extremely marketable to lucrative civilian employment opportunities. To retain the most qualified Marines, we must maintain Selective Reenlistment Bonus (SRB) funding. In Fiscal Year 2007, the Marine Corps spent approximately $460M in SRB and Assignment Incentive Pay (AIP) to help achieve our end strength goal. With a reenlistment mission of 17,631 in Fiscal Year 2008—compared to an historical average of 12,000—the Marine Corps expects to spend approximately $500M in reenlistment incentives during Fiscal Year 2008.

This aggressive SRB plan will allow us to retain the right grade and skill sets for our growing force—particularly among key military occupational specialties. The continued support of the Congress will ensure we have the necessary combat-trained Marines for the Long War and other contingency operations.

Reserve Component End Strength. Our fights thus far in Iraq and Afghanistan have been a Total Force effort—our Reserve forces continue to perform with grit and determination. Our goal is to obtain a 1:5 deployment-to-dwell ratio within our Reserve Component. As our active force increases in size, our reliance on our Reserve forces should decrease—helping us achieve the desired deployment-to-dwell ratio. We believe our current authorized end strength of 39,600 Selected Marine Corps Reserves is appropriate. As with every organization within the Marine Corps, we continue to review

the make-up and structure of our Reserve in order to ensure the right capabilities reside within the Marine Forces Reserve units and our individual Mobilization Augmentee program.

Military-to-Civilian Conversions. Military-to-civilian conversions replace Marines in non-military-specific billets with qualified civilians, enabling the Corps to return those Marines to the operating forces. Since 2004, the Marine Corps has returned 3,096 Marines to the operating force through military-to-civilian conversions. We will continue to pursue sensible conversions as this will aid in our deployment-to-dwell ratio goals for the force.

Growing to 202K: Infrastructure

Military Construction is one of our keys to success in increasing the Marine Corps to 202,000 Marines by 2011. We have determined the optimal permanent locations for these new units and have generated estimates for the types and sizes of facilities needed to support these forces. Because our end strength will increase before final construction is complete, we are providing interim support facilities that will include lease, rental, and purchase of temporary facilities. Our plan will ensure adequate facilities are available to support the phase-in and Final Operating Capability of a 202,000 Marine Corps while meeting our environmental stewardship responsibilities.

Military Construction – Bachelor Enlisted Quarters Initiative. Housing for our single Marines continues to be our top military construction focus. Barracks are a significant quality of life element in taking care of our single Marines. We have put ourselves *in extremis* with regards to new barracks as we have degraded their priority for decades in lieu of operational requirements. We are now committed to providing adequate billeting for all of our existing unmarried junior enlisted Marines and non-commissioned officers by 2012—and for our increased end strength by 2014. To do that, we doubled the amount of our bachelor housing funding request from Fiscal Year 2007 to 2008; we will more than triple the 2008 amount in Fiscal Year 2009. We are also committed to funding replacement of barracks' furnishings on a seven-year cycle and prioritizing barracks repair projects to preempt a backlog of repairs.

Public Private Venture (PPV) Housing. Our efforts to improve housing for Marines and their families continue. The housing privatization authorities are integral to our efforts to accommodate both current housing requirements and those resulting from our planned force increases. Thanks to Congressional support, the Marine Corps had business agreements in place at the end of Fiscal Year 2007 to eliminate all of our inadequate family housing. However, we need to continue our PPV efforts to address the current insufficient number of adequate housing units as well as the deficit being created by the increase in end strength to 202,000 Marines.

Training Capacity. Marine Corps Training & Education Command is increasing its training capacity and reinvigorating our pre-deployment training program to provide support to all elements of the Marine Air Ground Task Force (MAGTF) across the full spectrum of potential missions. In accordance with the Secretary of Defense's Security Cooperation guidance, we are developing and coordinating training and education

programs to build the capacity of allied and partner nations. We are also developing the capability to conduct large-scale MAGTF exercises within a joint, coalition, and interagency context to maintain proficiency in core warfighting functions such as combined arms maneuver, amphibious operations, and maritime prepositioning operations. Finally, we are ensuring our training and education programs and training ranges accommodate the 27,000 Marine Corps end strength increase.

Growing to 202K: Equipment

Our assessment of the materiel requirements for our growth has been significantly enhanced through cooperation between the Marine Corps and industry partners. Through this effort, the units we created in Fiscal Year 2007 were provided the equipment necessary to enter their pre-deployment training cycle. By prioritizing Marines in combat and redistribution of some of our strategic stocks, these new units were able to meet training and deployment requirements for combat. With the Congress' continued support, the numerous equipment contracts required to support our growth were met during Fiscal Year 2007 and will be met through Fiscal Year 2008 and beyond.

III. Resetting the Force and Preparing for the Next Contingency

To meet the demands of this war, we must reset the force so that we can simultaneously fight, train, and sustain our Corps. The Long War is taking a considerable toll on our equipment, and we continue to make tough choices on how best to apply the resources we are provided—either to replace our rapidly aging equipment with similar platforms or to modernize with next generation equipment. Additionally, we have routinely drawn additional equipment from strategic stocks, which need to be replenished in order for us to remain responsive to emerging threats. The Congress has responded rapidly and generously to our requests for equipment and increased protection for our Marines and Sailors. We are committed to fulfilling our responsibility to manage these resources prudently as we modernize our force.

Costs of Resetting the Force

Reset funds replenish the equipment necessary to keep the Marine Corps responsive to emerging threats. Costs categorized as "reset" meet one of the following criteria: maintenance and supply activities to restore and enhance combat capability to unit and pre-positioned equipment; replace or repair equipment destroyed, damaged, stressed, or worn out beyond economic repair; and enhance capabilities, where applicable, with the most up-to-date technology.

Our current reset estimate is $15.6 billion. To date, Congress has appropriated a total of $10.9 billion for Marine Corps GWOT reset costs. As the nature of the Long War evolves, "reset the force" cost estimates evolve as well. We not only need to "Reset" the force to support current readiness, but we also need to "Reconstitute and Revitalize" the force in preparation for future challenges. We are coordinating with other Services and the Joint Staff to refine estimates, and we are aggressively executing funding to ensure the Marines in the fight have the proper equipment in a timely manner.

Equipment Readiness

While the vast majority of our equipment has passed the test of sustained combat operations, it has been subjected to more than a lifetime's worth of wear stemming from increased vehicle mileage and operating hours as well as harsh environmental conditions—resulting in an escalated maintenance effort. This maintenance requirement is a consequence of not only operational tempo and operating environments, but also the sheer amount of equipment employed in operations. Approximately 26% of all Marine Corps ground equipment is currently engaged overseas. Most of this equipment is not rotating out of theater at the conclusion of each force rotation; it remains in combat, used on a near-continuous basis at a pace that far exceeds normal peacetime usage.

For example, in Operation IRAQI FREEDOM, crews are driving Light Armored Vehicles in excess of 8,700 miles per year—3.5 times more than the programmed annual usage rates of 2,480 miles per year. Our tactical vehicle fleet is experiencing some of the most dramatic effects of excessive wear, operating at five to six times the programmed rates. Many weapon systems have been modified during this conflict; some of these modifications have led to further wear and tear due to additional weight—for example, armor plating has been added for protection against improvised explosive devices. These factors, coupled with the operational requirement to keep equipment in theater without significant depot repair, has tremendously decreased the projected lifespan of this equipment. As a result, we can expect higher than anticipated reset costs and more replacements than repair of equipment. The depot level maintenance requirements for the equipment that is repairable will continue beyond the conclusion of hostilities in Iraq and Afghanistan.

Our priority for equipment is to support Marines serving in harm's way. Therefore, we have drawn additional equipment from the Maritime Prepositioning Ships and prepositioned stores in Norway; we have also retained equipment in theater from units that are rotating back to the United States. The operational results of these efforts have been outstanding—the average mission capable rates of our deployed forces' ground equipment remain above 90%—but there is a price.

The cost of this success is a decrease in non-deployed unit readiness as well as an increase in the maintenance required per hour of operating time. Equipment across the Marine Corps is continuously cross-leveled to ensure that units preparing to deploy have sufficient equipment to conduct our rigorous pre-deployment training programs. Because the stateside priority of equipment distribution and readiness is to units preparing to deploy, there has been a trade-off in unit training for other types of contingencies. The timely delivery of replacement equipment is crucial to sustaining the high readiness rates for the Marines in theater, as well as improving the rates for the forces here at home. While additional equipment has been purchased, long lead times and production rates mean that, although funded, much of this equipment is still many months from delivery.

Aviation Equipment & Readiness

The operationally demanding and harsh environments of Iraq, Afghanistan, and the Horn of Africa have highlighted the limitations of our aging fleet of aircraft. In order to support our Marines, sister Services, and coalition partners successfully, our aircraft have been flying at two to three times their designed utilization rates.

Despite this unprecedented use, our maintenance and support personnel have sustained a 79% aviation mission-capable rate for deployed Marine aircraft over the past twelve months. Maintaining the readiness of our aviation assets while preparing our aircrew for their next deployment is and will continue to be an enormous effort and constant challenge for our Marines. To maintain sufficient numbers of aircraft in deployed squadrons, our non-deployed squadrons have taken significant cuts in available aircraft and parts as they prepare for deployment—resulting in a 30% decrease in the number of non-deployed units reporting "deployment capable" over the

last five years. Reset funding has partially alleviated this strain, but continued funding is needed as we are simply running short of aircraft on our flight lines due to age, attrition, and wartime losses.

Reset programs have helped us mitigate degradation of our aircraft materiel readiness through aircraft modifications, proactive inspections, and additional maintenance actions. These efforts have successfully bolstered aircraft reliability, sustainability, and survivability; nevertheless, additional requirements for depot level maintenance on airframes, engines, weapons, and support equipment will continue well beyond the conclusion of hostilities.

Prepositioning Programs

Comprised of three Maritime Prepositioning Ships Squadrons (MPSRON) and other strategic reserves, the Marine Corps' prepositioning programs are a critical part of our ability to respond to current and future contingency operations and mitigate risk for the Nation. Targeted withdrawal of equipment from our strategic stocks has been a key element in supporting combat operations, growth of the Marine Corps, and other operational priorities; these withdrawals provided necessary equipment from the existing inventory while industry catches up to our new requirements in the long-term. Generous support from the Congress has enabled the long-term solution, and as a result, shortfalls within our strategic programs will be reset as equipment becomes available from the manufacturer.

Maritime Prepositioning Ships Squadrons (MPSRON). Our MPSRONs will be reset with the most capable equipment possible, and we have begun loading them with capabilities that support lower spectrum operations while still maintaining the ability to generate Marine Expeditionary Brigades capable of conducting major combat operations. Since 2007's report, all three squadrons have completed the Maritime Prepositioning Force (MPF) Maintenance Cycle eight (MMC-8). MPSRONs 1 and 3 were reconstituted to 91% and 100% respectively. The near-term reduction of MPSRON-1 was required to outfit new units standing up in Fiscal Year 2007 and Fiscal Year 2008 as part of our end strength increase. MPSRON-1 will complete MPF Maintenance Cycle-nine (MMC-9) in June 2008, and we anticipate it will be loaded with roughly 80% of its full equipment set as a result of our requirement to support end strength increase to 202,000 Marines. MPSRON-2 was loaded to 54% of its equipment requirements; much of MPSRON-2's equipment remains committed to Operation IRAQI FREEDOM. With projected deliveries from industry, our intent is to fully reset and modernize MPSRON-2 and MPSRON-3 when they return for maintenance beginning in May 2008 and April 2009 respectively.

We are actively working with the Navy and Transportation Command to incorporate newer, more flexible ship platforms from the existing Military Sealift Command fleet into our aging legacy Maritime Prepositioning Force program. As we reset MPF, these changes are necessary to ensure we incorporate hard fought lessons from recent combat operations. Two decades of equipment growth and recent armor initiatives have strained the capability and capacity of our present fleet—that was designed to lift a Naval Force developed in the early 1980s.

We plan to incorporate three of Military Sealift Command's nineteen large, medium-speed, roll-on/roll-off ships (LMSR) as replacements for five of our older leased platforms. The LMSR significantly expands MPF flexibility and will allow us to reset and optimize MPF to meet current and emerging requirements.

Marine Corps Prepositioning Program- Norway. The Marine Corps Prepositioning Program – Norway (MCPP-N) was also used in support of current operations, growth of the Marine Corps, and resetting other Marine Corps shortfalls with a higher operational priority. The Marine Corps continues to reset MCPP-N in concert with our operational priorities while also exploring other locations for geographic prepositioning that will enable combat and theater security cooperation operations for forward deployed Naval Forces.

Depot Maintenance

The Marine Corps has aggressively worked to stabilize the conditions that affect our depot maintenance. These conditions include: the uncertainty of the timing of reset, asset availability, timing of funding, equipment condition, and evolving skill requirements. One area we focus on is the in-theater identification of equipment and scope of work to be performed; this effort enables better planning for parts, manpower resources, funding requirements, and depot capacity. Triage assessments made in theater and relayed back to the sources of repair have helped to ensure efficient repair preparation time. These efforts reduce the repair cycle time, returning the mission capable equipment to the warfighter as soon as possible—improving materiel readiness.

Depot capacity is elastic; productivity is not constrained by money or capacity; the limiting factor is asset (carcass) availability. We increase capacity to support surge requirements through a variety of means—overtime, additional shifts, and additional personnel. Performing work on over 260 product lines, our depot workforce currently has multiple trade skills ranging from laborers to engineers. Much of the equipment in theater today includes items not previously repaired by any depot facility—organic or non-organic. As a result, the existing work force may require additional training. New personnel and continued supplementation through contractor support may also be required. We continue to leverage state and local institutions, such as the technical colleges and universities, which can provide valuable assistance in training our workforce in skills such as welding, environmental science, and engineering.

Future challenges to meeting the increasing workload requirements include leveraging depot capacity, lessening the impact on our labor force, and ensuring parts are available. Continuing to partner with other Services and industry, we will enhance execution of reset using organic and non-organic sources of repair. We will continue to work with the Congress to anticipate the evolving depot maintenance funding requirements.

Equipment Retrograde Operations from Central Command Area of Operations

During 2006, in a continued effort to support the Commander, United States Marine Forces, Central Command, Marine Corps Logistics Command took the lead as the Service Executive Agent for the retrograde of equipment in theater determined to be excess. In addition to receiving, preparing, and shipping excess equipment within theater, Marine Corps Logistics Command (Forward) coordinates strategic lift requirements and manages the redistribution of principle end items in accordance with the Commandant of the Marine Corps' sourcing priorities. Since June 2006, over 15,731 principle end items have been processed at the retrograde lot in Al Taqaddum and approximately 11,799 items have been shipped back to Blount Island Command for disposition. Once disposition is received, assets are sent to Marine Corps Logistics Command for induction into the Master Work schedule, placed In-Stores, used to fill requisitions, or sent to the Defense Reutilization Marketing Office if deemed uneconomical to repair. The repair and return of items to In-Stores will enable us to better address the many demands for equipment. This, in turn, will keep us moving forward towards our goal of continued readiness improvement.

Operation IRAQI FREEDOM has led to a conceptual change in the way we provide operational-level logistics to the warfighter. Due to changing operational and mission requirements, Marine Corps Logistics Command is implementing capabilities extending beyond traditional boundaries, creating a more mobile and agile organization. The Marine Corps Logistics Command (Forward) was established to satisfy operational logistics requirements using competitive, comprehensive, and integrated solutions obtained from "the best" strategic Department of Defense and commercial providers. While continuing to execute its strategic-level responsibilities, Marine Corps Logistics Command has transformed from a garrison-centric organization to one capable of deploying operational-level logistics solutions to augment the sustainment requirements of Marine Forces in combat.

IV. Modernize for Tomorrow to be "the most ready when the Nation is least ready"

We know we have tough choices ahead of us to meet equipment demands across the Corps. As we reset, we are making prudent assessments on when it is more effective to replace aging and worn out equipment with similar equipment or to buy new equipment. We remain focused and steadfast on our responsibility to be the Nation's premiere expeditionary Force-in-Readiness.

Experimentation

Our Marine Corps Warfighting Laboratory conducts experiments to support operating force requirements and combat development. We continually seek to improve the capabilities of the operating forces by focusing on the needs of our lower-level ground combat and ground combat support units engaged in current and potential near-term contingencies. Some examples of current projects include:

"Combat Hunter," a project aimed at enhancing observation and hunting skills of individual Marines operating in a combat environment;

- Company Level Intelligence Cell experiment, designed to provide us with a "best practices" model and to standardize infantry battalion intelligence processes;
- Squad Fires experiment, enhancing close air support to squad-level units;
- Combat Conditioning project, examining advances in physical fitness training to best prepare Marines for the demands of combat; and
- Lighten the Load initiative, an effort to decrease the amount of weight carried by Marines in the field.

Enhancing Individual Survivability

The Marine Corps continues to pursue technological advancements in personal protective equipment—our Marines in combat deserve nothing less. Fully recognizing the limiting factors associated with weight, fatigue, and movement restriction, we are providing Marines the latest in personal protective equipment—such as the Modular Tactical Vest, QuadGard, Lightweight Helmet, and Flame Resistant Organizational Gear.

Body Armor. Combat operations in Iraq and Afghanistan have highlighted the need to evolve our personal protective vest system. In February 2007, we began transitioning to a newly-designed Modular Tactical Vest (MTV). This vest is close to the same weight as its predecessor, the Outer Tactical Vest, but it integrates more easily with our other personal protection systems. It provides greater comfort through incorporation of state-of-the-art load carriage techniques, which better distributes a combat load over the

torso and onto the hips of the Marine. The MTV also incorporates our combat-proven Enhanced Small Arms Protective Inserts (E-SAPI) and Side SAPI plates. These plates are provided to every Marine in the Central Command theater of operations. The E-SAPI provides the best protection available against a wide variety of small arms threats—to include protection against 7.62mm ammunition. The initial acquisition objective for the MTV was 60,000 systems, with deliveries completed in October 2007. We are procuring additional MTVs during this Fiscal Year to ensure our Marines continue to deploy with the best body armor system available.

QuadGard. The QuadGard system is designed to provide ballistic protection for a Marine's arms and legs when serving as a turret gunner on convoy duty. This system, which integrates with other personal ballistic protection equipment, such as the MTV E-SAPI and Lightweight Helmet, provides additional protection against ballistic threats—particularly improvised explosive device fragmentation.

Lightweight Helmet. We are committed to providing the best head protection available to our warfighters. The Lightweight Helmet (LWH) weighs less than its predecessor and provides a high level of protection against fragmentation threats and 9mm bullets. We now require use of a pad system inside the helmet as multiple independent studies and tests demonstrated that it provides greater protection against non-ballistic blunt trauma than the sling suspension system. We are retrofitting more than 150,000 helmets with the pad system and have already fielded enough helmet pads for every deployed Marine. Since January 2007, all LWHs produced by the manufacturer are delivered with the approved pad system installed. In October 2007, we began fielding the Nape Protection Pad (NAPP), which provides additional ballistic protection to the occipital region of the head—where critical nervous system components, such as the cerebellum, brain stem, occipital lobe, and spinal cord are located. The NAPP is attached to the back of the LWH or the Modular Integrated Communications Helmet (MICH), which is worn by our reconnaissance Marines. Final delivery of the initial 69,300 NAPPs is scheduled for April 2008. That said, we continue to challenge industry to build a lightweight helmet that will stop the 7.62 mm round fired from an AK-47.

Flame Resistant Organizational Gear (FROG). In February 2007, we began fielding FROG to all deployed and deploying Marines. This lifesaving ensemble of flame resistant clothing items—gloves, balaclava, long-sleeved under shirt, combat shirt, and combat trouser—is designed to mitigate potential injuries to our Marines from flame exposure. These clothing items provide protection that is comparable to that of the NOMEX combat vehicle crewman suit/flight suit, while adding durability, comfort, and functionality. We have recently begun fielding flame resistant fleece pullovers to our Marines for use in cooler conditions, and we are developing flame resistant varieties of cool/cold weather outer garments and expect to begin fielding these to Marines in late Fiscal Year 2008. With the mix of body armor, undergarments, and outerwear, operational commanders can determine what equipment their Marines will employ based on mission requirements and environmental conditions. Through ongoing development and partnerships with other Services, we continue to seek the best available flame resistant protection for our Marines.

Sustained funding for the development and procurement of individual protective equipment has had a direct impact on our ability to reduce or mitigate combat injuries. Continued Congressional support is needed to ensure that our Marines and Sailors receive the best equipment available in the coming years.

Counter Improvised Explosive Devices (CIED). Responding to urgent warfighter needs, we are providing the most capable force protection systems available. We are upgrading our Counter Remote-controlled IED Electronic Warfare Chameleon systems to meet rapidly evolving threats while remaining engaged with the Joint Program Board to develop a joint solution. We are enhancing our ability to combat the effects of weapons of mass destruction as well as protecting our Marines worldwide by fielding eighteen consequence management sets using the best available commercial off-the-shelf technologies. These sets complement the capabilities of our Family of Incident Response Systems and the Chemical Biological Incident Response Force. Our Family of Explosive Ordnance Disposal Equipment has undergone significant modernization through enhancement of technician tool kits and greater counter IED robotics capability and availability.

Marine Aviation Plan

Resetting Marine Aviation means getting more capable and reliable aircraft into the operational deployment cycle sooner—not merely repairing and replacing damaged or destroyed aircraft. Daily, your Marines rely on these aircraft to execute a wide array of missions including casualty evacuation for our wounded and timely close air support for troops in contact with the enemy. Legacy aircraft production lines are no longer active—exacerbating the impact of combat losses and increasing the urgency for the Marine Aviation Plan to remain fully funded and on schedule.

The 2007 Marine Aviation Plan (AvPlan) provides the way ahead for Marine Aviation over the next 10 years as it transitions 39 of 71 squadrons from 13 legacy aircraft to 6 new aircraft; it incorporates individual program changes and synchronizes support of our end strength growth to 202,000 Marines.

Joint Strike Fighter (JSF). F-35B Lightning II development is on track with the first flight of BF-1 Short Take-Off / Vertical Landing (STOVL) variant scheduled for 2008. The F-35B STOVL variant is a fifth generation aircraft that will provide a quantum leap in capability, basing flexibility, and mission execution across the full spectrum of warfare. The JSF will act as an integrated combat system in support of ground forces and will be the centerpiece of Marine Aviation. The manufacture of the first nineteen test aircraft is well underway, with assembly times better than planned and exceptional quality demonstrated in fabrication and assembly. The first Conventional Take-Off / Landing (CTOL) aircraft flew in December of 2006 and accumulated nineteen flights prior to a planned technical refresh. The JSF acquisition strategy, including software development, reflects a block approach. The Marine Corps remains committed to an all-STOVL tactical aircraft force—which will enable future Marine Air Ground Task Forces (MAGTFs) to best fulfill its expeditionary warfighting responsibilities in support of the Nation and Combatant Commanders.

MV-22 Osprey. The MV-22 brings revolutionary assault support capability to our forces in harm's way; they deserve the best assault support aircraft in the world—without question, the MV-22 is that aircraft. The MV-22 is replacing the CH-46E aircraft. The CH-46E is over forty years old, with limited lift and mission capabilities to support the MAGTF. In September 2005, the V-22 Defense Acquisition Board approved Full Rate Production. Twenty-nine Block A and twenty-four Block B aircraft have been delivered and are based at Marine Corps Air Station New River, North Carolina; Patuxent River, Maryland; and Al Asad Air Base, Iraq.

Much like the F-35, the MV-22 program uses a block strategy in its procurement. Block A aircraft are training aircraft, Block B are operational aircraft, and Block C aircraft are operational aircraft with mission enhancements that will be procured in Fiscal Year 2010 and delivered in Fiscal Year 2012. One V-22 Fleet Replacement Training Squadron, one test squadron, and three tactical VMM squadrons have stood up. MV-22 Initial Operational Capability was declared on 1 June 2007 with a planned transition of two CH-46E squadrons per year thereafter.

VMM-263 is deployed to Al Asad Air Base, Iraq, and the significant capabilities of the Osprey have already been proven in combat. A brief examination of the daily tasking of the MV-22 squadron in Iraq tells a compelling story: a flight of MV-22s are doing in six hours what would have taken twelve hours in CH-46s. In addition, the aircraft easily ranges the entire area of operations and flies a majority of the time at altitudes beyond the range of our enemy's weapons. The Marine Corps asked for an aircraft that could take us farther, faster, and safer; and Congress answered.

KC-130J. KC-130Js have been continuously deployed in support of Operation IRAQI FREEDOM since February 2005—providing state-of-the-art, multi-mission, tactical aerial refueling, and fixed-wing assault support. The KC-130J is the workhorse of the MAGTF; its theater logistical support reduces the requirement for resupply via ground, limiting the exposure of our convoys to IEDs and other attacks.

The introduction of the aerial refuelable MV-22 combined with the forced retirement of the legacy KC-130F/R aircraft due to corrosion, fatigue life, and parts obsolescence requires an accelerated procurement of the KC-130J. In addition, the Marine Corps will replace its twenty-eight reserve component KC-130T aircraft with KC-130Js, simplifying the force to one Type/Model/Series. The Marine Corps is contracted to procure a total of forty-six aircraft by the end of Fiscal Year 2013; twenty-nine new aircraft have been delivered and four KC-130J aircraft requested in the Fiscal Year 2008 budget.

H-1 Upgrade. The H-1 Upgrade Program (UH-1Y/AH-1Z) resolves existing operational UH-1N power margin and AH-1W aircrew workload issues—while significantly enhancing the tactical capability, operational effectiveness, and sustainability of our attack and utility helicopter fleet. The Corps' Vietnam-era UH-1N Hueys are reaching the end of their useful life. Due to airframe and engine fatigue, Hueys routinely take off at their maximum gross weight with no margin for error. Rapidly fielding the UH-1Y remains a Marine Corps aviation priority, with the first deployment of UH-1Ys to Operation IRAQI FREEDOM scheduled for the spring of 2009.

Due to significant operational demands and aircraft attrition in the existing attack and utility helicopter fleet, the Marine Corps adopted a "build new" strategy for the UH-1Y in Fiscal Year 2006. Similarly, the Marine Corps began investing in Non-Recurring Engineering (NRE) in Fiscal Year 2007 for the production of a limited number of AH-1Z "build new" aircraft; these AH-1Zs will augment those existing AH-1Ws that will be remanufactured. This combined "build new" and remanufacture strategy will enable the Marine Corps to rapidly increase the number of AH-1s available, support the Marine Corps' growth to 202K Marines, and alleviate inventory shortfalls caused by aircraft attrition. Ten production aircraft have been delivered. Operation and Evaluation (OPEVAL) Phase II commenced in February 2008, and as expected, showcased the strengths of the upgraded aircraft. Full rate production of the H-1 Upgrade (and the contract award of Lot 5 aircraft) is scheduled to take place during the fourth quarter Fiscal Year 2008.

CH-53K. In operation since 1981, the CH-53E is becoming increasingly expensive to operate and faces reliability and obsolescence issues. Its replacement, the CH-53K, will be capable of externally transporting 27,000 lbs to a range of 110 nautical miles, more than doubling the current CH-53E lift capability. Maintainability and reliability enhancements of the CH-53K will significantly decrease recurring operating costs and will radically improve aircraft efficiency and operational effectiveness over the current CH-53E. The program passed Milestone B (System Development & Demonstration [SDD] initiation) in December 2005. The SDD Contract was awarded to Sikorsky Aircraft Corporation in April 2006. Initial Operational Capability (IOC) is scheduled for Fiscal Year 2015, and is defined as a detachment of four aircraft, ready to deploy.

Unmanned Aerial Systems (UAS)

The Marine Corps is taking aggressive action to modernize and improve organic UAS capabilities. The Marine Corps' UAS are organized into three echelons, appropriate to the level of commander they support. Tier III UAS serve at the Marine Expeditionary Force (MEF) level. Tier II UAS support Regimental Combat Team and Marine Expeditionary Unit operations, and Tier I UAS support battalion and below operations. At the Tier III level, we have simultaneously transitioned Unmanned Aerial Vehicle Squadrons (VMU) to the RQ-7B Shadow; started reorganizing the squadrons' force structure to support detachment-based flexibility (operating three systems versus one for each squadron); and initiated the stand up of a third active component VMU squadron.

With the significant support of the Army, the Marine Corps has completed the transition to the RQ-7B Shadow in less than nine months. The transition to the Shadow provides a mature and modern—yet basic and readily available—Tier III platform upon which to baseline Marine VMU reorganization. A detachment-based concept of operations for the VMU will give Marine Expeditionary Force commanders flexibility to task-organize based on mission requirements. The addition of a third VMU squadron is critical to sustaining current operations by decreasing our current operational deployment-to-dwell ratio—currently at 1:1—to a sustainable 1:2 ratio. This rapid transition and reorganization, begun in January 2007, will be complete by the fourth quarter Fiscal

Year 2009, significantly improving organic Marine Corps UAS capability while increasing joint interoperability and commonality.

The Marine Corps is using an ISR Services contract to provide Scan Eagle systems to Multi-National Forces-West, Iraq to fill the Tier II void until future fielding of the Tier II/ Small Tactical UAS (STUAS), a combined Marine Corps and Navy program beginning in Fiscal Year 2008 with planned fielding in 2011. At the Tier I level, the Marine Corps is transitioning from the Dragon Eye to the joint Raven-B program, also common with the US Army.

When fully fielded, the Corps' Unmanned Aerial Systems will be networked through a robust and interoperable command and control system that provides commanders an enhanced capability applicable across the spectrum of military operations.

Ground Mobility

The Army and Marine Corps are leading the Services in developing tactical wheeled vehicle requirements for the joint force. Our efforts will provide the joint force an appropriate balance of survivability, mobility, payload, networking, transportability, and sustainability. The Army/Marine Corps Board has proven a valuable forum for coordination of development and fielding strategies; production of armoring kits and up-armored HMMWVs; and response to requests for Mine Resistant Ambush Protected vehicles. The Ground Mobility Suite includes:

Expeditionary Fighting Vehicle (EFV). The Marine Corps provides the Nation's joint forces with a unique and flexible forcible entry capability from the sea. The EFV is specifically suited to maneuver operations conducted from the sea and sustained operations in the world's littoral regions. Its inherent capabilities provide utility across the spectrum of conflict. As the Corps' largest ground combat system acquisition program, the EFV is the sole sea-based, surface-oriented vehicle that enables projection of combat power from a seabase to an objective. It will replace the aging Assault Amphibious Vehicle—in service since 1972. Complementary to our modernized fleet of tactical vehicles, the EFV's amphibious mobility, day and night lethality, enhanced force protection capabilities, and robust communications will substantially improve joint force capabilities. Its over-the-horizon capability will enable amphibious ships to increase their standoff distance from the shore—protecting them from enemy anti-access weapons.

The Marine Corps recently conducted a demanding operational assessment of the EFV. It successfully demonstrated the most critical performance requirements, but the design complexities are still providing challenges to system reliability. To that end, we conducted a comprehensive requirements review to ensure delivery of the required capability while reducing complexity where possible. For example, the human stresses encountered during operations in some high sea states required us to reevaluate the operational necessity of exposing Marines to those conditions. Based upon this assessment, along with subsequent engineering design review, we will tailor final requirements and system design to support forcible entry concepts while ensuring the EFV is a safe, reliable, and effective combat vehicle.

Joint Light Tactical Vehicle (JLTV). The Army/Marine Corps Board has been the focal point for development of joint requirements for a Joint Light Tactical Vehicle—which will provide protected, sustained, networked, and expeditionary mobility in the light tactical vehicle weight class. Throughout 2007, Army and Marine Corps combat and materiel developers coordinated with the Joint Staff, defining requirements and acquisition planning for the replacement for the up-armored HMMWV. In December, the Defense Acquisition Board approved JLTV entry into the acquisition process at Milestone A, designating the Army as lead Service and initiating competitive prototyping during the technology development phase. Prototypes will be evaluated to demonstrate industry's ability to balance survivability, mobility, payload, network enabling, transportability, and sustainability. The program is on track for a Milestone B in early 2010.

Marine Personnel Carrier (MPC). The MPC is an expeditionary armored personnel carrier —ideal for irregular warfare—yet effective across the full range of military operations. Increasing armor-protected mobility for infantry battalion task forces, the MPC program balances vehicle performance, protection, and payload attributes. Through 2007, we completed both joint staffing of an Initial Capabilities Document and, a draft concept of employment. Additionally, the Analysis of Alternatives final report was published in December 2007. The program is on track for a Milestone B decision in the second quarter of Fiscal Year 2010 and an Initial Operational Capability in the 2015 timeframe.

Internally Transported Vehicle (ITV). The ITV is a family of vehicles that will provide deployed Marine Air Ground Task Forces with ground vehicles that are transportable inside the MV-22 and CV-22 tilt-rotor aircraft, as well as CH-53 and MH-47 aircraft. There are three variants of the ITV, the Light Strike, the Prime Mover-Weapon, and the Prime Mover-Trailer. Both prime mover variants are components of the Expeditionary Fire Support System designed to support the M327 120mm mortar. In conjunction with testing of our Expeditionary Fire Support System, we conducted an operational assessment of the ITV Light Strike variant during which it met all key performance parameters. We expect to begin fielding this variant the Light Strike Variant of the ITV in June 2008.

Vehicle Armoring

Our goal is to provide the best level of available protection to 100% of in-theater vehicles that go "outside the wire." Our tactical wheeled vehicle strategy pursues this goal through the coordination of product improvement, technology insertion, and new procurement in partnership with industry. The Marine Corps, working with the other Services, is fielding armored vehicles such as: the Mine Resistant Ambush Protected Vehicle (MRAP), the Medium Tactical Vehicle Replacement Armor System, the Logistics Vehicle System (LVS) Marine Armor Kit, and the Up-armored HMMWV.

Medium Tactical Vehicle Replacement (MTVR) Armor System (MAS). MAS provides an integrated, armor enclosed, climate-controlled cab compartment and an armored troop carrier for our MTVR variants. These vehicles are also being upgraded with an improved blast protection package consisting of blast attenuating seats, five-point restraint harnesses, and improved belly and fender-well blast deflectors. Basic MAS has been installed in all of the Marine Corps' MTVRs in the Central Command's theater of

operation. Additionally, we are installing blast upgrade, fuel tank fire protection kits, and 300 AMP alternators; target completion for in-theater vehicles is Fourth Quarter Fiscal Year 2008.

Logistics Vehicle System (LVS) Marine Armor Kit (MAK) II. The LVS MAK II provides blast, improvised explosive device, and small arms protection. It has a completely redesigned cab assembly that consists of a new frame with armor attachment points and integrated 360-degree protection. The new cab will also have an air conditioning system that cools from 134 degrees Fahrenheit to 89 degrees Fahrenheit in twenty minutes. Additional protection includes overhead and underbody armor using high, hard steel, rolled homogenous armor, and 2.75" ballistic windows. The suspension system has been upgraded to accommodate the extra weight of the vehicle. We estimate the LVS MAK II armoring effort will complete fielding by February 2009.

M1114 Highly-Mobile Multi-Wheeled Vehicle (HMMWV)-Upgrade—Fragmentation Kit 2 and Kit 5. Fragmentation Kit 2 enhances ballistic protection in the front driver and assistant driver wheel-well of HMMWVs. Fragmentation Kit 5 reduces injuries from improvised explosive devices as well as armor debris and fragmentation. Installation of both fragmentation kits was completed in Fiscal Year 2007. We are continuing to evaluate the U.S. Army's objective kit development and work with the Army and Office of Naval Research to assess new protection-level capabilities and share information. The Marine Corps has adopted a strategy of a 60% fully up-armored HMMWV fleet. All new Expanded Capacity Vehicles will have the Integrated Armor Package. Of those, 60% will be fully up-armored to include the appropriate "B" kit and Fragmentation kits during production. The Marine Corps will continue to work with the Army to pursue the development of true bolt-on/bolt-off "B" kits and fragmentation kits to apply as needed to post-production vehicles.

Mine Resistant Ambush Protected (MRAP) Vehicles. MRAP vehicles have a V-shaped armored hull and protect against the three primary kill mechanisms of mines and improvised explosive devices (IED)—fragmentation, blast overpressure, and acceleration. These vehicles provide the best currently-available protection against IEDs. Experience in theater shows that a Marine is four to five times less likely to be killed or injured in a MRAP vehicle than in an up-armored HMMWV—which is why Secretary Gates made the MRAP program the number one acquisition priority for the Defense Department. MRAP vehicles come in three categories: Category I designed for use in urban environments and carries by up to six personnel; Category II for convoy escort, troop transport, and ambulance evacuation, which transports up to ten personnel; and Category III for route clearance/explosive ordnance disposal vehicles.

The total Department of Defense requirement for MRAP vehicles is 15,374—of which 3,700 are allocated for the Marine Corps. However, the Marine Corps requirement has been revalidated to 2,225, pending Joint Requirements Oversight Council approval. The Navy is the Executive Agent for the program and the Commander, Marine Corps Systems Command is the Joint Program Executive Officer. As an example of our adaptation to evolving threats, the Joint MRAP Vehicle Program Office has recently selected qualified producers of a new MRAP II vehicle for the Marine Corps and other forces. Vehicles procured through this second solicitation will meet enhanced survivability and performance capability required by field commanders.

The Marine Corps is very pleased with the overwhelming support of Congress on the MRAP program, both financially and programmatically. We ask that Congress continue their support for these life-saving vehicles and support us as we transition to the sustainment of these vehicles in future years.

MAGTF Fires

In 2007, we initiated a study entitled "The Major Combat Operations Analysis for Fiscal Years 2014 and 2024." This study scrutinized the current organic fire support of the Marine Air Ground Task Force (MAGTF) to determine the adequacy, integration, and modernization requirements for ground, aviation, and naval surface fires. The study concluded that the MAGTF / Amphibious Task Force was unable to adequately address moving and armored targets 24 / 7 and in all weather conditions. This deficiency is especially acute during the Joint Forcible Entry Operation phase of combat operations. The study also reinforced the critical importance of both the Joint Strike Fighter and AH-1Z in minimizing the fires gap. With this information, we then developed a set of alternatives for filling these gaps—using either MAGTF reinforcing or joint fires. We also performed a supplemental historical study using Operation IRAQI FREEDOM data to examine MAGTF Fires in the full spectrum of warfare. These studies reconfirmed the requirement for a mix of air, naval surface, and ground-based fires as well as the development of the Triad of Ground Indirect Fires.

Our Triad of Ground Indirect Fires provides for complementary, discriminating, and non-discriminating fires that facilitate maneuver during combat operations. The Triad requires a medium-caliber cannon artillery capability; an extended range, ground-based rocket capability; and a mortar capability with greater lethality than current models and greater tactical mobility than current artillery systems. The concept validates the capabilities provided by the M777 lightweight 155mm towed howitzer, the High Mobility Artillery Rocket System, and the Expeditionary Fire Support System, a 120mm rifled towed mortar.

M777 Lightweight Howitzer. The new M777 lightweight howitzer replaces our M198 howitzers. It can be lifted by the MV-22 Osprey and the CH-53E helicopter and is paired with the Medium Tactical Vehicle Replacement truck for improved cross-country mobility. Through design innovation, navigation, positioning aides, and digital fire control, the M777 offers significant improvements in lethality, survivability, mobility, and durability over the M198 howitzer. The Marine Corps began fielding the first of 511 new howitzers to the operating forces in April 2005 and expects to complete fielding in Fiscal Year 2011.

High Mobility Artillery Rocket System (HIMARS). HIMARS fills a critical range and volume gap in Marine Corps fire support assets by providing twenty-four hour, all weather, ground-based, indirect precision and volume fires throughout all phases of combat operations ashore. We will field forty-six HIMARS—eighteen to the Active Component, eighteen to the Reserve Component, four to the Supporting Establishment, and six to the War Reserve Material Readiness – Forward. When paired with Guided Multiple Launch Rocket System rockets, HIMARS will provide a highly responsive, precision fire

capability to our forces. We will reach Initial Operational Capability this August and expect to be at Full Operational Capability by Fiscal Year 2010.

Expeditionary Fire Support System (EFSS). The EFSS, a towed 120mm mortar, will be the principal indirect fire support system for heli- and tiltrotor-borne forces executing Ship-to-Objective Maneuver as part of a Marine Air Ground Task Force. When paired with an Internally Transportable Vehicle, EFSS can be transported aboard MV-22 and CH-53E aircraft. EFSS-equipped units will have immediately responsive, organic indirect fires at ranges beyond current infantry battalion mortars. Initial operational capability is planned during Fiscal Year 2008, and full operational capability is planned for Fiscal Year 2010.

Infantry Weapons

Based on combat experience and numerous studies, we are developing infantry weapons systems with the following goals: increased effectiveness, lighter weight, improved modularity, and integration with other infantry equipment. The Marine Corps and Army are co-leading joint service capabilities analysis for future developments.

Individual Weapons. The M16A4 is our current service rifle and makes up the majority of our assigned individual weapons. It is supplemented by the M4 Carbine, which is assigned to Marines based on billet and mission requirements. We are participating in several Army tests which will evaluate the capabilities and limitations of our small arms inventory. In conjunction with the Army and Air Force, we will use these results to determine priorities for a future service rifle with focus on modularity, ergonomics, balance, and lethality. We also have executed a two-pronged strategy for a larger caliber pistol: supporting the Air Force's effort to analyze and develop joint capabilities documents for a new pistol and examining the Army's recent consideration of personal defense weapons.

Multi-Purpose Weapons. The Shoulder-Launched Multipurpose Assault Weapon (SMAW) is an aging, heavy weapon that is nearing the end of its service life. We are seeking ways to reduce weight, increase reliability, and improve target identification as well as develop a "fire from enclosure" capability that will enable Marines to fire the weapon from within an enclosed space.

Scout Sniper Capability. We are conducting a holistic assessment of our Scout Sniper capability to identify shortfalls and develop recommended solutions—concurrently integrating the doctrine, training, weapons, equipment, and identified tasks with a Marine sniper's professional development and career.

Non-lethal Weapons Technology. The complexities of the modern battlespace often place our Service men and women in challenging situations where sometimes, lethal force is not the preferred response. In these environments, our warfighters need options for a graduated escalation of force. As the Executive Agent for the Department of Defense Non-Lethal Weapons Program, we see the need for long-range, directed-energy systems. Marines and Soldiers in Iraq are already using non-lethal directed energy weapons; green laser warning devices have reduced the requirement to use lethal force

at checkpoints against wayward, but otherwise innocent, Iraqi civilians. We continue to pursue joint research and development of promising non-lethal weapon technologies, such as the millimeter wave Active Denial System. We thank the Committee for its support of these vital capabilities for modern warfare.

Counter-Sniper Technology. We are leveraging the work of the Defense Advanced Research Projects Agency, our sister Services, the Marine Corps Intelligence Activity, and the National Ground Intelligence Center in an effort to increase our ability to counter enemy snipers. We are examining different obscurant technologies as well as various infrared detection / location sense and warn capabilities. We are experimenting with advanced equipment and improved tactics, techniques, and procedures. The ability to detect enemy optics will provide our Marines warning of impending sniper or improvised explosive device attacks and the ability to avoid or engage the sniper before he can fire. Ongoing joint and interagency cooperation, coupled with industry collaboration, will shape our future experiments.

Infantry Battalion Enhancement Period Program (IBEPP). We are fielding additional equipment to infantry battalions to better enable Marines to fight and win on the distributed and non-linear battlefield. This equipment encompasses communications, optics, weapons, and vehicles, at a cost of approximately $19M per battalion. Key elements of the IBEPP include a formal squad leader course for every rifle battalion squad leader, a tactical small unit leaders' course for prospective fire team leaders, and a "Train the Trainer" mobile training team to teach junior tactical leaders the skills required to more effectively train their own Marines.

Command and Control (C2) Harmonization

The Marine Corps' Command and Control Harmonization Strategy articulates our goal of delivering an end-to-end, fully-integrated, cross-functional capability to include forward-deployed and reach-back functions. We envision seamless support to Marines in garrison and in combat—taking the best of emerging capabilities to build a single solution that includes the Common Aviation Command and Control System (CAC2S), Tactical Communications Modernization (TCM) program, Very Small Aperture Terminal (VSAT), and training.

The CAC2S fuses data from sensors, weapon systems, and command and control systems into an integrated display, assisting commanders in controlling organic, joint, and coalition efforts while operating as a joint task force. Delivered in a common, modular, and scalable design, CAC2S reduces the current systems into one hardware solution. The TCM and VSAT programs fuse data on enemy forces into the Common Operating Picture and increase our ability to track friendly forces. Lastly, our C2 Harmonization Strategy increases capability to train our staffs through Marine Air Ground Task Force Integrated System Training Centers.

Information Operations

The ability to influence an adversary through information operations has been a critical capability our current operations and will be of even more importance as we continue to engage in security cooperation efforts around the globe. To better support our Information Operations (IO), we are standing up the Marine Corps Information Operations Center at Quantico, VA—our primary organization to integrate and deliver IO effects throughout the Marine Corps.

Marine Corps Intelligence, Surveillance, and Reconnaissance Enterprise

We are increasing the quality of our Intelligence, Surveillance, and Reconnaissance (ISR) capabilities through the use of an enterprise approach known as the Marine Corps ISR Enterprise (MCISR-E)—resulting in a fully-integrated architecture compliant with joint standards for data interoperability. MCISR-E will provide networked combat information and intelligence down to the squad level across the range of military operations. To ensure Marines have access to these new capabilities, our MAGTF Command and Control systems feed combat operation centers with information from wide field of view persistent surveillance systems such as Angel Fire, traditional ISR systems such as our family of Unmanned Aircraft Systems (UAS), and non-traditional collection assets such as Ground Based Operational Surveillance System (GBOSS). Intelligence sections down to the company level are equipped with ISR fusion systems as well as applications such as MarineLink that enable rapid discovery, data mining, analysis, and most importantly incorporation of Intelligence into tactical planning for operations and intelligence reporting down to squad level and up to higher headquarters.

Marine Corps Operational Logistics

Operating Force Sustainment Initiatives. We have aggressively moved forward on several forward-deployed initiatives that have improved our support to our Marines in combat. Our Marine Corps Logistics Command is working with our Marine Expeditionary Forces on extending heavy intermediate maintenance support within the continental United States. Maintenance Center contact teams at Camp Lejeune and Camp Pendleton are extending the service life of equipment through corrosion control and maintenance programs that enhance pre-deployment readiness.

Improving Combat Readiness Through Innovation. To assure optimum use of the resources provided by Congress and the American taxpayers, we are making innovations in how we equip, sustain, house, and move our war-fighters. We are aggressively applying the principles of continuous process improvement to these enabling business processes across the Corps. In just the past year we have cut costs and repair cycle time at both aviation and ground maintenance depots, revamped and speeded up the urgent universal needs statements process, and instituted regional contracting for materiel and services that is proving more cost effective. Such improvements are expected to increase as training and experience proliferate.

Urgent Universal Needs Statement (UUNS) Process

The UUNS process enables deployed commanders to request equipment based on their recent experience. Designed to procure equipment more expediently than if submitted in the regular budgeting process, the Marine Corps' UUNS process uses a secure, web-based system that provides full stakeholder visibility from submission through resolution. Through continuous process improvement, we have reduced our average processing time by 58.8 days. Our goal is responsive support to commanders in the field by providing a rational, disciplined, and time-sensitive process that fulfills their validated urgent requirements in the fastest, most logical way. We continue to review the system for opportunities to increase efficiency and timeliness. For example, as a result of a February 2006 Lean Six Sigma review, several improvements were implemented including standardization, on-line tracking, and streamlined approval. Typically, UUNS are funded by reprogramming funds from approved programs or through Congressional supplemental funding. They are funded with regard for current law, their effects on established programs of record, or other initiatives in the combat capability development process.

Information Technology Enablers / Global Combat Support System–Marine Corps

Global Combat Support System – Marine Corps continues to make strides toward delivering a modernized information technology system that will enhance logistics support to the warfighter. As the primary information technology enabler for the Marine Corps' Logistics Modernization efforts, the system's primary design focus is to enable the warfighter to operate while deployed and provide reach back capability from the battlefield. At the core is modern, commercial-off-the-shelf enterprise resource planning software that will replace our aging legacy systems. The Global Combat Support System – Marine Corps Block 1 focuses on providing the operating forces with an integrated supply/maintenance capability and enhanced logistics-chain-management planning tools. Field User Evaluations and Initial Operational Test & Evaluations are scheduled for 1st Quarter Fiscal Year 2009, followed by fielding of the system and Initial Operating Capability during Fiscal Year 2009. Future blocks will focus on enhancing capabilities in the areas of warehousing, distribution, logistics planning, decision support, depot maintenance, and integration with emerging technologies to improve asset visibility.

Secure Internet Routing Protocol Network (SIPRNET)

The Secure Internet Routing Protocol Network (SIPRNET) is our primary warfighting command and control network. The asymmetric nature of current attacks combined with future threats to our networks demand a greater reliance on the SIPRNET to ensure the security of Marine Corps warfighting and business operations. The Marine Corps is aggressively upgrading our existing SIPRNET capabilities and an expansion of our SIPRNET in the future will be necessary to meet operational demands. The resources required for this expansion will enable wider use of the SIPRNET across the Marine Corps as we transition more warfighting and business operations into a highly secure and trusted network.

Infrastructure Energy Considerations

The purchase of electricity, natural gas, petroleum fuels, and potable water to operate our facilities is a significant expense. Through proactive Facilities Energy & Water Management and Transportation Programs to reduce consumption, we are achieving substantial cost avoidance and environmental benefits including reduction of greenhouse gas emissions and other pollutants. Our program provides the direction, actions, and metrics necessary for commands to:

- Reduce rate of energy use in existing facilities;
- Improve facility energy efficiency of new construction and renovations;
- Expand use of renewable resources;
- Reduce water usage rates on our installations;
- Improve security and reliability of energy and water systems; and
- Decrease petroleum use through increased efficiency and alternative fuel use.

Marine Corps conservation efforts have been substantial, but installation energy and water requirements continue to increase as we increase our end strength and adjust to rising energy prices.

V. Provide our Nation a Naval Force Fully Prepared for Employment as a MAGTF Across the Spectrum of Conflict

The enduring value of naval expeditionary forces in protecting our homeland, preventing crises, and winning our Nation's wars is a key theme of the recently signed maritime strategy entitled *"A Cooperative Strategy for 21st Century Seapower," the Naval Operations Concept, and the Marine Corps Operating Concepts for a Changing Security Environment.* These documents acknowledge the uncertainty of the strategic environment and that winning the battle for influence—and thus preventing wars—is as important as our Nation winning wars. Influenced by a variety of geographic, diplomatic, and geographic factors, our country's access to strategic basing is in decline. Our strategies address the requirement to maintain a robust forcible entry capability: the ability to maneuver from the sea, gain and maintain access anywhere in the littorals as well as transition to operations ashore and sustain the force from the seabase. They provide a template for Maritime Service capability and capacity and underscore our Marine Corps-Navy warfighting interdependence.

These concepts and strategies also incorporate hard-fought lessons from our current battles in Iraq and Afghanistan. Combat casualties have in a very real sense become a center of gravity for America—no matter what the cause or conflict. Therefore, "increased risk" and "slower response times" must always be calculated in terms of their real costs—loss of life and materiel on the battlefield and then, potentially, the loss of support of the American people.

Seapower is a distinct asymmetric advantage of the United States. For Marines, that asymmetric advantage includes Joint Seabasing, which allows us to maximize forward presence and engagement while "stepping lightly" on local sensitivities, avoiding the unintended political, social, and economic disruptions that often result from a large American presence ashore. It allows us to conduct a broad range of operations in areas where access is challenged, without operational commanders being forced to immediately secure ports and airfields. Given diplomatic, geographic, and infrastructure constraints, Seabasing is absolutely critical to overcoming area denial and anti-access weapons in uncertain or openly hostile situations. The combination of capabilities that allows us to influence events ashore from over the horizon—amphibious warfare ships, innovative Maritime Prepositioning Force (Future) ships, Joint High Speed Vessels, surface connectors, MV-22s, and Expeditionary Fighting Vehicles—play a key role in surmounting access challenges.

Seabasing is not exclusive to the Navy and Marine Corps—it will be a national capability. In fact, we view Joint Seabasing as a national strategic imperative. Just as the amphibious innovations championed by the Navy-Marine Corps team during the 1920s and 1930s were employed by all U.S. and Allied forces in every theater during World War II, we believe that the Seabasing initiatives currently underway will expand to become joint and interagency capabilities. Our control of the sea allows us to use it as a vast maneuver space—365 days a year. Seabasing allows us to project influence and expeditionary power in the face of access challenges, a distinct asymmetric advantage. These capabilities allow maritime forces to support our partners and to deter and defeat

adversaries in a complex and uncertain future. Today, another generation of Naval planners continues to envision how our amphibious capabilities can evolve into more fully sea-based operations and better meet the Combatant Commanders' varied and competing requirements.

Amphibious Ship Requirements

The maritime strategy advocates *credible* combat power as a deterrent to future conflict. The Marine Corps supports this capability through the flexibility and combat power of the Marine Air Ground Task Force embarked on amphibious warfare ships. By far the most complex of our congressionally-mandated missions, amphibious forcible entry requires long-term resourcing and a high-level of proficiency. It is not a capability that we can create in the wake of a threat.

The characteristics of amphibious ships (their command and control suites, flight decks, well decks, air and surface connectors, medical facilities, messing and berthing capacity, and survivability) merged with the general-purpose nature of embarked Marines, make them multi-mission platforms—unbeatable in operations ranging from humanitarian assistance to amphibious assault. These forces have brought hope and assistance to peoples ravaged by tsunamis, earthquakes, and cyclones—even hurricanes in our own country. They have provided a powerful combat force from the sea as evidenced by the opening days of Operation ENDURING FREEDOM when Marines provided the first conventional forces ashore in Afghanistan. An equally powerful force assaulted from amphibious ships up the Al Faw peninsula in early weeks of Operation IRAQI FREEDOM. In spite of the proliferation of anti-access technologies among state and non-state actors, Navy-Marine Corps amphibious capabilities have answered our Nation's "911 call" over 85 times since the end of the Cold War. Many international navies have recognized the value of amphibious warfare ships—as evidenced by the global renaissance in amphibious ship construction.

Based on strategic guidance, in the last several years we have accepted risk in our Nation's forcible entry capacity and reduced amphibious lift from 3.0 Marine Expeditionary Brigade (MEB) assault echelons to 2.0 MEB assault echelons. In the budgetary arena, the value of amphibious ships is too often assessed exclusively in terms of forcible entry—discounting their demonstrated usefulness across the range of operations and the clear imperative for Marines embarked aboard amphibious ships to meet Phase 0 demands. The ability to transition between those two strategic goalposts, and to respond to every mission-tasking in between, will rely on a strong Navy-Marine Corps Team and the amphibious ships that cement our bond. The Navy and Marine Corps have worked diligently to determine the minimum number of amphibious ships necessary to satisfy the Nation's needs—and look forward to working with the Committee to support the Chief of Naval Operation's shipbuilding plans.

The Marine Corps' contribution to the Nation's forcible entry requirement is a single, simultaneously-employed two Marine Expeditionary Brigade (MEB) assault capability—as part of a seabased Marine Expeditionary Force. Although not a part of the Marine Expeditionary Force Assault Echelon, a third reinforcing MEB is required and will be provided via Maritime Prepositioning Force (Future) capabilities. Each MEB assault

echelon requires seventeen amphibious warfare ships—resulting in an overall ship requirement for thirty-four amphibious warfare ships. However, given current fiscal constraints, *the Navy and Marine Corps have agreed to assume greater operational risk by limiting the assault echelon of each MEB by using only fifteen ships per MEB*—in other words, a Battle Force that provides thirty operationally available amphibious warfare ships. In that thirty-ship Battle Force, ten aviation-capable big deck ships (LHA / LHD / LHA(R)) and ten LPD 17 class ships are required to accommodate the MEB's aviation combat element.

In order to meet a thirty-ship availability rate —based on a Chief of Naval Operations-approved maintenance factor of 10%—a minimum of eleven ships of each of the current types of amphibious ships are required—for a total of thirty-three ships. The Navy has concurred with this requirement for thirty-three amphibious warfare ships, which provide the "backbone" of our maritime capability—giving us the ability to meet the demands of harsh environments across the spectrum of conflict.

Amphibious Assault Ship (Replacement) (LHA(R)). The legacy *Tarawa* class amphibious assault ships reach the end of their service life during 2011-2015. The eighth *Wasp* class LHD (multi-purpose amphibious assault ship) is under construction and will replace one *Tarawa* class ship during Fiscal Year 2008. To meet future warfighting requirements and fully capitalize on the capabilities of the MV-22 and Joint Strike Fighter, two LHA(R) class ships with enhanced aviation capabilities will replace the remaining LHA class ships. These ships will provide enhanced hangar and maintenance spaces to support aviation maintenance and increased jet fuel storage and aviation ordnance magazines. We are investigating the feasibility of incorporating the reduced island concept and well-deck capabilities in future, general-purpose assault ship construction.

Amphibious Transport Dock (LPD). The LPD 17 *San Antonio* class of amphibious warfare ships represents the Department of the Navy's commitment to a modern expeditionary power projection fleet that will enable our naval force to operate across the spectrum of warfare. It is imperative that eleven of these ships be built to meet the minimum of ten necessary for the 2.0 MEB assault echelon amphibious lift requirement.

The Navy took delivery of the first LPD 17 in the summer of 2005 and operational evaluation is scheduled for Spring 2008. The LPD 17 class replaces four classes of older ships—LKA, LST, LSD 36, LPD 4—and will have a forty-year expected service life. LPD 17 class ships will play a key role in supporting the ongoing Long War by forward deploying Marines and their equipment to better respond to crises abroad. Its unique design will facilitate expanded force coverage and decreased reaction times of forward deployed Marine Expeditionary Units. In forcible entry operations, the LPD 17 will help maintain a robust surface assault and rapid off-load capability for the Marine Air Ground Task Force and the Nation.

The Maritime Prepositioning Force

Capable of supporting the rapid deployment of three Marine Expeditionary Brigades (MEB), the Maritime Prepositioning Force is an important element of our expeditionary warfighting capability. MPF is a proven capability and has been used as a force deployment option in selected contingencies, to close forces on accelerated timelines for major combat operation, and in combination with amphibious forces to rapidly and simultaneously react to crises in more than one theater.

The next and necessary evolution of this program is incorporation of the Maritime Prepositioning Force-Future (MPF(F)) Squadron into the existing MPF Program. MPF(F) is a key enabler for Seabasing and will build on the success of the legacy Maritime Prepositioning Force program. MPF(F) will provide support to a wide range of military operations with improved capabilities such as at-sea arrival and assembly, selective offload of specific mission sets, and long-term, sea-based sustainment. From the sea base, the squadron will be capable of prepositioning a single MEB's critical equipment and sustainment for delivery—without the need for established infrastructure ashore.

While the MPF (F) is not suitable for forcible entry operations, it is critical for the rapid build up and sustainment of additional combat forces once our entry has been achieved by our assault echelon—launched from amphibious assault ships. The MPF(F), along with two legacy MPF squadrons, will give the Marine Corps the capacity to quickly generate three MEBs in support of multiple Combatant Commanders. The MPF(F) squadron composition decision was made in May 2005. That squadron is designed to consist of three aviation-capable big-deck ships, three large medium-speed roll-on/roll-off ships, three T-AKE supply ships, three Mobile Landing Platforms, and two dense-packed container ships. All of these will be crewed by civilian mariners and, as stated earlier, are not designed to conduct forcible entry operations. The program is currently in the technology development phase of acquisition, with a Milestone B decision planned in Fiscal Year 2008.

Mobile Landing Platform (MLP). The MLP is perhaps the most flexible platform in the MPF(F) squadron. Designed to be the "pier in the ocean," the MLP is an interface platform for other surface lift ships and vessels. Instead of ships and lighters going to a terminal on shore, they could transfer vehicles and equipment to and from the MLP. The ship is being designed to interface with MPF(F) Large Medium-Speed Roll-on/Roll-off ships through sea state four and accommodate Landing Craft Air Cushion operations in sea state three at a minimum. Additionally other service platforms could leverage the ship as an interface. In concert with the Navy, the MLP capabilities development document was delivered to the Joint Requirements Oversight Counsel in January 2007.

Dry Cargo/Ammunition Ship (T-AKE). The T-AKE is a selectively off-loadable, afloat warehouse ship, which is designed to carry dry, frozen, and chilled cargo; ammunition; and limited cargo fuel. Key holds are reconfigurable for additional flexibility. It has a day/night capable flight deck. These ships can support the dry cargo and compatible ammo requirements of Joint forces and are the same ship class as the Combat Logistics Force T-AKE ships.

Large Medium-Speed Roll-on/Roll-off (LMSR) Ship. The LMSRs were designed to accommodate the Department of Defense's largest vehicles—such as the Abrams Tanks, Rough Terrain Cargo Handler, and tractor trailers; this capacity is being leveraged to support Marine Corps vehicles and equipment. These ships, modified for MPF(F), will be very large, afloat equipment staging areas with additional capabilities including vehicle maintenance areas, berthing, ammunition breakout areas, two aviation operating spots, underway replenishment equipment, MLP interface, and a 113-ton crane capable of lifting vehicles or shipping containers. Importantly, they will also reduce strategic airlift requirements associated with our fly-in echelon.

Ship-to-Shore Mobility

Historically, Marine Corps amphibious power projection has included a deliberate buildup of combat power ashore; only after establishment of a beachhead could the Marine Air Ground Task Force begin to focus its combat power on the joint force's operational objective. Advances in mobility, fires, and sustainment capabilities will greatly enhance operations from over the horizon—by both air and surface means—with forces moving rapidly to operational objectives deep inland without stopping to seize, defend, and build up beachheads or landing zones. The ability to project power inland from a mobile sea base has utility across the spectrum of conflict—from humanitarian assistance to major combat operations. The Expeditionary Fighting Vehicle, MV-22 Osprey, and CH-53K heavy lift helicopter are critical to achieving necessary capabilities for future expeditionary operations.

High Speed Connectors. High-speed connectors will facilitate sustained seabased operations by expediting force closure and allowing the necessary sustainment for success in the littorals. Coupled with strategic airlift and sealift assets, the Joint High Speed Vessel and Joint Maritime Assault Connector provide an intra-theater capability, which enables rapid closure of Marine forces and sustainment ashore. These platforms will link bases and stations around the world to the sea base and other advanced bases, as well as provide linkages between the sea base and forces operating ashore.

VI. Taking Care of our Marines and our Families

Our most precious asset is the individual Marine. Our Marines and families have been steadfast and faithful in their service to our country, and we have an equally enduring obligation to them. As such, we are committed to putting our family programs on a wartime footing—our Marines and families deserve no less.

Putting Family Readiness Programs on a Wartime Footing

Last year, we directed a rigorous assessment of our family programs and have aggressively moved forward to improve them at every level. We continue our assessments—targeting younger Marines and their families to ensure that we are fully addressing their needs. We request that Congress continue to support these initiatives so that we can advance these reforms to meet the evolving requirements of our warfighters and their families.

Our Marine Corps Family Team Building Program and unit Family Readiness Programs, the centerpiece to our family support capability, was based on a peacetime model and 18-month deployment cycles. It was also largely supported on the backs of our dedicated volunteers; our volunteers have been performing magnificently while shouldering the lion's share of this program—but it is time to dedicate sufficient resources in light of the demands of our wartime operations.

We have recently initiated a sustained funding increase to implement Marine Corps family readiness reforms in Fiscal Year 2008. These reforms include:

- Formalizing the role and relationship of process owners to ensure accountability for family readiness;
- Expanding programs to support the extended family of a Marine (spouse, child, and parents);
- Establishing primary duty billets for Family Readiness Officers at regiment, group, battalion, and squadron levels;
- Improving the quality of life at remote and isolated installations;
- Increasing Marine Corps Family Team Building installation personnel;
- Refocusing and applying technological improvements to our communication network between commanders and families;
- Dedicating appropriate baseline funding to command level Family Readiness Programs; and
- Developing a standardized, high-quality volunteer management and recognition program.

The Marine Corps continues its proud heritage of "taking care of its own" and ensuring family programs sustain our families and our Marines for the Long War.

Casualty Assistance

Your Marines proudly assume the dangerous, but necessary, work of serving our Nation. Some Marines have paid the ultimate price, and we continue to honor them as heroes for their immense contributions to our country. Our casualty assistance program continues to evolve to ensure the families of our fallen Marines are always treated with the utmost compassion, dignity, and honor.

Our trained Casualty Assistance Calls Officers provide the families of our fallen Marines assistance to facilitate their transition through the stages of grief. Last year, Congressional hearings and inquiries into casualty next-of-kin notification processes revealed deficiencies in three key and interrelated casualty processes: command casualty reporting, command casualty inquiry and investigation, and next-of-kin notification. These process failures were unacceptable. Instantaneous with discovery of the process failures, we ordered an investigation by the Inspector General of the Marine Corps and directed remedial action to include issuing new guidance to commanders—reemphasizing investigation and reporting requirements and the importance of tight links between these two systems to properly serve Marines and their families. We will continue to monitor our processes, making every effort to preclude any future errors and to ensure Marines and families receive timely and accurate information relating to their Marine's death or injury.

Wounded Warrior Regiment

In April 2007, the Wounded Warrior Regiment was activated to achieve unity of command and effort in order to develop a comprehensive and integrated approach to Wounded Warrior care. The establishment of the Regiment reflects our deep commitment to the welfare of our wounded, ill, and injured. The mission of the Regiment is to provide and facilitate assistance to wounded, ill, and injured Marines, Sailors attached to or in support of Marine units, and their family members, throughout all phases of recovery. The Regiment provides non-medical case management, benefit information and assistance, and transition support. We use "a single process" that supports active duty, reserve, and separated personnel and is all inclusive for resources, referrals, and information.

There are two Wounded Warrior Battalions headquartered at Camp Lejeune, North Carolina, and Camp Pendleton, California. The Battalions include liaison teams at major military medical treatment facilities, Department of Veterans Affairs Polytrauma Rehabilitation Centers and Marine Corps Base Naval Hospitals. The Battalions work closely with our warfighting units to ensure our wounded, ill and injured are cared for and continue to maintain the proud tradition that "Marines take care of their own."

The Regiment is constantly assessing how to improve the services it provides to our wounded, ill, and injured. Major initiatives of the Regiment include a Job Transition Cell manned by Marines and representatives of the Departments of Labor and Veteran Affairs. The Regiment has also established a Wounded Warrior Call Center for 24/7 support. The Call Center both receives incoming calls from Marines and family members

who have questions, and makes outreach calls to the almost 9,000 wounded Marines who have left active service. A Charitable Organization Cell was created to facilitate linking additional wounded warrior needs with charitable organizations that can provide the needed support. Additionally, The Regiment has also strengthened its liaison presence at the Department of Veterans Affairs Central Office. These are just some of the initiatives that reflect your Corps' enduring commitment to the well-being of our Marines and Sailors suffering the physical and emotional effects of their sacrifices for our great Nation.

We are at the beginning of a sustained commitment to care and support our wounded, ill and injured. As our Wounded Warrior Program matures, additional requirements will become evident. Your continued support of new legislation is essential to ensure our Wounded Warriors have the resources and opportunities for full and independent lives.

Thank you for your personal and legislative support on behalf of our wounded warriors. Your personal visits to them in the hospital wards where they recover and the bases where they live are sincerely appreciated by them and their families. Your new Wounded Warrior Hiring Initiative to employ wounded warriors in the House and Senate demonstrates your commitment and support of their future well-being. We are grateful to this Congress for the many wounded warrior initiatives in the 2008 National Defense Authorization Act. This landmark legislation will significantly improve the quality of their lives and demonstrates the enduring gratitude of this Nation for their personal sacrifices. I am hopeful that future initiatives will continue to build upon your great efforts and further benefit the brave men and women, along with their families, who bear the burden of defending this great country.

Traumatic Brain Injury (TBI)

With the frequent use of improvised explosive devices (IEDs) and improved protective measures that reduce mortality rates, more Marines are exposed to possible traumatic brain injuries. As with other poorly understood injuries, there is sometimes a reluctance by individual Marines to seek medical attention at the time of the injury. Education is the best way to reduce this stigma, and it is to be the most effective treatment for those suffering a mild injury. TBI awareness and education is part of pre-deployment and routine training. All Marines are being screened for TBI exposure during the post-deployment phase and those identified as injured receive comprehensive evaluation and treatment. A pilot program for baseline neurocognitive testing is being implemented to improve identification of TBI and maintain individual and unit readiness in the field. The Marine Corps continues to work closely with DoD's Center of Excellence for Psychological Health and Traumatic Brain Injury to continue to advance our understanding of TBI and improve the care of all Marines.

Post Traumatic Stress Disorder (PTSD)

The Marine Corps Combat Development Command, Marine Corps Training and Education Command, Naval Health Research Center, and others are studying ways to identify risk and protective factors for Post-Traumatic Stress Disorder (PTSD) and to increase our resilience to stress. By improving the awareness of both individuals and our leaders, we can provide early identification and psychological first aid for those who are stress-injured. Better screening and referral of at-risk Marines are underway via pre- and post-deployment standard health assessments that specifically screen for mental health problems. The Department of Veterans Affairs has established comprehensive guidelines for managing post-traumatic stress, which are available to all services.

The Marine Corps is grateful for the effort Congress has put into making TBI, PTSD, and other-combat-related mental illness issues a top priority. We will continue to do the same so that we can further improve our knowledge and treatment of these disorders.

Combat and Operational Stress Control (COSC)

Marine Corps commanders are fully engaged in promoting the psychological health of our Marines, Sailors, and family members. Our commanders bear responsibility for leading and training tough, resilient Marines and Sailors, and for maintaining strong, cohesive units. Unit commanders have the greatest potential for detecting stress occurrences and assessing impact on warfighters and family members. Our leaders establish an environment where it is okay to ask for help and that combat stress is as deserving of the same respect and care as any physical wound of war. With the Navy's medical community, we are expanding our program of embedding mental health professionals in operational units—the Operational Stress Control and Readiness (OSCAR) program—to directly support all elements of the Marine Air-Ground Task Force. We also continue our collaboration with sister Services, the Department of Veterans Affairs' National Center for Post-traumatic Stress Disorder, and external agencies to determine best practices to better support Marines and their families.

Family Member Pervasive Developmental Disorders

The effectiveness of Marines and Sailors during deployment is dependent upon the adequacy of support provided to family members at home. Children of Service members with special needs, to include pervasive developmental disorders, have additional medical, educational, and social needs that are challenging to meet even when both parents are available. The TRICARE Enhanced Care Health Option has not been able to provide sufficient support. To address this issue, the Marine Corps is working with the Department of Defense Office of Family Policy Work Group on examining options to expand its Educational & Developmental Intervention Services (EDIS), a program that delivers Early Intervention Services to eligible infants and toddlers in domestic and overseas areas as well as through Medically Related Service programs in Department of Defense schools overseas.

Exceptional Family Member Program (Respite Care)

Parental stress can be heightened for families that are not only impacted by the current operational tempo but are also caring for a child with special needs. To focus on this need, we offer our active duty families enrolled in the Exceptional Family Member Program up to 40 hours of free respite care per month for each exceptional family member. We seek to provide a "continuum of care" for our exceptional family members. In this capacity, we are using our assignment process, working with TRICARE and the Department of the Navy Bureau of Medicine and Surgery to expand access and availability to care, and providing family support programs to ease relocations and ensure quality care transitions.

Water Contamination at Camp Lejeune

Past water contamination at Camp Lejeune has been and continues to be a very important issue for the Marine Corps. Our goal is, using good science, determine whether exposure to the contaminated water at Camp Lejeune resulted in any adverse health effects for our Marines, their families, and our civilian workers.

The Marine Corps continues to support the Agency for Toxic Substances and Disease Registry (ATSDR) in their health study, which is estimated to be completed during 2009. With the help of Congress, the highly respected National Academy of Sciences is now helping us develop a way ahead on this difficult issue.

The Marine Corps continues to make progress notifying former residents and workers. We have established a call center and notification registry where the public can provide contact information so that we can keep them apprised of the completion of these health studies.

VII. Beyond the Horizon—Posturing the Marine Corps for the Future

History has proven that we cannot narrowly define the conditions for which our military must be ready. With little warning, our Nation has repeatedly called its Corps front and center. In the southern Pacific after Pearl Harbor, in Korea after the communist invasion in 1950, in the mountains of Afghanistan after 9/11, and southern Asia in the wake of the catastrophic tsunami of 2004—to name a few. These strategic surprises demonstrate the broad range of possibilities for which the Marine Corps must be prepared.

The United States faces a complex mix of states who sponsor terrorism, regional and rising peer competitors, failing states that undermine regional stability, and a variety of violent non-state actors—religious extremists, insurgents, paramilitary forces, pirates, and other criminals—all serving to destabilize legitimate governments and undermine security and stability of the greater global community. We see this global security context as a persistent condition for the foreseeable future.

Our Nation and its international partners are engaged in a global struggle for influence at the same time our access to many areas is acutely challenged—diplomatically, militarily, and geographically. In the past, the United States has maintained large forces on a significant number of permanent bases beyond our shores. Today, however, we have far fewer installations overseas. When conflict is imminent or crises occur, which may require land-based forces, we must conduct extensive diplomatic negotiations to acquire basing rights. Because of local and regional political, social, or economic pressures, even countries friendly to the United States decline to host or place conditional restrictions on basing U.S. forces. Furthermore, proliferation of anti-access technology among state and non-state actors further diminishes access opportunities.

Our national interests increasingly require us to operate in remote, developing regions of the world where infrastructure is either insufficient or rendered useless by natural disasters. The growing trend of violent, transnational extremism is especially prevalent in many of these remote areas. In addition to ethnic and religious intolerance, many developing regions are troubled with economic challenges and infectious diseases. These problems are especially severe in the densely populated urban centers common to the world's littorals, resulting in discontented populations ripe for exploitation by extremist ideologues and terrorist networks. We estimate that by the 2035 timeframe, more than 75% of the world's population will live within just 120 miles of the ocean; alternative energy sources will not be mature, so industrial and, increasingly, developing nations will depend on the free flow of oil and natural gas. Fresh water will be as equally important as petroleum products; during the 20th century, while the global population increased 300%, the demand for water increased 600%. Demographics and the aging of the population in industrial countries, accompanied by a youth bulge in developing countries, will literally change the face of the world as we know it. The U.S. technological advantage, economic power, and military might still exceed that of other nations, but will not be nearly as dominant.

Given these strategic conditions, the requirement for maritime forces to project U.S. power and influence has increased—and will continue to increase. With its inherent advantages as a seabased and expeditionary force, the Marine Corps can quickly reach key areas of the globe in spite of challenges to U.S. access. The Marine Corps and its naval partners will expand the application of seapower across an even wider range of operations to promote greater global security, stability, and trust—key objectives for winning the Long War. Our seabased posture will allow us to continue to conduct "Phase 0" operations with a variety of allies and partners around the world to ease sources of discontent and deter conflict. We must increase our capacity for these operations without forfeiting our warfighting prowess in the event of a major regional conflict. As a forward-deployed force, we are able to achieve familiarity with various environments, as well as behavioral patterns of regional actors—contributing to our significant advantage in speed and flexibility.

Recently combat-tested in the Middle East and historically engaged in the Pacific, the Marine Corps will seek to further enhance its operational capabilities in the Pacific theater. Some areas like Africa offer unique challenges and opportunities for significant U.S. engagement. The shear breadth and depth of that great continent present their own challenges, but given the operational flexibility afforded by Seabasing and the extended reach of the MV-22 and KC-130J, the future bodes well for the ability of dispersed units of Marines—with interagency partners—to extend our partnerships within the continent of Africa.

Security Cooperation Marine Air Ground Task Force (MAGTF)

The linchpin of future Marine efforts to support the engagement requirements of combatant commanders to build partnership capacity will be the Security Cooperation Marine Air Ground Task Force. Similar to a Marine Expeditionary Unit but regionally-focused and task organized for security cooperation, Security Cooperation MAGTFs will provide training and assistance to partner nations—shaping the environment and deterring irregular adversaries.

The units comprising the Security Cooperation MAGTF are general purpose forces, which will maintain a foundation of excellence in combined arms and the full range of military operations. Additional training in culture, language, and foreign internal defense will further prepare these units for the unique tasks needed to train foreign militaries. Able to aggregate and dis-aggregate based on mission requirements, elements of the Security Cooperation MAGTFs will be capable of operating for sustained periods and will help prepare the militaries of partner nations to disrupt irregular adversaries and reduce the requirement for U.S. forces to be committed to these regions.

Defense Policy Review Initiative (DPRI) / Guam

Our recent force posture agreement reached under the auspices of the Defense Policy Review Initiative with Japan is facilitating an opportunity to more effectively employ Marine Corps forces while mitigating the effects of encroachment around United States facilities in Japan. The most significant DPRI action is completion of the Futenma Replacement Facility on Okinawa. Its completion is a prerequisite for realignment of Marine units north of Kadena Air Force Base on Okinawa, shifting KC-130s from Futenma to Iwakuni, Japan, and movement of approximately 8,000 Marines and their family members from Okinawa, Japan, to Guam. The Government of Japan is prepared to bear much of the cost associated with the planned changes, but there are still significant remaining military construction and other infrastructure needs that require United States financial support. For the past two years, the Marine Corps has worked with numerous stakeholders to shape the eventual basing of forces onto Guam. The Department of Navy-led Joint Guam Program Office is leading the detailed facility-level planning effort to support the force buildup on Guam. The Marine Corps is working with Joint Guam Program Office, the Secretary of the Navy, and Commander, United States Pacific Command to ensure plans meet operational requirements.

Law of the Sea Convention

To be able to maneuver from the seas in a timely and reliable manner, and in concert with the U.S. Navy, we support joining the Law of the Sea Convention. Joining the Convention will best preserve the navigation and overflight rights that we need to reliably maneuver and project power from the sea.

The Future of Training and Education

With Marine forces so heavily engaged in counterinsurgency operations, we will have to take extraordinary steps to retain the ability to serve as the Nation's shock troops in major combat operations. Continued congressional support of our training and education programs will enable us to remain faithful to our enduring mission: To be where the country needs us, when she needs us, and to prevail over whatever challenges we face.

The Long War requires a multi-dimensional force that is well trained and educated for employment in all forms of warfare. Historically, our Corps has produced respected leaders who have demonstrated intellectual agility in warfighting. Our current deployment tempo increasingly places our Professional Military Education (PME) programs at risk. No level of risk is acceptable if it threatens the steady flow of thinkers, planners, and aggressive commanders who can execute effectively across the entire spectrum of operations.

Marine Corps University (MCU). We have made substantial improvements in our Officer and Enlisted Professional Military Education (PME) programs and have significant improvements planned for the future. Marine Corps War College was the first senior Service college to be certified as Joint PME II and will soon undergo accreditation as

part of the process for joint education accreditation by the Joint Staff. The Command and Staff resident and non-resident programs are scheduled for Joint PME I re-accreditation in September 2008. We have integrated irregular warfare instruction throughout all levels of PME; at the same time, balance between irregular and conventional warfare has been maintained so as not to lose sight of our essential core competencies, including amphibious operations. Additionally, MCU has led the way for integration of culture and language by continually refining their curricula to provide proper balance among PME, culture, and language.

Last year we conducted a comprehensive assessment of the health of PME. The assessment examined six areas: students, curriculum, educational programs, staff, infrastructure, and policy. We are working diligently to improve our information technology and infrastructure by developing a facility master plan to accommodate needed growth. We must develop an aggressive plan and commit resources for additional faculty, facilities, and resources. The assessment was informative—we have world-class students, curricula, and faculty as evidenced by Marines' performance on today's battlefields. With continued Congressional support, we can build our information technology and facility structure to match.

Marine Corps Center for Lessons Learned. Our Marine Corps Center for Lessons Learned applies lessons from operational experiences as well as those of the Joint Staff, other Services, and Joint Forces Command to guide efforts for "fine tuning" and transforming our force. This rapid, continuous process ensures the latest enemy and friendly tactics, techniques, and procedures are used in training and are part of the decision-making for institutional changes. In 2007, as result of these lessons learned, the Marine Corps implemented changes in pre-deployment training in such areas as detention operations; transition teams; interagency coordination of stability, support, transition, and reconstruction operations; irregular warfare; and the role of forensics in counterinsurgency operations.

Center for Irregular Warfare. In 2007, we established the Center for Irregular Warfare as the primary Marine Corps agency for identifying, coordinating, and implementing irregular warfare capability initiatives. The Center reaches out through the Center for Advanced Operational Culture Learning (CAOCL) and Security Cooperation Education and Training Center (SCETC) to other military and civilian agencies. Last year, the CAOCL expanded beyond pre-deployment unit training by offering operational culture, regional studies, and limited language courses for officer professional military education programs. Thus far, approximately 2,100 new lieutenants have been assigned regions for career long-term study through the regional learning concept, which will be expanded this year to include sergeants, staff sergeants, and captains. Both officer and enlisted Marines will receive operational culture education throughout their careers. We plan to have Language Learning Resource Centers at the eight largest Marine Corps bases and stations to provide local, on-call, operational language training. Congressional support, to include recent supplemental funding, has been invaluable.

Since early 2006, our SCETC formalized our military advisor training process and trained over thirty transition teams Fiscal Year 2007. In Fiscal Year 2008, the SCETC is scheduled to train over 100 teams (over 2,000 Marine advisors) as well as stand up a Marine

Corps Training Advisory Group to manage the global sourcing of future transition and security cooperation teams.

Foreign Area Officers. The Marine Corps has begun an expansion of its Foreign Area Officer (FAO) program in response to the wide-spread demand for language and cultural expertise for worldwide service with the Defense Attaché System and combined, joint, and Service headquarters. As a result, the training of Marine FAOs will more than double in the near term. In addition to our traditional emphasis on Arabic, Russian, and Chinese, FAOs selected this year will learn more than a dozen different foreign languages, including Pashto, Hindi, Thai, French, and Indonesian.

Training Marine Air Ground Task Forces

Operations in support of the Long War have significantly increased our training requirements. To meet deployment requirements and remain skilled in the full spectrum of operations, Marines must now train to a broader range of skills. However, due to high operational tempo, we face ever-decreasing timetables for Marines to achieve mastery of these skills. Our first major initiative to maximize effective use of limited time for training was the establishment of a standardized and well-defined Pre-deployment Training Program. Subsequently, we have instituted two additional training efforts: the Marine Combat Operations Training Group and the Infantry Battalion Enhancement Period Program.

Marine Corps Tactics and Operations Group (MCTOG). We recently established the MCTOG to provide standardized training and instructor qualifications for ground combat elements, similar to our exceptionally successful Marine Aviation Weapons and Tactics Instructor Course in Yuma, Arizona. The MCTOG is developing and implementing a Ground Combat Element Operations and Tactics Training Program to provide advanced training in MAGTF operations, combined arms training, and unit training management and readiness at the battalion and regimental levels. We will improve unit preparation and performance by:

- Providing focused, advanced instruction for key battalion and regimental staff personnel, and
- By assisting with the identification and vetting training requirements and deficiencies for our ground combat elements.

Located at Twentynine Palms MAGTF Training Center, the MCTOG will reach an Initial Operating Capability by Spring 2008 and a Full Operating Capability by Spring 2009.

Marine Aviation Training Systems Program (ATS). Marine Aviation, through Aviation Training Systems (ATS), is pursuing the development of fully integrated training systems at the post-accession aviation officer and enlisted level, to greatly enhance operational readiness, improved safety through greater standardization, and to significantly reduce the life cycle cost of maintaining and sustaining aircraft. ATS will plan, execute, and manage Marine Aviation training to achieve individual and unit combat readiness through standardized training across all aviation core competencies.

29 Palms Land Expansion. The Marine Corps currently lacks a comprehensive training capability to exercise all elements of a Marine Air-Ground Task Force (MAGTF) in an environment that replicates operational conditions with our current equipment—as our new weapons systems have greatly increased ranges over legacy systems. As a result, we are conducting planning studies for expansion of our range complex at the Marine Corps Air Ground Combat Center in Twentynine Palms, California. Implementing this action will involve acquiring land and seeking assignment of airspace by the Federal Aviation Administration in support of large-scale MAGTF live fire and maneuver training. This will give us the maneuver space to simultaneously train three to four battalions in the range complex and train with our current equipment. Our proposed complex will further facilitate the use of the Western Range Training Complex and lead to the capability for future large-scale MAGTF, Coalition, and Joint National Training Center training.

Modernization of Training Ranges. In 2001, we activated a Range & Training Area Management Division, and in 2004, we began a comprehensive investment program to sustain, upgrade, and modernize our training infrastructure. This modernization effort provides tools for better planning and execution of live training. The four principles of our program are:

- Preserve and enhance our live-fire combined arms training ranges. The full development of our doctrine and the integrated employment of air and ground weapons will continue to require access to the volume of land and air space available at these larger installations.
- Recapture the unit-training capabilities of the Nation's two premier littoral training areas, Camp Lejeune and Camp Pendleton. The transition of expeditionary combat power from sea to shore remains among the most challenging of military tasks, and we must reorient and update our training capabilities.
- Provide timely and objective feedback to Marines who are training. Proficiency with individual weapons and in combined-arms requires that we provide venues that have the air and land space to allow realistic employment and the instrumentation and targetry to provide objective, actionable feedback.
- Ensure our complexes are capable of supporting joint forces. Common range infrastructure and systems architecture to support the joint national training capability are requirements of our modernization program.
- The range modernization program is a program of record and has successfully programmed the resources to continue operating and maintaining the many investments made with supplemental and congressional-add funds.

Core Values and Ethics Training

As part of our ethos, we continually seek ways to improve ethical decision-making at all levels. In 2007, we implemented the following initiatives to strengthen our Core Values training:

- Tripled the amount of time Drill Instructor and recruits conduct "foot locker talks" on values;
- Institutionalizing habits of thought for all Marines operating in counterinsurgencies, the message of the importance of ethical conduct in battle, and how to be an ethical warrior is being strengthened and re-emphasized at all levels of the Marine Corps;
- Published pocket-sized *Law of War, Rules of Engagement, and Escalation of Force* guides;
- Increased instruction at our Commander's Course on command climate and the commander's role in cultivating battlefield ethics, accountability, and responsibility; and
- Educated junior Marines on the "strategic corporal" and the positive or negative influence they can have; and
- Re-invigorated the Values component of our Marine Corps Martial Arts Program, which teaches Core Values and presents ethical scenarios pertaining to restraint and proper escalation of force as the foundation of its curriculum.

We imbue our Marines with the mindset that "wherever we go, everyone is safer because a U.S. Marine is there."

VIII. Conclusion

The Marine Corps continues to create a multi-capable force for our Nation—not only for the current operations in Iraq and Afghanistan, but also for subsequent campaigns of the Long War. We are committed to ensuring we remain where our country needs us, when she needs us, and to prevail over whatever challenges we face. Your continued support has been critical to our readiness for today and adaptation for tomorrow. I promise you that the Corps understands the value of each dollar provided and will continue to provide maximum return for every dollar spent.

Perhaps most importantly to keep in mind as we develop our force for the future, everything we read about the future indicates that well-trained, well-led human beings with a capacity to absorb information and rapidly react to their environment have a tremendous asymmetric advantage over an adversary. Ladies and gentlemen, that advantage goes to us. Our young Marines are courageous, willing to make sacrifices and, as evidenced by our progress in Al-Anbar, capable of operating in complex environments. Quiet in their duty yet determined in their approach, they are telling us loud and clear that wherever there is a job to be done, they will shoulder that mission with enthusiasm. On behalf of your Marines, I extend great appreciation for your support thus far and thank you in advance for your ongoing efforts to support our brave service men and women in harm's way.

NAVY AND MARINE CORPS INFRASTRUCTURE

Mr. MURTHA. Let me start out by saying that, you know, it is one thing to talk about how we support the families. We have put $400 million, this subcommittee did, last year. The Defense Department cut that back to $240 million. I mean, that doesn't look like it is supporting the families the way we think they should be supported. They have inadequate facilities in many places, they have inadequate counseling in many places. We do the best we can between this subcommittee and the members of this subcommittee, we try to make sure—we know how important the families are to the members themselves that are serving overseas. And it is discouraging when the Iraqis aren't stepping up putting their money in, the Europeans are not stepping up putting their money in. And the United States taxpayer keeps putting more money into these—$343 million a day.

But infrastructure is something we are going to try to do a little bit more for, medical infrastructure, this year. We are going to transfer money to the Military Construction Subcommittee; also for just regular infrastructure. But the shortages that we see and that you are talking about have to be taken care of. But we hope we will be able to get started in that direction this year. We see a change in direction. We want to look past Iraq into the future because there is nobody more than the Navy that prevents a war. You can deploy quickly, you can deploy to an area where they understand the might and military impact of the United States. And with the equipment the shape that it is in, it is going to be more difficult.

For instance, I don't even need to ask you if we can get to 313 ships at the numbers that the administration is sending over because it can't be done. And so we are going to add some ships, or at least we are going to recommend to the subcommittee that we will add some ships, to what you folks have been able to—what OMB has been able to let you recommend to the committee.

MARINE CORPS TRAINING

But let me ask you a question, Commandant. How long does it take you to train somebody for amphibious warfare? What would you say if you stop training from the current type training you are doing and you start training for amphibious warfare, the conventional-type operations?

General CONWAY. Sir, the issue is training certainly. But the larger issue is trainers, for years, and my coming up through the Corps, we always had this cadre of people who are very well experienced in amphibious operations, kind of the old hands who had been ship's company and had done multiple operations or exercises. Those folks are steadily leaving us. And we are not creating that cadre of trainers behind them. So that is my larger concern.

It has been four years now since we have done major amphibious exercises. I think it will be at least four years before we can gain back some of that level of expertise and get to a level of comfort to the point where that once again becomes a core competency. And I may be optimistic thinking that it is a one-for-one exchange. It may be worse than that.

CG(X) CRUISER

Mr. MURTHA. This is a problem that we have when we are training for this type of warfare and yet looking ahead trying to get past. So one of the things that I worry about, repairing equipment, nobody has done more than this Committee trying to put in enough money for reset and rehabilitation. While I am looking ahead, I am thinking to myself, if we don't start buying new equipment, if we don't start getting past this and buying the new equipment, we will never get to the point where we need to get where we have less maintenance costs, less fuel costs.

The Army came to this Committee about the FCS. Well, I have always been worried about FCS because it is $160 billion, and I don't see how we will get there. Well, they are trying to come up with a way they can cut back on some of the reset and get to the newer equipment, which reduces maintenance costs, reduces fuel costs. One of the proposals we have had is jump right over the destroyers and go to the cruisers which would be nuclear power. Yet it is impossible to get there, from what I understand, just because of the ship—the need to have an industrial base. In fact, we wouldn't have any ships in some of the shipyards. Is that a possibility at all?

Mr. WINTER. Mr. Chairman, there are several aspects associated with the ongoing DDG 1000 program. First of all, it is a very different ship than what we envision for the cruiser. It is the one mechanism of providing naval surface fire support to the Marines. And it is an ongoing activity that is very, I think, well planned and well established and critical to maintain in terms of ensuring that the industrial base is able to continue to evolve. At the same time, we need to make sure that we set the right groundwork for the cruiser development in the future.

We are still going through the analysis of alternatives associated with the CG(X) program. I think the process is a good one. I think the right questions are being asked. We also need to make sure that we take the time to answer those questions before we just run right into the development of that program, sir.

Mr. MURTHA. I hear two stories. One is that the nuclear-powered cruiser will save us a lot of money in fuel costs, and yet the upfront costs are so much, it would take 25 or 30 years to make up for that initial cost. Is that accurate?

Mr. WINTER. Well, sir, I think there is still a question as to what the break-even point would be. That is highly dependent on the cost of oil, and numbers have been bandied about from everything from $100-a-barrel oil, which is basically where we are right now, to $300 a barrel of oil, depending upon what you see is the future. And I can get estimates all over the map. Depending on who I talk to, you will get estimates all over the map. Depending on who I talk to, you will get different break-even points.

The other issue is that in the commercial world, I could go out in my old life and borrow money to be able to accommodate a cost savings in the future. We can't quite do that here. And so the additional costs associated with nuclear power for any of our surface combatants would come at the expense of other top line.

One other point I would make is that we know how to deal with nuclear power. We have got a tremendous track record, and, in fact, at this point in time, roughly half of the reactors operational in the United States are operated by the Navy. At the same time, I will tell you it takes a while to configure a reactor plant for a vessel, and it does provide some significant constraints. It is a lot easier to put a nuclear reactor in a large ship like a carrier than it is to be able to do it in a more volumetrically challenged vessel like a destroyer or a cruiser.

Mr. MURTHA. Mr. Young.

NAVY SONAR TRAINING

Mr. YOUNG. Mr. Chairman, thank you very much.

Chairman Murtha in his statement and one of his questions emphasized the importance of the Navy, and there is no doubt the importance of the Navy not only to Navy and the Sailors, but the Marines onboard the ships. And the mission of those ships is extremely important. But protecting those ships so they can perform the mission and protecting the crews onboard the ships is important.

Brings me to the subject of training. We have seen in recent times where we lost the training areas in Vieques, for example; we have lost bombing ranges for one reason or another. And now we are about to lose training areas for sonar; sonar which is very, very important to protecting the ships to do their mission and to protect the troops onboard.

You had an appeal to the Federal appeals court recently. Your appeal was rejected. I assume that you are not going to give up without a little more of a fight, considering the importance of sonar training to the protection of our Navy.

Mr. WINTER. Sir, I fully anticipate that we will be submitting a brief shortly for the Supreme Court to appeal the matter at hand associated with the southern California operating area.

Mr. YOUNG. Who will handle that? Will the Navy handle that, or will the executive branch——

Mr. WINTER. Department of Justice has the official responsibility for the actual matters. We have a dedicated team within the Department of the Navy within the General Counsel Office, supported by the JAG Corps and the operational Navy staff, providing the technical support to that activity.

Mr. YOUNG. Mr. Secretary, what will be the impact if you lose that appeal?

Mr. WINTER. I think that the impact could be very significant in terms of providing a series of constraints on our ability to train. Sonar is, I believe you know, and I would like to make sure everyone else does understand—is a phenomenology that in Iraq's, if you will, environment, sonar operation depends upon where you are, what the water column looks like, what the seabed looks like. And training of the Fleet needs to occur in areas that mimic, if you will, the operating areas that we expect to be encountering in our future. Without the ability to fully engage in that training, I think we would be hard pressed to argue that our Fleet was prepared to deal with the future threat.

I would also note that the training activities that we engage in take place over extended periods of time. It is not just a matter of turning on a sonar, getting a quick reading and deciding that you have got something worked. The engagement between the submarine force and the surface force that is trying to deal with it takes place over a long period of time. The interruption of that training, even if a whale or other marine mammal is seen at a great distance, can have a significant impact on the integrity of that training exercise.

And so we have a lot of concerns. We believe we have put forth a very good program right now. We have a series of 29 mitigation measures that we have operationally employed now for several years, and these measures call for surveillance of the test area, continuing observation, looking for marine mammals, and a very studied approach of reducing power, and, if necessary, turning off the exercise if a marine mammal gets too close. That approach, that set of mitigation measures, has proven to be very effective, and we have not had a single documented case of injury or death to a marine mammal since those measures have been put into place. To further build upon those and to keep on constraining the test regime further and further, which seems to be an approach desired by some out there, I think would hurt us significantly. And I ask CNO to comment.

Admiral ROUGHEAD. The challenges that are being posed by new designs of submarines are significant. They are becoming quieter, they are getting smaller, they do not have to come up and recharge their batteries as often as submarines in the past have had to do. They are difficult targets. And they are also proliferating at a significant rate.

We estimate that in the next two decades the submarine inventory in the world will increase by 50 percent, and that poses a challenge to the sea lanes of the world. We must be able to practice. We must be able to train. But we also have to be able to train in those areas that allow us to not only practice our antisubmarine warfare skill, because an adversary is going to throw everything they can at us—they are going to throw their submarines at us, they are going to attack us with cruise missiles, with airplanes, with other ships, and that is why we have to be in areas where we can bring all of those types of challenges to our Sailors so that they know what it is going to be like, and that they are properly prepared, that they know how to use their equipment, and that they are going to win.

Mr. YOUNG. Recently Captain Carney took me to visit where you train sea mammals to do some pretty exciting and pretty important missions for the Navy. And some of the scientists that we met with—and I asked the question, what is the effect of sonar on the whales or the other sea mammals? Their response, and they seemed to be in agreement, was that if it is uncomfortable for the whale to be in the area where the sonar is being exercised, he leaves. That seemed like a pretty simple answer to me. And, you know, these were scientists. I assume that they know what they are talking about. But I certainly hope that you succeed, and that we are not denied, because as the Admiral just mentioned this, how serious this threat could be, and we all know about the Chi-

nese submarine that recently trailed some of our Navy vessels undetected. So I hope that you are successful in that appeal to the Supreme Court.

AFGHANISTAN TROOP DEPLOYMENT

Mr. Chair, if I could ask a general question about the Afghanistan deployment. NATO has said that we need about 7,000 additional troops in NATO. You are going to send 3,400 marines, which is going to, according to your own statement, stretch you really thin. What do we know about whether or not NATO is going to actually step up and provide the additional 3,500 to 4,000 additional troops that we feel that we need there?

General CONWAY. Sir, I can only say, it is my perspective that that is not a closed chapter yet. I know that the Secretary and the Chairman attend frequent quarterly discussions with our NATO partners and allies, and it is the topic virtually on every occasion. So they continue to encourage them, if they can't provide maneuver battalions, provide police trainers, provide PRTs or provide soft kinds of power that the Afghan Government needs to become more effective in what it does for the people. So they continue to pound their drum, sir. I think I can fairly well assure you.

Mr. YOUNG. Well, it seems like NATO is not really stepping up as they should. Hopefully we can find some way to impress upon them the importance of not being undermanned there and so that we can have a successful conclusion.

Mr. Chairman, thank you very much.

CONTINUING RESOLUTION

Mr. MURTHA. One of the things I just wanted you to send for the record, I want to know what a CR would mean to you, because I am not sure we are going to have a bill this year just because of the problems that we have in both bodies. So send me a document that shows what would happen if we had a CR rather than a base bill this year. We will have a 2008 supplemental, but I am not sure we will have anything but a CR to get us through the rest of the year.

[The information follows:]

The Department of the Navy carries out programs that will need to be executed at the beginning of FY 2009 that would require adequate Continuing Resolution Authority (CRA) apportionment should the Congress implement CRA. These include Military Personnel bonus payments, mobilization costs, food service contracts, operations contracts for communications, equipment maintenance, facilities sustainment and restoration, as well as logistics support. Special consideration would also be required for multiple procurement contracts scheduled to fully execute at the beginning of the fiscal year.

Operating under a CR impedes our ability to honor commitments and award annual contracts. While the actual impact of operating under a CR is dependant upon both the level of funding authorized and the length of time approved, generally continuing resolutions are disruptive to operations. Without adequate funding while under a CR, the Department of the Navy may suffer readiness degradation of both deployed and non-deployed Navy and Marine Corps forces. The ability to continue the current pace of operations in Iraq and Afghanistan will be met, but preparing for the next rotation of forces or other contingencies may be jeopardized. The Navy may have to reduce air operations, ship operations, and combat support and delay ship depot maintenance. Also, environmental restoration requirements, and annual Base Operating Support contracts may not be issued along with Navy Service Wide Transportation contracts. Lastly, active military pay accounts for both the Navy and

Marine Corps would likely be insolvent soon into the CRA period without additional authority to continue bonus and mobilization payments.

NAVY CONTRACTORS IN THEATER

Second is I would like to have the number of contractors that the Navy has by category. I need to know whether security people, whether there are service people, foreign nationals and so forth. The Army is going to send me the same kind of list. So I would appreciate it if you would send us that list so we can find out. I was disappointed to hear that Secretary of the Army had 190,000 contractors in Iraq and Afghanistan. And I asked him the categories so we could see exactly what he is talking about. I know we need contractors. Do you have something?

Mr. WINTER. Sir, just as a point of clarification, if I could ask, you are talking about contractors in theater?

Mr. MURTHA. In theater, yes.

Mr. WINTER. In theater. Thank you, sir. I would be happy to provide that.

[The information follows:]

FY 2008 Type of contractor	Total contractors
Service	31
Security	0
Foreign	7
Logistics Support	72
Maintenance Support	113
Sustainment Support	34
Training Support	96
Staff Support	19
Performance Based	131
Comm Svcs Support	52
Spectrum Management	2
Total	557

Information provided by U.S. Fleet Forces Command, as the Navy Global Force Manager. These FY 2008 estimates do not include Logistics Civil Augmentation Program (LOGCAP). LOGCAP is a U.S. Army initiative for peacetime planning for the use of civilian contractors in wartime and other contingencies. These contractors will perform selected services to support U.S. forces in support of Department of Defense (DoD) missions. Use of contractors in a theater of operations allows the release of military units for other missions or to fill support shortfalls. This program provides the Army with additional means to adequately support the current and programmed forces.

Mr. MURTHA. Mr. Moran.

RECRUITING AND RETENTION

Mr. MORAN. Thank you, Mr. Chairman. That was a provocative question there.

I have got a couple of questions, but first I want to make a little observation, particularly to you, General Conway. So my nephew Kevin pulls a Jack Murtha, and he drops out of college so he can join the Marines, so he can fight in Iraq. So he finishes up Parris Island, and he is all set. You know, he is a football player-type guy, he is really gung-ho. And the Marine Corps says, sorry, you have to go into financial management training. We need all you smart guys to be going into financial management. He says, financial management? I want to go fight in Iraq. He says, well—he says,

why financial management? They said, well, the Congress is saying that we don't have enough control over our spending, so we need to get more people in financial management. So I blamed it on Norm Dicks.

I do want to ask you about—oh, about recruiting and retention, because there aren't a lot of Jack Murthas around, quite frankly, and as a result you are having to spend about $300 million on bonuses; $60,000 for specialty needs. How are you doing on meeting those specialty occupational categories that you so desperately need?

General CONWAY. Sir, we have been doing very well. We have been very pleased with our ability at a time in the country where the propensity on the part of all three major ethnic groups is not to join the military. We have been pleased with the ability of our recruiters to get out and to get into the schools and bring in the numbers that we need. As I mentioned in my opening statement, we thought we could keep the standards high and do about 5,000 a year after adding about 300 recruiters to the field and some use of bonuses, but not large numbers of bonuses, let's say, for enlistment. We apply bonuses more for reenlistment really than we do for initial entry. We have been able to manage all the fields pretty effectively.

And to your sort of vignette, sir, our recruiters tell us if they had all just infantry MOSs, they could close out by about the 10th of every month. That is the threat of great young Americans out there that want to fight for their country, if that is what the country is doing. We have a program, by the way, that tries to get every Marine into the fight. So if your nephew will be patient with us, there is every possibility or maybe probability we will get him where he wants to go.

Mr. MURTHA. Would the gentleman yield?

Mr. MORAN. Yes, sir.

Mr. MURTHA. Can you do without these bonuses? I joined, my three brothers joined, my dad and his brother joined. Can we do without these bonuses? Can't we rely on patriotism to get these guys in?

General CONWAY. Sir, if I had to separate out the Services, and I don't like to do that because there is, I think, a necessary inflection, that is what we do. We don't offer a $40,000 college loan or a small business loan when you get out. The bonus that an average Marine takes is probably on the order of $3,000 to $5,000. And what we sell is the fact that you are going to be a United States Marine. You are going to go fight for your country, and you are going to be a Marine for life.

Mr. MORAN. Mr. Chairman, Kevin didn't get a penny. And he doesn't know of any—his father could have used it. Okay. I have got another question here.

JOINT STRIKE FIGHTER

This is a little more serious, so we are going to ask Secretary Winter about the Joint Strike Fighter. Investment now approaches about a trillion dollars, awful lot of planes, and we are told that the total acquisition cost increased by more than $23 billion because of higher procurement costs. The GAO states that $288 bil-

lion for acquisition is unreliable because it is insufficiently documented. And then the GAO found that three independent defense offices separately concluded that program cost estimates are understated by as much as $38 billion, and that the schedule is going to slip from at least a year to more than 2 years.

You know, if we are spending nearly $1 trillion on the development and procurement of an aircraft, we have got to make sure that it meets our needs. And you really have to wonder what is such a substantial challenge that is going to face us in the near future for dominance of the airspace? We have got it. Nobody has any interest in trying to contest us for dominance of the airspace. And the GAO tells us that 90 percent of the acquisition program is still ahead of us. I mean, we are talking about an enormous amount of money.

Why do we need to be investing so much in an aircraft that really seems to be more about winning the last war, the Cold War, than dealing with the current threats to America's security by people and groups that are never going to have any jet fighters, even bombers, to contest air sovereignty? Do you want to handle that?

Mr. WINTER. I will take a crack at it, Congressman.

First of all, I will suggest that the JSF program, the F–35 program, is designed to provide us with a broad spectrum of air support capabilities that deal with the current engagement as well as any of the engagements that we are looking at in the future. The value of tactical air is something that has been proven time and time again, and for the most part, it relates to being able to control the air, but also to be able to project power from the air to the ground in support of ground forces or naval forces that are within the area of responsibility.

JSF is an overlay program, if you will. It has three separate components. It supports the STOVL, the short takeoff and vertical landing capability, that is critical to the Marine Corps right now for our big deck amphibs. We really have only one class of aircraft that is capable of flying off of them. That is the Harrier. That is a very old aircraft. It is in great need of replacement, and it is the core of our ability to provide support to our embarked Marines and any future amphibious operation that they engage in.

Similarly, the future for the Navy, the carrier variant is the mechanism of providing future capabilities that will span the spectrum of threats that we have to deal with for naval aviation, to be able to project power from the sea or to be able to deal with threats at the sea. A lot of the program is still ahead of us because we are still in the process of development.

We have established a program here of fly before you buy. We are going through a detailed evaluation and development activity to ensure that we have what we need. We are not going to place orders for any of these aircraft for production purposes until such time as we have had sufficient flight test evaluation. That is coming up here very shortly. We expect to see the STOVL first flight coming up here this year, later this year, and I think that that will be a good milestone at which point we will be able to evaluate where we are in terms of the overall development process and where we think we will be in terms of the future cost estimates.

Mr. MORAN. It is a great answer. That is what you are supposed to tell us. But, you know, the Navy and Marine Corps are absolutely essential, are always going to be absolutely essential, but we are getting to the point where this is kind of a zero-sum game. When you put a trillion dollars into the F–35, you are taking it from someplace else. And I really question 2,500 jet fighters at a trillion dollars is the best possible use of an enormous amount of resources that might otherwise go into other needs to address the real current kind of threat we face. But that is just a comment, and I appreciate the answer. There is nothing wrong with the answer, but I am not sure there isn't wrong with some of the policies.

Mr. MURTHA. Mr. Frelinghuysen.

CHINESE NAVY BUILDUP

Mr. FRELINGHUYSEN. Thank you, Mr. Chairman.

Gentlemen, good morning. Thank you for your service, and those of you that look after in Iraq and Afghanistan and around the world, and certainly to those who serve in the Navy doing in their military occupations things they weren't trained to do specifically, guarding those convoys and at time probably prisoners, all sorts of things that are pretty key and important to us.

One of the ways to discuss posture, which is sort of the focus of this hearing, is to talk about what other nations are doing. And I think quite a lot we focus on the build-up of what is happening in China. I think maybe less attention is focused on Russia. You are familiar, Admiral, with—you know the incident in late 2006 of the Navy—Chinese Navy apparently stalking the Kitty Hawk and putting up a submarine within firing distance without supposedly being detected. I assume that sub was a diesel. Do they have nuclear subs?

Admiral ROUGHEAD. Yes, sir, they do.

Mr. FRELINGHUYSEN. I assume it was a diesel sub.

Then we read last November of a Chinese Song-class submarine tracking the Kitty Hawk in the Taiwan Straits. It was monitored by an antisubmarine aircraft watching the sub, and, of course, it was described in the paper as, I quote, the first direct military confrontation between the two nations' naval forces since 1996.

Besides the obvious build-up of concern about the obvious build-up of Chinese forces, what can you tell us about these incidents as they relate to the—sort of the tactics and strategies that you are looking at? How do we posture ourselves, given these and other types of incidents?

Admiral ROUGHEAD. Yes, sir. And I was the Pacific Fleet Commander at the time, and on the last incident that you mentioned, I questioned the credibility of that news report.

But what we have done in recent years is we have looked at the posture that we must have, particularly in the Pacific, because the Pacific is a very important region for us from a security standpoint, the allies that we have there, but also economically, and it contributes directly to our prosperity. We have shifted our carrier force so now we are biased more toward the Pacific. We have done the same thing with our submarines. We have forward home-ported some of our submarines in Guam so that we have more presence, greater response in the Pacific area. We continue to exercise with our allies

and partners in that region, and antisubmarine warfare is extremely important. That is why the training is so important.

But it is also key to recall that in some cases countries are able to export some of these systems, and so to simply look at one particular flag and see that as a potential threat, I think it has to be broadened out. Where are some of these systems, advanced systems, finding their way? And that is important to do as well.

Mr. FRELINGHUYSEN. But by all reports, you know, obviously we have repositioned ourselves. But, you know, I assume some people must be alarmed by the talk of the Chinese, you know, producing, you know, a goal of 200 submarines. I am not sure what the figure was in terms of surface vessels. And they do a pretty good job of—for their own technological development. And what they don't get there I assume they steal from us or get from other sources.

I mean, in terms of sort of sounding the alarm here, you know, while we talk about the size of the fleet, and we know how expensive it is to bring new ships on line, are you concerned about their build-up? I know we always go with the old issue of, you know, overwhelming force, and we are—you know, our capabilities are better. But the Chinese are no slouches. And, there is often talk of 2015. But Chinese aren't waiting to 2015. How do you gauge where the Chinese are going, and how closely are we keeping an eye on their development of new technology as well as the vehicles that carry them?

Admiral ROUGHEAD. Well, we watch naval developments around the world, and clearly China is the navy that is increasing in capability and capacity faster than any other navy on the globe. There is no question in my mind, and I have had the opportunity to meet with their leadership, with my counterpart, on a couple of occasions, that there is no question that they are developing what we refer to as a bluewater navy, a navy that can range farther from their shores. They also have a much longer view than others have. Their objective is to become a significant regional navy.

There is no question that the issue of Taiwan is always first and foremost in their mind, but as you look at the development of the Navy, it is also a navy that is focused on the sea lanes of communication and being able to assure the flows that fuel their growing economy. So they are doing that.

But in addition to the hardware, it is also important that we look at the people, and my first contacts with the PLA Navy, the leadership tended to have gotten into their positions through political means. The leadership in the PLA Navy today came up through operational paths. They understand what it is like to operate a navy at sea, and they see this vision of their navy as a significant regional navy and, I believe, expanding out and becoming global as time goes on.

Mr. FRELINGHUYSEN. The view is, at least from my reading, is that there—what it may have been described as somewhat political once, you would never call it amateurish, is that they are doing—you know, they are sort of concentrating their development of their military in a very highly professional manner. I mean, it may not be mirroring our Special Forces or, you know, your SEALs, but in reality they are emulating the best of what is out there, and we need to be prepared for it.

UNMANNED COMBAT AERIAL VEHICLES

Just on one system here, could you comment about the drone combat squadron, who is—the whole issue of your seeking, I think, a competitive prototyping in preparation of fielding a first squadron of unmanned combat aerial vehicles. Are those carrier-based?

Admiral ROUGHEAD. Yes, sir. That is part of a—kind of what I would call a family of unmanned vehicles beginning with——

Mr. FRELINGHUYSEN. You have things going off carriers now?

Admiral ROUGHEAD. No, sir, we are not flying unmanned vehicles off of our carriers. We are flying unmanned vehicles off of some of our ships, but the article that you reference is moving to an air combat vehicle, one that can provide striking power off the carriers, and it is part of a stepped and phased development.

Mr. FRELINGHUYSEN. That is in some ways pretty revolutionary given the fact that, you know, obviously the whole issue of a man behind the controls, not that there aren't men behind these controls, but one could view that as somewhat of a major departure.

Admiral ROUGHEAD. Well, I think, sir——

Mr. FRELINGHUYSEN. Perhaps a positive departure.

Admiral ROUGHEAD. The significant thing is being able to operate those airplanes, combat airplanes, off of an aircraft carrier in an unmanned way. Our other unmanned programs address other needs that we have in maritime surveillance. But this is something that is fairly complex; landing on an aircraft carrier, taking off can get pretty sporty, and we have never done it with an unmanned vehicle before. It has a little longer view than some of the other unmanned programs that we have.

Mr. FRELINGHUYSEN. Okay. Thank you, Mr. Chairman.

Mr. MURTHA. Mr. Frelinghuysen, did you get a bonus when you went into the Army?

Mr. FRELINGHUYSEN. I sure didn't.

Mr. MURTHA. Look where he has ended up, huh?

Mr. MORAN. This is a random sample.

Mr. FRELINGHUYSEN. I am glad you are leaving.

Mr. MURTHA. Ms. Kaptur.

INTERNATIONAL SHIPBUILDING INDUSTRY

Ms. KAPTUR. Thank you, Mr. Chairman. Welcome. Thank you for coming today.

Admiral Roughead, I would like to ask you a question about the structure of the Chinese shipbuilding industry. To what extent does the Government of China subsidize the manufacturing of and construction of ships there? And have you looked at that issue?

Admiral ROUGHEAD. I have not done the economic analysis, but my sense is it is heavily subsidized.

Ms. KAPTUR. Is it really not an arm of the state and—of their government?

Admiral ROUGHEAD. I would say that they are state industries with a view toward becoming a dominant shipbuilding industry in the world.

Ms. KAPTUR. I agree with that. And the question I have, coming from a maritime community that has suffered greatly over the years with the loss of both hardware as well as the people who

make the ships, though we are not a deepwater port, what do we do in your budget to capture every single dollar we can, knowing that they are the primary producers in the world today, correct? The work that was being done in Korea is now moving up to China. I think if you look at the shifting nature of shipbuilding in the world, what do we do with your budget and every element of it, leasing, the leasing you are now doing, phasing that out? How can we possibly compete with these private companies in our country against a subsidized industry like that? How do we use your budget to restore shipbuilding capacity in this country and all the componentry that goes into it? How do we do that?

Admiral ROUGHEAD. Yes, ma'am. I would say that my focus is on building warships, and the quality, the sophistication of the ships we build is unmatched by any nation in the world. But it is important that we get to the capacity issue, and that is why getting to the 313-ship fleet is so important to me as the CNO.

LEASING OF FOREIGN BUILT SHIPS

Ms. KAPTUR. Well, you also have many smaller vessels, Admiral. You have vessels that carry ammunition, and you are leasing those vessels now. They weren't built here. And I don't see the Department as fully conscious of the threat that is out there, particularly from China, in using every tool we have in order to restore our waning capability on the seas for all types of vessels.

Admiral ROUGHEAD. Mr. Secretary, do you want to take that?

Mr. WINTER. If I could, ma'am, first of all, in terms of the leased vessels, we are reducing our dependency on those leased vessels. We are down from 22 leased vessels to 17 at this point in time. These are short-term leases, under five years, and they really represent an opportunity, if you will, to surge and to be able to bring into support roles vessels that are not currently being manufactured for which we do not have a good economic argument for manufacturing the full-time ownership of.

We are putting a lot of effort into investing in those capabilities that provide the U.S. shipbuilding industry with the ability to produce ships at lower cost, and this comes by way of everything from contractual arrangements with the individual yards to install a lot of technology which is available elsewhere outside the United States for the most part. That does assist us in terms of our surface combatants. And in cases where that technology can be applied to yards that support multiple applications—and unfortunately there is only one of those yards right now, major yards, that is a Nassco facility in San Diego which builds both Jones Act ships as well as logistics support ships for us—there is value that they are able to accrue both to their commercial endeavors as well as to their activities for the Navy.

Ms. KAPTUR. Well, Mr. Secretary, do you monitor where the subcontracts go? For example, if a ship is taken to China, and the front half is whacked off and something is welded on the back, do you monitor your subcontracts to do everything possible to make sure that everything is done in this country rather than shipped somewhere else?

Mr. WINTER. On all of our ships, most definitely, ma'am.

Ms. KAPTUR. What about the electronics?

Mr. WINTER. The electronics is the same thing. All of the modifications to our ships are all done, they are all managed and appropriately assessed by the Navy organizations that have the responsibility for management.

Ms. KAPTUR. Are they made in this country, sir?

Mr. WINTER. Excuse me?

Ms. KAPTUR. Are they made in this country?

Mr. WINTER. Every ship in the Navy register, all of our combatants are.

Ms. KAPTUR. All of the vessels under your command are made in this country, every single component?

Mr. WINTER. Outside, not every single component, ma'am, but the vast majority of them are. The vast majority of the components are.

Ms. KAPTUR. Well, I would appreciate a letter from you, from your Department, that summarizes for me where you think the challenges are to retain that production capacity in this country.

Mr. WINTER. I would be pleased to do that, ma'am.

[The information follows:]

THE SECRETARY OF THE NAVY
WASHINGTON, D.C. 20350-1000

April 17, 2008

The Honorable Marcy Kaptur
House of Representatives
Washington, DC 20515-3509

Dear Representative Kaptur:

As a follow up to my testimony of March 13, 2008, before the Defense Subcommittee of the House Appropriations Committee, I am responding to your question concerning the challenges to retaining ship production capacity in the United States.

By law, we are required to produce Naval Vessels in the U.S. Specifically, 10 U.S.C. 7309 prohibits the construction of a Naval vessel, or a major component of the hull or superstructure of a Naval vessel, in a foreign shipyard. Additionally, the Buy America Act requires that a purchased end product, such as a ship, be domestic. To qualify as a domestic end product, the cost of a Navy ship's U.S. and qualifying country components must exceed 50 percent of the cost of all of its components.

Retaining production capacity within the U.S. depends on a number of factors including stability in shipyard workload and investment, process improvement and modernization on the part of industry. The Fiscal Year 2009 President's Budget request represents the best balance of requirements versus resources. The acquisition and requirements communities have developed an affordable long term shipbuilding plan that provides the foundation for the future Navy force structure. The goal is to provide a stable long-term shipbuilding plan that reduces industrial base volatility and allows the industry to better match investments to meet Navy capabilities.

The U.S. private shipyard industrial base for Navy ships presently includes six major shipyards owned by two corporations and at least two smaller shipbuilders engaged in Naval construction. Our ability to maintain a position of maritime superiority over the long term relies on a battle force structure consistent with the Navy's 313-ship strategy. Investment in research and development and increased procurement funding for ship and weapon systems will enable the U.S. to maintain its lead over potential adversaries.

Thank you for your interest in Navy shipbuilding. If I can be of further assistance, please let me know.

Sincerely,

Donald C. Winter

MARINE CORPS TROOP DEPLOYMENT

Ms. KAPTUR. All right. I wanted to ask General Conway, thank you very, very much for your service.

What percent of the Marines under your command are serving a third tour or more in combat in Iraq? Do you know that number?

General CONWAY. No, ma'am, I don't. I take surveys every time I hold a town hall, and of the audiences there routinely, 60 to 70 percent will have deployed. I will ask for a second and a third time or even a fourth time, and a fifth time I will ask for a show of hands. So I will say, increasingly we have three-time deployers, but I would have to get the exact percentage for you.

Ms. KAPTUR. I would be very interested, and in the trend, General. I am very interested in the trend if that is increasing, which I think it is.

[The information follows:]

The current number of Marines per deployment are:
One Deployment: 93,511
Two Deployments: 32,996
Three Deployments: 3,683
Four or More Deployments: 154

General CONWAY. But the one thing, ma'am, I would explain to you is that unlike the other Services, we will serve about a three-year tour in the operational forces. And then we will have our Marines and our officers go to what we call a B billet, and it will be there for about three years, and then they will come back to the operating forces. So we don't have some of the people that spend seven, eight, nine years in the operating forces consecutively to roll up some of these large numbers.

Now, some of those folks are starting to come back because we have been at this so long. This summer we are going to see some people come back, I think, that maybe left the operating forces in 2004, 2005, and we will have to see what the impact is on that for our retention.

Ms. KAPTUR. Mr. Chairman, my time has probably expired, but I did want to ask the General if he could—

Mr. MURTHA. I wanted to end this before the votes because there is a series of votes. So we will go to Mr. Rothman.

Ms. KAPTUR. Could I ask the General to provide for the record, Mr. Chairman, the issue of urban warfare training in U.S. cities by the Reserves, the Marine Reserves is an issue that has hit our community directly, and it was very troublesome what happened. I would like to know from you whether this is happening in Active forces anywhere in our country, if urban warfare training is occurring in U.S. cities, and what are the conditions for that, or whether it is just happening on the Reserve side.

General CONWAY. No, ma'am. It happens with the Active forces. It has been happening since the mid-1980s almost without interruption or without any incident. So I was a little bit surprised to see the one happen as it did in Ohio.

[The information follows:]

LtGen Bergman, Commander Marine Forces Reserve personally met with Congresswoman Kaptur to discuss the Toledo, OH issue and answer her questions.

Ms. KAPTUR. Thank you.

Mr. MURTHA. Mr. Rothman.

MARINE CORPS MISSION TRAINING

Mr. ROTHMAN. Thank you, Mr. Chairman.

Gentlemen, thank you for your very distinguished service to our country. The Marine Corps has many officers who have never been deployed on a Navy ship, I have been told. Is that true?

General CONWAY. Increasingly, sir, that is true.

Mr. ROTHMAN. Does that disturb you?

General CONWAY. Immensely.

Mr. ROTHMAN. And with regards to that issue, as well as the lack of training for amphibious landings, does this new budget address that; and if so, how, please?

General CONWAY. Sir, it does indirectly. And it transcends just amphibious operations. We are not doing live-fire maneuver exercises anymore. We are not going to cold-weather training. We are not going to jungle training. The part of the budget that assists us in managing that and making it better is in growing the force.

There are two reasons we wanted to grow the Marine Corps. One was to be able to facilitate our deployment-to-dwell. Second was to be able to provide relief in the process so we could spend more time with the families and more time doing training.

Mr. ROTHMAN. And training for these other things?

General CONWAY. Yes, sir, exactly. If we can get this deployment-to-dwell something more akin to seven months deployed, 14 months home, we can sustain that. We think we can do the training, and we think the families will be much happier.

HEALTH OF THE MARINE CORPS

Mr. ROTHMAN. Very good. I only have a few minutes.

There is this new issue of Foreign Policy magazine, the March–April 2008 issue, which apparently contains a survey which was conducted jointly with the Center for a New American Security where they asked 3,400 officers holding the rank of major or lieutenant commander and across all the services, Active Duty and retired general officers and field grade officers, about their views of the health of the military. And here are some troubling findings.

They said that 60 percent of the U.S. military see the U.S. military as weaker today than it was 5 years ago; 60 percent. And with regards to the Marine Corps in particular, the majority of the responses indicated that on a scale of 1 to 10, 1 being no concern about readiness effectiveness and 10 being extreme concern, the majority of the responses indicated a 7, indicating great concern about the health of the Marine Corps.

Would any of you gentlemen wish to address this?

General CONWAY. Well, since you left off with the Marine Corps, sir, I will start and say that I think I would probably be about a 6 or a 7 myself.

Now, in terms of the capability of the force, we are much more capable than we were five years ago. We have more Marines, we have more equipment, we have combat training. And I would be much more comfortable sending that force into a fight than I was leading the force into a fight in 2003.

But the concern I think these people are representing is that our core competencies, which go well beyond counterinsurgency, are not being trained to, not being conducted these days, to make sure that we can go anywhere and do anything for this country.

Mr. ROTHMAN. And that will be addressed to your satisfaction in your budget?

General CONWAY. Sir, the budget will help, but what we actually need over time will be, again, more time spent at home. You can do that through growing the force. You can do that through reducing the requirement.

Mr. ROTHMAN. Right.

General CONWAY. If the requirement is reduced, and we are able to manage these deployment requirements more effectively with a larger force, then we will be back to doing those things, and we will be in much better shape as a result.

CHINESE NAVY BUILDUP

Mr. ROTHMAN. And to the CNO, with regards to China, two questions. One was, if I wrote this down correctly, you questioned the credibility of the news report?

Admiral ROUGHEAD. Yes.

Mr. ROTHMAN. Now, I am a lawyer by training. Are you refuting the accuracy of the news report?

Admiral ROUGHEAD. The reference to the encounter in the Straits of Taiwan, I would refute that.

Mr. ROTHMAN. Okay. Good. And with regard to the buildup of the Chinese submarine force, it seems like a considerable effort on their part. And I heard what you said, that this is their effort to protect their energy supplies, and they are doing this to be a regional power, but you did say with probability that they wish to become a global sea power as well. Does your budget that you are submitting to us address the challenges of this growing submarine fleet from the Chinese?

Admiral ROUGHEAD. Our budget, sir, represents the balance that we must have in the Fleet and the capabilities that we have. It does address our ability to operate as a global Navy and prevail.

Mr. ROTHMAN. Thank you, Mr. Chairman.

Mr. MURTHA. Thank you very much. I have to say it is hard for me to believe that you are a 6 or a 7, Commandant. You are not working out, huh?

The Committee is adjourned until 1:30.

[CLERK'S NOTE.—Questions submitted by Mr. Murtha and the answers thereto follow:]

SEABASING

Question. The Maritime Pre-position Force (Future) (MPF(F)) is the backbone of entirely seabased operations. The Navy envisions this capability as a fleet of 14 ships that will provide pre-positioned equipment for a fly-in force, provide at-sea arrival and assembly of this equipment, direct support of the assault chelon of the task force, indefinite sustainment of the landing force and at-sea reconstitution and redeployment of the landing force. The initial procurement of the ships that comprise the MPF(F) was scheduled to occur in fiscal year 2009 but the Navy has slipped procurements to at least fiscal year 2010 and has removed some of the ships (Auxiliary Dry Cargo Carrier) for its outyear budgets along with no plans for procurement.

Admiral Roughead, the plan for acquiring the ships that will comprise the Maritime Pre-positioning Force (Future) have changed drastically since last year. Can you summarize the Navy's rationale for this change and the plan for eventually acquiring these ships?

Answer. MPF(F) was initially envisioned to provide a pre-positioned lift capability for a first responder, brigade-size force, which would reduce reliance on facilities in the theater and minimize vulnerabilities ashore early in a campaign. Within the last year, the Navy/Marine Corps team has continued to refine the role of MPF(F). Accordingly, the Navy has delayed procurement of MPF(F) platforms to further analyze operational requirements and concepts of employment. The Navy plans to deliver MPF(F) while balancing overall warfighting requirements, costs, and industrial base realities. The Navy remains on track to deliver the Full Operational Capability for MPF(F) in FY 2022.

Question. General Conway, as the use of the Maritime Pre-Positioning Force, how will this impact the Marine Corps and were you included in the decision process to delay ship acquisition?

Answer. The Maritime Prepositioning Force (Future) program is a critically essential element of the nation's warfighting capability, and shipbuilding programmatic delays should be avoided to ensure this vital national capability becomes available as soon as possible.

The Marine Corps requires three Marine Expeditionary Brigade's (MEB) worth of expeditionary warfighting capability and lift. We have already accepted risk in our amphibious lift capacity by agreeing to fiscally constrain shipping availability for each of our two assault echelon (AE) MEBs from 17 to 15 ships. The Fiscal Year 2009 30-year shipbuilding plan does not provide the exact mix of required LHA/LHD's, LPD's, and LSD–41/49 equivalents, which further amplifies the risk we're taking in our amphibious forcible entry capabilities.

The Marine Corps intends to fight any major contingency operation as a Marine Expeditionary Force, which consists of three MEB operational maneuver elements. The first two of those MEBs are intended to be employed from the amphibious AE shipping described above, and the third MEB maneuver unit will operate from MPF(F) to reinforce and support the amphibious AE units.

The 30 operationally available amphibious ships required for 2.0 MEB AE, coupled with MPF(F)'s 1.0 MEB-level reinforcing and support, and the Assault Follow-On Echelon (lifted by Military Sealift Command black-bottom shipping) provide the 3.0 MEB necessary to enable a seabased, MEF-level warfighting capability.

The Marine Corps continues to be an integral part of the decision process within the Department of the Navy for programming and budgeting of resources. We understand that budget and program realities force us to make tough choices. In the case of MPF(F) and the rest of our amphibious lift, we continue to work budget and program issues within the Department of the Navy.

RELIABLE REPLACEMENT WARHEAD

Question. The Reliable Replacement Warhead was originally envisioned to ensure the aging stockpile could meet its long-term mission by improving the long-term reliability, longevity, and, certification of the existing weapons and associated components. However, the design effort led by the Department of Energy has seemingly led to the development of a whole new program. Last year the Committee markup removed all funding for Reliable Replacement Warhead program. The budget request for fiscal year 2009 contains funding to commence work on phase 3 engineering development portion of the program despite the fact that all fiscal year 2008 funding for the Department of the Energy was removed from the program.

Secretary Winter, the fiscal year 2009 budget request contains funding for the Reliable Replacement Warhead program to commence phase 3 efforts in 2009 despite the fact that there is no Department of Energy funding for the program in fiscal year 2009. Is it prudent for the Department of Defense to get so far ahead of the Department of Energy on this effort?

Answer. No Navy effort on the Replacement Warhead is planned unless approved and funded by Congress and coordinated with the Department of Energy (National Nuclear Security Administration). FY 2009 funding can be used to restart the Phase 2A effort if Congress concurs. It is important that the Phase 2A study or a similar one be resumed in order to properly inform the next Nuclear Posture Review. If not, the Navy proposes to continue work on advanced fuse technologies and safety architectures that have multi-platform/multi-service applications.

Question. Secretary Winter, is it the Navy's intention to support further development of a new nuclear weapon with this funding?

Answer. No. The Navy placed FY 2008 funding on hold when Congress zeroed funding for the National Nuclear Security Administration (NNSA) in the FY 2008 Energy and Water Authorization Bill. No Navy effort on the Reliable Replacement Warhead is planned unless approved and funded by Congress and coordinated with NNSA.

Question. Secretary Winter, in the context of the new nuclear weapons strategy has the Department of Defense articulated a need for a new nuclear weapon?

Answer. In February of 2007, the Joint Requirements Oversight Council approved the program to pursue a replacement warhead to augment the existing Navy strategic deterrent capabilities.

[CLERK'S NOTE.—End of questions submitted by Mr. Murtha.]

THURSDAY, MARCH 13, 2008.

NAVY/MARINE CORPS ACQUISITION PROGRAMS

WITNESSES

JOHN THACKRAH, ACTING ASSISTANT SECRETARY OF THE NAVY FOR RESEARCH, DEVELOPMENT AND ACQUISITION
VICE ADMIRAL BARRY McCULLOUGH, DEPUTY CHIEF OF NAVAL OPERATIONS FOR INTEGRATION OF CAPABILITIES AND RESOURCES
LIEUTENANT GENERAL JAMES F. AMOS, DEPUTY COMMANDANT OF THE MARINE CORPS (COMBAT DEVELOPMENT AND INTEGRATION)

INTRODUCTION

Mr. MORAN [presiding]. The Committee will come to order. And I want to recognize the Ranking Member, Mr. Young, for a motion.

Mr. YOUNG. Mr. Chairman, I move that those portions of the hearing today which involve classified material be held in executive session because of the classification of the material to be discussed.

Mr. MORAN. So ordered. Thank you, Mr. Young.

This afternoon the committee will hold a closed hearing on Navy and Marine Corps Acquisition.

We are very pleased to welcome Mr. John Thackrah, who is the Acting Assistant Secretary of the Navy for Research Development and Acquisition; Vice Admiral Barry McCullough, Deputy Chief of Naval Operations for Integration of Capabilities and Resources; and Lieutenant General James Amos, Deputy Commandant of the Marine Corps for Combat Development and Integration.

These gentlemen are very well qualified to discuss Department of the Navy acquisition and to answer the questions of the committee.

Secretary Thackrah and Admiral McCullough and General Amos, we thank you for being here this afternoon. We are here to talk about the acquisition of Navy and Marine Corps equipment. The Committee is very much concerned about the readiness of the Department in terms of equipping the force. Systems are becoming ever more complicated and too often in developmental programs the desire to begin production overruns technological maturity and we are faced with delays and restructures.

One only need flip the pages of the budget request to find several programs where this reality has overcome good intentions. As in years past, shipbuilding is the centerpiece of the Navy's acquisition program. Also as in years past, the Navy's request is insufficient to reach and maintain your stated requirement of 313 ships. The committee is very much interested in hearing how you plan on reaching your required ship count when the administration, time and again, fails to provide the necessary resources to do so.

We were very pleasantly surprised to see the budget increase almost $2.5 billion for Navy and Marine Corps aviation programs in

light of the looming tactical aircraft shortfall. This is certainly a step in the right direction.

So, gentlemen, we look forward to your testimony and to a spirited and informative question-and-answer session.

Mr. MORAN. Before we hear your testimony I want to call on our very distinguished Ranking Member, our friend Mr. Young, for his comments.

REMARKS OF MR. YOUNG

Mr. YOUNG. Well, Mr. Chairman, thank you very much. And I want to share and join you in welcoming our very distinguished witnesses to the table today. I agree with the Chairman's statement on the 313-ship Navy.

Many years back, I was one of the original Ronald Reagan supporters of the 600-ship Navy, but something happened between then and now and we are struggling to keep up with 313. I think you are going to have to accelerate your program even beyond what the budget request indicates in order to do that.

I am also concerned about the fighter shortfall. As you retire your F–18s in favor of the Joint Strike Fighter, which has a few challenges of its own—and specifically the Marine Corps, General, I understand that once your Harriers are gone—and you might comment on the status of the Harriers—but when your Harriers are gone and before you get the Joint Strike Fighters you are without, the Marine Corps is without any kind of a jet aircraft.

We would like to hear some comments about that. But other than that, Mr. Chairman, we have a lot to do, so I yield back.

Mr. MORAN. All right. Thank you, sir.

Mr. MORAN. And thank you for making this hearing, and Mr. Frelinghuysen and Mr. Bishop.

Mr. Secretary, we understand that you will be the only one making a statement so you can proceed with your summarized statement, if you wouldn't mind, and your entire statement will now be placed in the record. Thank you. Mr. Secretary.

SUMMARY STATEMENT OF SECRETARY THACKRAH

Mr. THACKRAH. Thank you.

Mr. Chairman, Mr. Young and distinguished members of this Committee, it is an honor and a privilege for Vice Admiral McCullough, Lieutenant General Amos and me to appear before you today to discuss the Navy and Marine Corps' acquisition programs. With your permission, I would like to submit my written testimony for the record.

Mr. MORAN. So ordered.

Mr. THACKRAH. As the Acting Assistant Secretary of the Navy for Research, Development and Acquisition since November 2007, I serve as the Navy senior acquisition executive. Despite my acting status I fully accept the authority, responsibility and accountability for all Navy and Marine Corps acquisition functions and programs.

The development of this budget has not been easy. Tough decisions had to be made to balance risk and be responsible stewards of the tax dollars entrusted to us.

I would like to briefly highlight part of my written testimony. Our fiscal year 2009 budget procurement requests $41.1 billion. Specific requirements include $14.1 billion in funding for seven new-construction ships and $14.7 billion to procure the 206 aircraft to meet our long-term consolidation and recapitalization efforts. Noteworthy is for the first time in a long while, Navy's budget does not fund any lead ships, and our request is for over 200 aircraft.

With congressional support for our GWOT efforts, the Mine Resistant Ambush Protected, or MRAP, vehicle is making vital contributions in protecting our Marines and Sailors from improvised explosive devices.

The Department of the Navy is the lead Service for the joint MRAP vehicle program. Since competitive awards began in February of 2007 and principally as a result of the commitment to streamline every acquisition action, the MRAP team has been able to produce over 6,000 vehicles and has fielded, in the hands of the user, more than 2,700 to two theaters of operations in service.

In addition, our budget request includes $19.3 billion for total RDT&E to transform our force with next-generation platforms into mature technologies for our procurement programs. S&T funding of $1.8 billion is also requested, which equals a real growth of 6 percent from the fiscal year 2008 level, to ensure a robust base of options for the threats today and in the future. To provide a balanced fleet of ships, aircraft and expeditionary capabilities, we have to control our costs.

Under Secretary Winter's leadership, the Department launched an Acquisition Improvement Initiative to insert discipline across the Department, without altering the existing Department of Defense processes. The initiative includes an acquisition governance which engages Navy and Marine Corps leadership in a set of gate reviews on all programs for agreement on definitive sets of requirements throughout the acquisition review process.

We have also reinvigorated our acquisition workforce investment.

Finally, to bolster our acquisition leadership, the Navy has selected a three-star admiral to serve as my principal deputy.

In closing, we have the most powerful naval forces in the world and we are looking ahead to build on the strength in order to prevent future wars. Our partnership with Congress and the Navy and Marine Corps is necessary to sustain our position in this uncertain world and to maintain the safety of our Sailors and Marines.

I believe our budget request strikes a proper balance to meet present and future challenges, follows on a long-term path of program stability, and meets the requirements of this partnership.

I thank you for the opportunity to testify today and welcome any questions you may have.

Mr. MORAN. Thank you very much Mr. Assistant Secretary.

[The joint statement of Secretary Thackrah, Vice Admiral McCullough, and Lt. General Amos follows:]

STATEMENT OF

MR. JOHN THACKRAH
ACTING ASSISTANT SECRETARY OF THE NAVY
(RESEARCH, DEVELOPMENT, AND ACQUISITION)

AND

VICE ADMIRAL BARRY MCCULLOUGH
DEPUTY CHIEF OF NAVAL OPERATIONS
FOR INTEGRATION OF CAPABILITIES AND RESOURCES

AND

LIEUTENANT GENERAL JAMES F. AMOS
DEPUTY COMMANDANT OF THE MARINE CORPS
(COMBAT DEVELOPMENT AND INTEGRATION)

BEFORE THE

SUBCOMMITTEE ON DEFENSE

OF THE

HOUSE APPROPRIATIONS COMMITTEE

ON

FY 2009 NAVY/MARINE CORPS ACQUISITION PROGRAMS

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HOUSE COMMITTEE ON APPROPRIATIONS
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Assistant Secretary of the Navy
(Research, Development and Acquisition)

John S. Thackrah

John S. Thackrah assumed the duties of Acting Assistant Secretary of the Navy (Research, Development and Acquisition) on Nov. 16, 2007, in addition to performing his regular duties as Deputy Assistant Secretary of the Navy (Management and Budget). In this capacity he is responsible for over $50 billion annually of research, development and acquisition activities and over 100,000 people.

Mr. Thackrah was sworn in as Deputy Assistant Secretary for Management and Budget on April 18, 2005. In this position he is responsible to the Assistant Secretary of the Navy (Research, Development and Acquisition) for all administrative matters, annual budget preparation and human resource management. He also served as the Chief of Staff to the ASN.

Prior to joining Government Service, Mr. Thackrah was a Senior Executive at United Technologies Corporation. He started his career in 1979 at the Pratt and Whitney Division of UTC where he served in areas of project and test engineering, followed by program management and modal management. After serving in commercial flight test activities and as a General Manager of a Joint Venture start up for Pratt, he held increasingly responsible positions to ultimately serve as the Vice President of all Commercial Products. He then served as Vice President of Engineering for the Otis Elevator division of UTC and then upon returning to Pratt, he served as Vice President of Aftermarket Services and then VP/GM for one of Pratt's strategic business units.

The ASN(RD&A) organization is responsible for the development and acquisition of Navy and Marine Corps platforms and warfare systems. The organization consists of an immediate staff to the Assistant Secretary, Deputy Assistant Secretaries (DASNs), Program Executive Officers (PEOs), Direct Reporting Program Managers (DRPMs) and the Naval Systems Commands and their field activities. The PEOs and DRPMs are responsible for the development and acquisition of Naval systems. The Naval Systems Commands and their field activities are also responsible for systems acquisition and supporting those systems in the operating fleet.

Mr. Thackrah has a Masters of Business Administration from Rensselaer Polytechnic Institute and a Bachelor of Mechanical & Aerospace Engineering Degree from the University of Delaware.

Updated: 18 December 2007

United States Navy Biography

Vice Admiral Bernard J. "Barry" McCullough, III
Deputy Chief of Naval Operations for Integration of Capabilities and Resources (N8)

From Weirton, W.Va., Vice Admiral Bernard J. "Barry" McCullough graduated from the United States Naval Academy with a Bachelor of Science Degree in Naval Architecture and was commissioned on June 4, 1975. Additionally, Vice Adm. McCullough completed Naval Nuclear Power training and received a Master of Science degree in Strategic Resource Management from the Industrial College of the Armed Forces at National Defense University.

Vice Adm. McCullough's sea tours include serving as Commander, Carrier Strike Group 6/Commander, *John F. Kennedy* Strike Group. He also served as Commander Carrier Strike Group 14/Commander, *Enterprise* Strike Group. Vice Adm. McCullough's major command was aboard USS *Normandy* (CG 60) from February 1999 until February 2001.

Prior to commanding Normandy, he served as Commanding Officer aboard USS *Scott* (DDG 995) and USS *Gemini* (PHM 6). Other sea assignments were: Operations Officer for Commander 2nd Fleet/Striking Fleet Atlantic, Engineer Officer aboard USS *Enterprise* (CVN 65), Engineer Officer aboard USS *Virginia* (CGN 38), and Main Propulsion Assistant aboard USS *Texas* (CGN 39).

Vice Adm. McCullough's shore tours include serving as Director, Warfare Integration and Assessment Division (N8F), Director, Surface Warfare Division, (N86), Commander, Navy Region Hawaii and Naval Surface Group Middle Pacific, the Director for Strategy and Analysis, J5, at U.S. Joint Forces Command, 1st Battalion Officer at the United States Naval Academy and as the Department Head for the D1G Prototype Nuclear Power Plant at Nuclear Power Training Unit, Ballston Spa, N.Y. Vice Adm. McCullough assumed his current responsibilities as Deputy Chief of Naval Operations for Integration of Capabilities and Resources (N8) in November 2007.

His decorations and awards include: Defense Superior Service Medal, Legion of Merit, Defense Meritorious Service Medal, Meritorious Service Medal, Navy Commendation Medal, and Navy Achievement Medal. Additionally, he is authorized to wear numerous unit and campaign awards.

Lieutenant General James F. Amos
Deputy Commandant for Combat Development and Integration

Lieutenant General Amos graduated from the University of Idaho in 1970. He was designated a Naval Aviator in 1971, and has held a variety of operational and staff assignments since 1972.

Operational assignments include tours with Marine Fighter Attack Squadrons 212, 235, 232 and 122 where he flew the F-4 Phantom II. In 1985 Lieutenant General Amos assumed command of Marine Air Base Squadron 24/Marine Wing Support Squadron 173. Transitioning to the F/A-18 Hornet, he assumed command of Marine Fighter Attack Squadron 312 and subsequently joined Carrier Air Wing Eight onboard USS Theodore Roosevelt (CVN-71). Lieutenant General Amos took command of Marine Aircraft Group 31 Beaufort, SC in May 1996. In August 2002, he assumed command of the Third Marine Aircraft Wing and deployed with 3d MAW to Iraq for Operations Iraqi Freedom I and II. Lieutenant General Amos served as Commanding General of II Marine Expeditionary Force from July 2004 to August 2006.

Lieutenant General Amos' staff assignments include tours with Marine Aircraft Groups 15 and 31, the III Marine Amphibious Force, Training Squadron Seven, The Basic School, and with the MAGTF Staff Training Program. Promoted to Brigadier General in 1998 he was assigned to NATO as Deputy Commander, Naval Striking Forces, Southern Europe, and as the U.S. Deputy Commanding General, Fleet Marine Forces, Europe, Naples Italy. During this tour he commanded NATO's Kosovo Verification Coordination Center, and served as Chief of Staff, U.S. Joint Task Force Noble Anvil during the air campaign over Kosovo. Transferred in 2000 to the Pentagon, he was assigned as Assistant Deputy Commandant for Aviation. Reassigned in December 2001, Lieutenant General Amos served as the Assistant Deputy Commandant for Plans, Policies and Operations Department, Headquarters, Marine Corps. In August 2006, Lieutenant General Amos assumed command of the Marine Corps Combat Development Command (MCCDC).

Lieutenant General Amos is a graduate of the Armed Forces Staff College, Norfolk, VA and the Air War College, Maxwell AFB, AL. His personal decorations include the Distinguished Service Medal, Defense Superior Service Medal, the Legion of Merit (two awards), the Bronze Star, Meritorious Service Medal, Joint Service Commendation Medal, the Navy and Marine Corps Achievement Medal, as well as numerous campaign and service awards.

Mr. Chairman, distinguished members of the Subcommittee, thank you for the opportunity to appear before you and discuss the Department of the Navy's acquisition program.

We are here to discuss the Department of the Navy's acquisition plans to support our Sailors and Marines in their mission to fight the Global War on Terror (GWOT) and to defend our Nation against future challenges. I believe the President's FY 2009 Budget request for the Navy and Marine Corps provides us a proper balance of what they need and we respectfully ask that you support this request.

The Department of the Navy's budget signifies a vital investment in our Navy and Marine Corps. In its totality, this budget represents $149.3 billion in requested funding for FY 2009, including $14.1 billion for ship procurement, $14.7 billion for aircraft procurement, and $19.3 billion for total research and development.

The development of this budget has not been easy -- tough decisions have been made and continue to be made throughout the Department to balance risk and to be responsible stewards of the tax dollars entrusted to us. Yet, we believe that this budget is appropriately structured and contains the proper investment choices to successfully meet both our present and future challenges.

The difficulty of preparing for future challenges has been in striking the proper balance between building future capabilities to support traditional and irregular warfare demands while transforming a blue water navy into one that can operate, fight and win in blue, green, and brown waters, and expanding the lethality and reach of the Marine Corps.

To meet the demands of the GWOT and the uncertain threats of the future, the Department of the Navy must invest in new generation capabilities to transform the force. We must continue an acquisition program which seeks to build a fleet that is both affordable and meets the national security challenges of the 21st century. It must cover all facets of surface, sub-surface, and aviation requirements. We must also invest in our expeditionary forces providing them with the capabilities to remain always ready and always capable of forcible entry. Our FY 2009 Budget requests a total of $41.1 billion for Navy procurement programs.

As we invest in our naval force it is critical that we pursue a program of stable transformation. The core products that the Navy and Marine Corps buy face a significant time constraint -- we go into battle with assets that are built many years in advance; and a stable transformation can only be achieved if the Department of the Navy, in conjunction with Congress, follow a long-term path of program stability.

Building a Fleet for the Future

We have initiated an aggressive investment strategy to build an affordable 313-ship fleet tailored to support the National Defense Strategy, the Maritime Strategy, and the 2006 Quadrennial Defense Review. This year a total of seven ships are included in the FY 2009 President's Budget request, one VIRGINIA Class SSN, one DDG 1000 Class ship, two Littoral Combat Ships (LCSs), two T-AKE ships, and one Navy Joint High Speed Vessel (JHSV). Although not part of

the 313-ship count, in addition, the Navy will procure one JHSV for the Army in FY 2009. As required by Congress, the Department of the Navy submitted its thirty-year shipbuilding plan which reinforces the 313-ship fleet introduced in FY 2007. The FY 2009 thirty-year shipbuilding plan represents the Department's commitment to creating programs of stability and predictability which in turn provides efficiency and effectiveness in our industrial base.

The FY 2009 President's Budget request continues investment in the shift to next generation warships. The surface ships and submarines which make up the fleet of the future will be more capable than ever to respond to enhanced threats across the globe. Several critical shipbuilding programs in support of the thirty-year shipbuilding plan include:

- The lead ship of the CVN 78 Class -- GERALD R. FORD (CVN 78) is scheduled to deliver in 2015. Program funding is requested over four years. Approximately 40 percent of funding is received in FY 2008, approximately 40 percent of funding requested in FY 2009 ($2.7 billion), and the remaining 20 percent of funding requested in FY 2010 and FY 2011.

- The DDG 1000, a multi-mission surface combatant, tailored for land attack and littoral dominance, will provide independent forward presence and deterrence and operate as an integral part of joint and combined expeditionary forces. In February 2008, the Navy awarded contracts for construction of the dual lead ships to General Dynamics Bath Iron Works and to Northrop Grumman Shipbuilding. Ship detail design and the design of the mission system equipment are on track to support the start of production. The FY 2009 President's Budget request of $2.55 billion provides full funding for the third ship of the class, and advance procurement for the fourth ship. With recent approval from the Defense Acquisition Executive for the follow ship acquisition strategy, the Navy intends to utilize fixed-price incentive fee contracts for the follow ships awarded through a competition for quantity. The program continues to execute on cost and schedule.

- LCS remains a critical warfighting requirement for our Navy to maintain dominance in the littorals and strategic choke points around the world, and the Navy remains committed to the LCS program. However, the Navy identified cost increases for the lead ships in the LCS Class, due to development difficulties and changes from a commercial baseline. The Navy believes that active oversight and strict cost controls are needed to deliver these ships to the fleet over the long term. The Navy demonstrated strong oversight when it terminated the contracts for LCS 3 and LCS 4 in 2007. LCS 1 and LCS 2 are currently scheduled to deliver to the Navy in 2008. The FY 2009 President's Budget request includes $920 million for two additional LCS seaframes. The Navy also intends to execute the FY 2008 appropriation for one seaframe, utilizing the remaining funding and material from the terminated ships. These ships will be packaged as a solicitation between the existing contractors for a quantity competition for the three ships (one in 2008 and two in 2009).

- Currently, four VIRGINIA Class submarines have been delivered to the Fleet and six more are under construction. In 2007, the Navy commissioned USS HAWAII (SSN 776), the third submarine of the VIRGINIA Class, christened the fourth submarine of the class,

NORTH CAROLINA (SSN 777), and laid the keel for the fifth submarine, NEW HAMPSHIRE (SSN 778). In 2008, we will deliver and commission two submarines. NORTH CAROLINA (SSN 777), the fourth submarine, delivered on February 21st and will commission in May. NEW HAMPSHIRE (SSN 778), the fifth submarine is scheduled to deliver in August, eight months ahead of the April 2009 contract delivery date. In January 2008, the seventh, eighth and ninth hulls were named MISSOURI (SSN 780), CALIFORNIA (SSN 781) and MISSISSIPPI (SSN 782), respectively. In this budget, the production of two VIRGINIA Class Submarines per year has accelerated to start in FY 2011 vice FY 2012. The FY 2008 Congressional plus-up for advance procurement was instrumental to this effort. Negotiations for an eight-ship multi-year procurement contract will begin soon, and we anticipate signing that contract in late 2008. The Navy requests approval for the next multi-year contract, and full funding for the lead submarine as well as Advance Procurement for the FY 2010 and FY 2011 submarines.

- The Lewis and Clark Class Dry Cargo/Ammunition Ship (T-AKE) was designed to replace the Navy's aging combat stores (T-AFS) and ammunition (T-AE) shuttle ships. Working in concert with an oiler (T-AO), the team can perform a "substitute" station ship mission which will provide necessary depth in combat logistics. The FY 2009 President's Budget request provides for procurement of two T-AKEs in the National Defense Sealift Fund. Fourteen T-AKE hulls are covered under a fixed-price incentive contract with General Dynamics National Steel and Shipbuilding Company (NASSCO). Three of the T-AKEs are to support MPF(F) program requirements. Major accomplishments for the year include the christening of RICHARD E. BYRD (T-AKE 4) in May 2007 and the delivery of USNS ALAN SHEPARD (T-AKE 3) in June 2007 and USNS RICHARD E. BYRD (T-AKE 4) in November 2007. ROBERT E. PEARY (T-AKE 5) launched in October 2007. Progress continues on the follow on ships including the keel laying for AMELIA EARHART (T-AKE 6) in June 2007 and T-AKE 7 in November 2007. T-AKE 8 commenced construction in October 2007. The construction contract option for the T-AKE 10 and long lead time material for the T-AKE 11 were exercised in January 2008. The FY 2009 funding is to complete funding for two ships (T-AKE 11 and 12).

- High speed connectors will facilitate the conduct of sustained sea-based operations by expediting force closure and allowing the persistence necessary for success in the littorals. Connectors are grouped into three categories: (1) inter-theater; (2) intra-theater, the JHSV that enables rapid closure and sustainment of Marine forces; and (3) the Joint Maritime Assault Connector, to move troops and resources from the sea base to shore. These platforms will link bases and stations around the world to the sea base and other advanced bases, as well as provide linkages between the sea base and forces operating ashore. JHSV is currently in the Technology Development Phase. The Capabilities Development Document was JROC-approved in January 2007 and Phase I Detail Design contracts were awarded in January 2008. Milestone B is anticipated in late FY 2008 with delivery of the first vessel in 2011. The FY 2009 President's Budget request includes $186.8 million for the construction and R&D of the first Navy funded JHSV and $173.0 million for the second Army funded vessel.

A number of Congressional authorities are necessary in order to maintain the stability of the thirty-year shipbuilding plan. Key to achieving cost reductions in our VIRGINIA Class program is the ability to enter into multi-year ship contracts. We are asking Congress to provide Multi-year Procurement Authority for VIRGINIA Class Submarines. As we modernize our carrier force to the new Gerald R. Ford Class (CVN78), we will drop below our carrier requirement by one ship for approximately three years. Through adjustments to maintenance availabilities and by carefully managing our NIMITZ Class service life; we will be able to meet projected operational requirements with ten carriers for that period. We are asking Congress to authorize a temporary waiver of the carrier requirement from eleven to ten ships.

Enhancing Expeditionary Warfare Capabilities

The 2006 Quadrennial Defense Review describes the reorientation of joint ground forces from dependence on large, permanent overseas garrisons toward expeditionary operations. This includes a focus on greater capability to conduct irregular warfare. Naval forces are inherently prepared for this role through our ability to project power ashore. Amphibious warships and MAGTF capability are essential to the Navy-Marine Corps ability to conduct forcible entry. The Department of the Navy will invest in several key procurement programs to enhance our expeditionary warfare capability.

- The LPD 17 SAN ANTONIO Class of amphibious warfare ships represents the Department of the Navy's commitment to a modern expeditionary power projection fleet that will enable our naval force to operate across the spectrum of warfare. The Navy took delivery of the first LPD 17 in the summer of 2005, and operational evaluation began in the spring of 2007. USS NEW ORLEANS (LPD 18) and USS MESA VERDE (LPD 19) were commissioned in March 2007 and December 2007, respectively. LPD 19 will undergo shock trials this summer. There are five additional ships currently under construction. GREEN BAY (LPD 20) is expected to deliver this year, and NEW YORK (LPD 21) has been launched and will be christened in March 2008. LPDs 22-24 are in various stages of the construction phase, and the option for construction of LPD 25 was exercised on December 21, 2007. By addressing the 10th LPD in the FY 2010 budget development process, the Navy will still be able to leverage a warm production line, albeit with inherent inefficiencies. However, with competing priorities within DoD there is no guarantee that this 10th ship will be appropriated. Significant efforts are required to begin planning for the possibility that the line will be closed as we near the LPD 25 delivery in 2012. Starting in FY 2009, the Navy will begin to cover infrastructure like costs related to the LPD 17 production design. Closeout costs would also be used for shutdown/disposal of special tooling and/or test equipment, particularly for unique Contractor Furnished Equipment/Government Furnished Equipment items. Environmental impact assessments will be required as Northrop Grumman Shipbuilding looks to consolidate excess infrastructure across the yard.

- The Mine Resistant Ambush Protected (MRAP) Vehicle is playing a critical role in protecting our Sailors and Marines in harm's way. MRAP vehicles are employed to protect personnel against improvised explosive devices (IEDs), underbody mines and small arms fire. The currently approved Joint requirement is 15,374; however the Joint

Requirements Oversight Council is considering service adjustments to this requirement that require continued flexibility on the part of the acquisition strategy. The Navy is the lead Service for the Joint MRAP Vehicle Program and is committed to acquiring and fielding these vehicles for all services as expeditiously as possible. We are using every acquisition streamlining action possible, employing unique and flexible contracting methods, and tailoring testing and evaluation to focus on the most critical operational requirements. Since competitive award of contracts in February 2007, the MRAP program team and partners have ramped up production, conducted developmental and operational testing, built capacity for service-specific integration, carried out detailed air and sea transportation plans, developed an in-theater deprocessing and support system, and had a second competition for vehicles with enhanced capabilities, pursued technology upgrades for current vehicles, set up operator and maintenance training courses, produced over 5,000 vehicles and fielded more than 2,300 vehicles to two theaters of operation.

- The Expeditionary Fighting Vehicle (EFV) is the primary means of tactical mobility for the Marine rifle squad during the conduct of amphibious operations ashore. The EFV is self-deploying, high water speed, armored amphibious vehicle capable of transporting Marines from ships located beyond the horizon to inland objectives, and it replaces the current system, Assault Amphibious Vehicle, that was fielded in 1972. Its employment allows for amphibious ships to remain outside threat range during assault operations. Due to program cost growth, partially related to a reduction in the number of vehicles to be purchased, and reliability issues identified in testing, the program was restructured via the Nunn-McCurdy certification process. Major strides have been accomplished in reliability as the program management has been restructured to better support the system development. The EFV provides needed transformational capability that no other platform has. Like the MV-22, the EFV provides a future solution for power projection ashore. We need to continue to provide sufficient, stable funding to permit the maturation of the system to ensure that the essential capabilities are delivered as quickly as possible.

- The Joint Light Tactical Vehicle (JLTV) is a Joint Army/Marine Corps program, which consists of a family of vehicles with companion trailers capable of performing multiple mission roles. It will be designed to provide protected, sustained, networked mobility for personnel and payloads across the full Range Of Military Operations (traditional to irregular) with tactical mobility across all terrains. The Army is the lead organization on this program but the Marine Corps is and will continue to be heavily involved as the program advances through development.

Recapitalizing Aviation Capacity

The Department of the Navy requires a robust aviation capacity including attack, utility, and lift capabilities. The Department is in the midst of an extensive, long-term consolidation and recapitalization of all aircraft in the naval inventory to achieve a more efficient and effective warfighting force. The FY 2009 Budget request supports our plan to procure 206 aircraft for the Navy and Marine Corps team.

The Department will continue to recapitalize our aging inventory with upgrades or new variants of existing aircraft, due to the associated costs to develop new platforms. For example, the Navy helicopter community is replacing six different Type/Model/Series aircraft with the MH-60R and MH-60S, while the Marine Corps is buying the UH-1Y, AH-1Z and CH-53K to replace older variants of those aircraft. The result is a consolidation of rotary wing aircraft production at two contractors, Sikorsky in Connecticut and Bell Helicopter in Texas. Particularly critical programs include the F-35 Joint Strike Fighter (JSF), the F/A-18E/F Super Hornet, the EA-18G Growler, the P-8A Multi-Mission Maritime Aircraft (MMA), the MV-22, the VH-71 Presidential Helicopter, and helicopter programs. Each of these programs brings a significant increase in capability to the warfighter.

- The F-35 JSF (STOVL, CV, CTOL), a 5th generation weapon system, will enhance precision strike capability with unprecedented stealth, range, sensor fusion, improved radar performance, combat identification and electronic attack capabilities compared to legacy platforms. In 2007, the LRIP II Long Lead contract was awarded for six CTOLs and six STOVLs. STOVL first flight is a key event for award later this year of STOVL FY 2008 LRIP 2 Full Funding and LRIP 3 Long Lead Funding. The CV Air System Critical Design Review was successfully completed in June 2007 and CV first flight is scheduled for 2009. The STOVL and CV variants are projected to meet their respective Key Performance Parameters.

- The F/A-18E/F Super Hornet is the Navy's multi-mission strike fighter. The FY 2009 Budget requests funding for 23 F/A-18 E/F aircraft for the final year of the five-year multi-year procurement contract (FYs 2005 to 2009). The F/A-18E/F continues to transition into the fleet, improving the survivability and strike capability of the carrier air wing. Over 410 F/A-18E/Fs will be procured through FY 2008, which will kep us on track to complete procurement of the program of record 493 aircraft in 2012.

- The EA-18G Growler continues its development as the Navy's replacement for the EA-6B Airborne Electronic Attack aircraft. The EA-18G will replace carrier-based Navy EA-6B aircraft by 2012. A total quantity of 27 aircraft will be procured in LRIP. The Navy is using the F/A-18E/F multi-year procurement contract to buy the Lot 3 aircraft in FY 2009. The FY 2009 Budget requests funding to procure 22 full rate production Lot 3 aircraft.

- The P8A MMA replaces the Navy's P-3C Orion and fills Combatant Commander requirements for long-endurance naval aircraft in fulfillment of many missions in major combat operations, GWOT and homeland defense. The program completed both its overall system Critical Design Review and its Design Readiness Review in 2007. The FY 2009 Budget request continues the P-8A System Development and Demonstration (SDD) and provides initial Advance Procurement funding leading to a production buy in FY 2010.

- The MV-22 Osprey Tilt Rotor aircraft will supplement and replace the CH-46 with enhanced mission capabilities. The FY 2009 Budget requests funding to procure 30 MV-

22 aircraft and continues development of follow-on block upgrades. FY 2009 is the second year of the multi-year procurement contract. The V-22 successfully completed Operational Evaluation and recently achieved initial operational capability.

- The VH-71 Presidential Helicopter is planned to replace the current Presidential fleet of VH-3Ds and VH-60Ns. The aircraft will provide required survivability, communication, and navigation capabilities as well as improved aircraft performance and executive accommodations. First flight of test aircraft occurred in July 2007. Two test aircraft are now at Naval Air Station Patuxent River, MD in flight test. The FY 2009 Budget request continues the VH-71 SDD.

- Helicopters continue to provide essential lift capability to the Navy and Marine Corps. Critical to this capability are the MH-60R/S and the UH-1 programs. The MH-60R will replace the aging SH-60B and SH-60F helicopters with the primary mission of undersea and surface warfare. The MH-60S will support the Carrier Strike Group and Expeditionary Strike Group combat logistics, search and rescue, vertical replenishment, anti-surface warfare, airborne mine countermeasures, combat search and rescue, and naval special warfare mission area. The FY 2009 Budget requests funding to procure 31 MH-60R and 18 MH-60S helicopters. The UH-1 continues to fulfill the Marine Corps utility helicopter missions. The FY 2009 Budget request continues the UH-1Y new build strategy and requests procurement of 20 UH-1Y/AH-1Z helicopters.

Research and Development

As we look to transform our force with new generation platforms, we must also actively seek out new innovative technology. The Department of the Navy's total FY 2009 Budget request for Research, Development, Test and Evaluation (RDT&E) is $19.3 billion. The Science & Technology (S&T) portion of this FY 2009 request is $1.8 billion, an increase of over six percent real growth from the requested FY 2008 level.

Navy understands that a broad based S&T investment strategy is needed to hedge risk while providing new options when the future national security environment is uncertain. Our S&T investment strategy balances applied science focused on near-term challenges and basic research focused on longer-term investments on the frontiers of science. It seeks to support the best science and the most innovative ideas, regardless of their origin. We are pursuing the best practical ideas to support our Fleet - whether developed in our own world class laboratory, the Naval Research Laboratory, in our universities, other DoD and federal laboratories, in industry, throughout the world, or in the garages of individual inventors.

The FY 2009 requested increase to 6.1 Basic Research within S&T reflects a DoD-wide emphasis on meeting 21st century challenges to U.S. technological superiority in the foundational sciences that support advanced military capability.

Other RDT&E accounts support the development and transition of new technologies and critical new weapon systems, including unmanned vehicles. Critical RDT&E investments include shipbuilding programs such as VIRGINIA Class Submarine, CG(X), and MPFF, and aviation

programs such as F-35 JSF, VH-71, P-8A, CH-53K, E2D, and EA-18G. As a final part of the RDT&E account, our Test and Evaluation communities are ensuring that technologies will perform as required in the field.

Regardless of the Navy's selection of a particular preferred alternative for CG(X), we must push forward with radar technology and vital research and development efforts in FY 2009 to include engineering development and integration efforts. The results of the Navy's Analysis of Alternatives (AoA) for the Maritime Air and Missile Defense of Joint Forces capability are currently within the Navy staffing process. Resulting requirements definition and acquisition plans, including schedule options and associated risks, are being evaluated in preparation for CG(X) Milestone A, planned to occur in FY 2008.

Acquisition Initiative

Ensuring affordability and timely delivery of capabilities will require improvements in the acquisition process—stable requirements and clarity in design criteria, better program management expertise, and new measures to incentivize contractors to complete programs on cost and within schedule, while delivering a quality product for military use. Military use also includes other factors such as habitability conditions that support quality of life, reduced variability of part types and supportable logistics and sustainment. In addition, independent cost, schedule, and risk assessments are conducted and used to establish the foundation of program plans.

The Department has launched an acquisition improvement initiative, planning for which has included the Secretary, Chief of Naval Operations (CNO) and Commandant of the Marine Corps (CMC), and which will enforce discipline across the Department without altering existing Office of the Secretary of Defense and Joint Chiefs of Staff-level processes. Actions comprising the acquisition improvement initiative include the following:

(1) Acquisition Governance

A new review process has been established, which will encompass two distinct phases. Led by CNO/CMC, the requirements phase comprises three "requirements gates:" (1) Approval of Initial Capabilities Document; (2) Approval of Analysis of Alternatives; and (3) Approval of Capabilities Development Document and Concept of Operations. During this phase the focus is on what capabilities we need and what capabilities could be available and the process ensures completeness and unanimity of requirements, agreed upon by top leadership early in the acquisition process. During this phase, the Component Acquisition Executive participates as a supporting member.

The acquisition phase, led by the Component Acquisition Executive, consists of three "acquisition gates:" (1) Approval of the System Design Specification; (2) Approval to release the System Development and Demonstration Request for Proposals; and (3) a Sufficiency Review of the entire program. During this phase the focus is on how we acquire solutions to meet the defined needs, emphasizing clear system design specifications, leveraging commonality within parts and systems, and the use of open architecture. During this phase, CNO and CMC remain in support of the acquisition force to ensure stability in the requirements.

Each "gate review" includes a comprehensive assessment using detailed metrics to determine the health of the program and ensures that the program is ready to proceed to the next phase of the acquisition process. The key benefits are 1) better integration of requirements and acquisition decision processes; 2) improvement of governance and insight into the development, establishment, and execution of acquisition programs; and 3) formalization of a framework to engage senior Naval leadership throughout the review process.

(2) Acquisition Workforce

To reinvigorate the acquisition workforce the Department has aggressively pursued investment in several key areas: Using a model of our total workforce, we've identified certain imbalances and redundancies for which Systems Commands and Program Executive Officers will initiate corrective action in FY 2008. Additionally, the Department will create a common business model across Systems Commands to allow maximum flexibility of workforce utilization while sharpening the skill sets of our acquisition professionals. Further, we are creating common templates for acquisition program leadership that will ensure adequate staffing of programs throughout their life cycle. Notably we have adjusted the structure of the DDG 1000 and LCS programmatic leadership to benefit from these common templates.

Finally, to bolster our acquisition leadership, Navy has added a three star admiral to serve as my Principal Deputy Assistant Secretary for Research, Development, and Acquisition.

Summary

Our priorities are to invest in both the GWOT fight and to prepare for future challenges. We must be prepared to respond to emerging threats of an uncertain future. To accomplish these goals we must continue to invest wisely.

Thanks to the continuous support of this Committee and the Congress our naval forces are superior to all others. But developing and maintaining capable naval forces requires our Nation to take a long-term view. It requires time, constant strategic planning, and significant commitment of resources to develop and maintain the world's premier naval force. Together, we have made tough decisions and I believe that this budget submission is adequately structured to support the needs of the United States Navy and the United States Marine Corps.

Only through the collaborative efforts of the Congress and the Department of the Navy and with the support of the American people can we provide the Nation the naval force it needs to fight the GWOT and prepare for the challenges of the future.

In closing, Mr. Chairman, thank you for the opportunity to testify before your Subcommittee regarding the Department of the Navy's acquisition program.

MINE RESISTANT AMBUSH PROTECTED VEHICLE

Mr. MORAN. We appreciate your coming to testify and respond to questions. I have just a couple I would like to ask.

But first I think I will ask General Amos about the MRAPs. When lives are directly affected, when we know we can save lives with a particular piece of equipment, money is really no object; so it is a very distant secondary consideration. But there is some concern about, for example, the flexibility of MRAPs. In an urban area or from the Marine Corps' perspective, even in a muddy area, there is limited flexibility. It just doesn't operate as well as we would like. But the concern arises, What are we going to do with these after the war is concluded?

Do you have plans for—since we are shipping as many as we can as fast as we can to the theater in Iraq—what are we going to do with them once there is some political reconciliation and we start to pull out of Iraq?

General AMOS. Right now I think the number is 1,101 that are in the Green Zone that belong to the Marines today. That includes 38 that we are shipping into Afghanistan. So we are going to use the ones—and our number, total buy for us, is 2,225, as you know when we talked the last time.

Mr. MORAN. It is 2,225?

General AMOS. Yes, sir. And we have got a little over 1,100 in theater right now. And as we continue to buy toward the end of the summer, we will continue to put more in theater in the Green Zone. Yet to be seen how many we are going to put in Afghanistan, because we just don't know. We have got the early forces, the 24th MEU, on the ground today, and eventually will flow 3,400 Marines and Sailors in there. So we are not quite sure. But we do know that—we anticipate there is going to be a requirement on the major roads.

And you are absolutely right, Congressman Moran, this is a worthwhile investment and it is a great vehicle. It is not an off-road vehicle. And it is not a vehicle to use in many of the little mud-walled, very tightly dense-packed urban areas that we operate in. So it has an application.

Since we met the last time, since I came in here and testified the last time and I was asked about—and I believe it was Congressman Bishop who asked me about are we going to put these on MPF, our Maritime Preposition Ships, and the answer is we probably are. We are working on that. I told you at the time that I wasn't sure how they would fit weight-wise.

A couple of things have happened since then. Number one, there is a recapitalization effort about to take place where we are going to be able to get rid of some of our legacy MPF ships, get some LMSRs and be able to put more stuff. So I think we are going to put some on MPF. We are not sure how many yet. The total requirement, known requirement right now that we have in the Marine Corps, enduring requirement, is for a little over 400 of them for the future. And that is for EOD, route clearance missions, and that kind of thing.

So there is a difference, I know, between that and the 2,225, but there is an unknown Congressman Moran. And what I want you

to understand is—or believe—that we are going to take good care of these things. We are probably going to end up forward-basing a bunch of them in the CENTCOM AOR. If you think about missions that we might do in Africa, that might be a perfect vehicle for some of those kinds of environment. So there is a question. We are not quite sure. But we are going to take care of them. We are more than likely going to preposition. We are probably going to cocoon a bunch of them. And then we will have some on MPS. We are just not quite sure yet.

PRESIDENTIAL HELICOPTER PROGRAM

Mr. MORAN. Thanks, General.

I only have one more area for questioning before turning it over to Mr. Young. But this is to Secretary Thackrah. The Presidential helicopter program has experienced well-publicized cost growth over the last year, caused by a combination of technical problems and requirement changes. The current request before the committee for this program is over $1 billion, but contains no schedule details beyond this fiscal year.

This marks the second consecutive year that the Navy has requested a large amount of funding for a program with no schedule details provided as justification. So you are asking the Congress to take quite a leap of faith to appropriate over $1 billion to a program with no long-term plan nor much of a short-term plan.

When will the Navy provide an executable program schedule? What is the root cause of all of the problems and turmoil on this program?

Now, it appears that the Department is really just throwing good money after bad in the hopes that things might get better. So we would like to know what assurances you can provide this subcommittee that the Presidential helicopter program is in fact on track finally, and will actually field aircraft on the schedule required by the White House. Mr. Secretary.

Mr. THACKRAH. Thank you, Mr. Chairman, for that question. The Presidential helicopter program is, as you are aware, segregated into two increments. Increment one of this program currently has aircraft in flight test and is moving along according to the schedule that has been advertised. Increment two of this program is currently on stop-work and is pending incremental funding and decisions on the way ahead from the White House. Meetings have been ongoing relative to the status of this program. We are expecting decisions imminently on the final definition of increment two and where we will be going forward.

The cost overruns that you refer to are well advertised. They are real. We have requested additional funds. That was largely due, as we have testified before, to a misunderstanding, if you will, of requirements between the Department of the Navy and the supplier. We have since sorted all of that out, and we now have high confidence that clearly that understanding is in place, it is understood. We now need to get the final definition and decision on the final stages of increment two.

Mr. MORAN. Okay. It has been kind of a frustrating experience; but I mean, we will take you at your word. It is not you, but I have to say once more, you know, we will assume those assurances. And

we don't necessarily blame you, but it has been a problematic program.

Mr. DICKS. Mr. Chairman would you yield? Who is the supplier?

Mr. THACKRAH. This is Lockheed Martin.

Mr. MORAN. Don't say Northrop Grumman.

Mr. THACKRAH. No, sir, this is Lockheed Martin.

Mr. DICKS. Lockheed Martin. And the helicopter comes from Italy?

Mr. THACKRAH. The base helicopter is an Augusta Westland aircraft based on their commercial EH–101 aircraft.

Mr. DICKS. Thank you.

Mr. MORAN. Thank you, Mr. Dicks. Mr. Young.

LPD–17 AMPHIBIOUS TRANSPORT DOCK

Mr. YOUNG. Mr. Chairman, thank you very much.

General AMOS, the number one unfunded requirement for the second year in a row for the Marine Corps is an additional LPD–17. We have already appropriated for nine of these ships, but the fiscal year 2009 budget includes $104 million for closeout costs. This doesn't appear to be compatible with what you consider your needs to be. What do you have to say about that?

General AMOS. Sir, I appreciate the opportunity to comment on that. And that is truly our number one unfunded priority. As the Commandant says, we need the ship, we need 11 of them. The program of record was 11 ships, it wasn't nine. Right now we are going to spend $103 million in 2009 to essentially close the line down.

I was down there with the Commandant and the other three-stars in New Orleans about 3 or 4 weeks ago for an off-site. Walked on board the ships, went on board the GREEN BAY, had a tour of the shipyard, got to see the keel laid. It is quite an operation. I am very enthusiastic about the ship, but we need to continue with the requirement, Congressman, and so nine is not enough. It is not going to get us what we need. So we need the tenth LPD. We need to commit to it and then we need to move on and build the 11th LPD as well.

Mr. YOUNG. If we took the $104 million of the budget request for closeout and then we applied that to another LPD–17, how much more would we need?

General AMOS. Sir, I am going to let Admiral McCullough answer, but it is not going to be enough for advance procurement, but it would put some seed money down. So it is probably better off that Admiral McCullough answers that from a money perspective.

Admiral MCCULLOUGH. Yes, sir, Congressman, I appreciate the question. The cost of an LPD–17 is $1.7 billion. So if we took the $103 million and applied it to that cost, we would need roughly another $1.6 billion, sir.

Mr. YOUNG. Could these LPD–17 hulls be used for any other kind of ship?

Admiral MCCULLOUGH. Yes, sir. We are investigating that right now, use of an LPD–17 hull as a replacement for our afloat command ships. The MOUNT WHITNEY, which is deployed in European theater and the BLUE RIDGE which is deployed in the Pacific theater.

Mr. YOUNG. Where is the disconnect? If the Marines feel strongly that they need the LPD–17s, but the administration asks for money to close out the line, there is a disconnect here somewhere; that if the Marines feel like they need the ships, we probably ought to be doing something about that rather than closing the line.

Admiral MCCULLOUGH. Yes, sir. In the 30-year shipbuilding plan, the Commandant specified a requirement for 33 amphibious ships in the assault echelon: 11 aviation capable, 11 LPD–17s, and 11 LSDs, 41 or 49 class. The CNO, Admiral Roughead, concurs with General Conway's determination, so we agree with the Marines' requirement.

That said, given the amount of money we had in the 2009 program and the demands across the entire Navy, both in shipbuilding and other programs, we could not fit one in the 2009 budget. We have done some work to try to extend the estimated service lives of some LHA–1 and LPD–4 class ships to alleviate some of this concern. I grant you that those ships will not, coupled with the ones we have, meet the entire amphibious lift requirement in the assault echelon at 2.0–MEBs. But given the amount of money and the priorities of the Navy, that is the best we could do in fiscal year 2009. We will revisit this in the POM 10 program, sir.

Mr. YOUNG. If we all were to agree that we should provide the advanced funding for additional LPD–17s, either in 2009 or 2010, our research has indicated that it would probably take about $260 million to do that. Is that an accurate figure?

Admiral MCCULLOUGH. Congressman, I believe that is close; yes, sir.

Mr. YOUNG. Okay. I think we need to think about this a lot and try to make things happen right. Mr. Chairman, thank you.

Mr. MORAN. Thank you very much Mr. Young. Mr. Vice Chairman Dicks.

MARITIME PATROL AIRCRAFT

Mr. DICKS. Thank you very much. I wanted to ask a question. Where are we? How are we doing on the—I understand we have problems with the P–3s and that—does that mean—are we going to try to accelerate the Poseidon program? PA—what is it, PA–8?

Mr. THACKRAH. P–8A, sir.

Mr. DICKS. P–8A, better known as MMA?

Mr. THACKRAH. Yes, sir, that's correct. Mr. Dicks, thank you for that question. The P–3 aircraft is an aging aircraft. We have been——

Mr. DICKS. Built by Lockheed Martin, isn't that correct?

Mr. THACKRAH. That's correct, sir. We have put 39 of those aircraft down, sir, as a result of some analysis that has been done on the fatigue life characteristics of the wings on that airplane. This does not indicate at all that there is a current safety flight issue. It is an analysis that has been done, based on fatigue testing, to say that we need to be paying particular attention and preparing to replace certain sections of the wings of those aircraft to assure that they are safe to fly.

The pullout of those aircraft out of the fleet has prompted us to look at various ways to maintain its capability within the fleet operations, and multiple ideas are being considered. One of those, ob-

viously, is the procurement of replacement wing components and the rebuild of those wings on the P–3. The other of course is, as you mentioned, the acceleration of at least one of the A capabilities provided by the P–8A MMA aircraft. We are in the process of doing that analysis as we speak, and will be evaluating that as part of our FY 2010 budget development process.

Mr. DICKS. Admiral Roughead included $100 million as a top priority on his unfunded priority list to accelerate the P–8A production. How would that funding be used if it were provided?

Admiral MCCULLOUGH. Yes, sir. There are a couple of sets of funding. There is $100 million that you referred to in RDT&E. There is $364 million in fiscal year 2008 to work on the wing box problem in zone 5 that Mr. Thackrah addressed, as well as a need of about $312 million in fiscal year 2009.

Mr. DICKS. This is all in the existing plan?

Admiral MCCULLOUGH. The 300 numbers I gave you on the existing P–3s. The $100 million in RDT&E that the CNO referred to is to accelerate the initial operational capability of the P–8A Poseidon from fiscal year 2013 to fiscal year 2012, approximately 15 months.

Mr. DICKS. And for my colleagues, this is a 737 being done at Renton, Washington?

Admiral MCCULLOUGH. Yes, sir. It is a militarized variant of the 737 baseline aircraft, but there are a lot of differences in the two aircraft.

Mr. DICKS. How is the program doing?

Admiral MCCULLOUGH. The program is doing very well, sir. We have the ability to accelerate it given the extra funds. That would allow us to deploy three squadrons at IOC in fiscal year 2012 if we receive them.

Mr. DICKS. And they are using an inline production method; isn't that the way they characterize it?

Admiral MCCULLOUGH. That is correct.

Mr. DICKS. Why don't you explain that, because it is relevant also to the tanker decision; because Boeing wanted to do an inline approach on the 767, was downgraded for it. Explain the inline method that is used on the 737.

Mr. THACKRAH. Mr. Dicks, thank you for that question. Boeing at the Renton plant in Renton, Washington as you mentioned, transitioned, once their sales requirements demanded it, to have a moving line for producing the 737 aircraft, not unsimilar to the way most auto manufacturers make cars. Most of Boeing's larger commercial aircraft are made in batch-line setups, for example, up at their Everett, Washington facility. But in Renton they went to a moving line that allowed them to process 30 aircraft a month through that assembly line.

Mr. DICKS. Per month?

Mr. THACKRAH. Per month.

Mr. DICKS. And they can militarize that airplane, as I understand it, but they have to always—they have got all kinds of regulations, like ITAR, that means you have got to worry about foreign nationals and making sure they are not working at the same place that a—and we waive all this for people—I mean for other countries. We waive this regulation. They don't have to meet this regulation, but we have to meet it; isn't that right?

Mr. THACKRAH. For the assembly of this aircraft, sir, certainly Boeing will have to comply with the ITAR requirements. Yes, sir, that's correct.

Mr. DICKS. But how do you feel about this program—I mean, the MMA replacement? Do you think it is moving well now? I understand there was some hiccup a couple years ago when they first started this, but they have got this thing turned around. That is what a development program usually is about.

Mr. THACKRAH. Sir, this program is on track, meeting schedule, and within the budget allocated.

Mr. DICKS. Is Boeing doing a good job as the integrator?

Mr. THACKRAH. Yes, sir.

TANKER AIRCRAFT REQUIREMENTS

Mr. DICKS. Here is one issue and, General, I am going to leave this up to you to help me on this a little bit. We are under—we have been told, and people should realize that the Navy and the Marine Corps use these tankers just like the Air Force does; isn't that correct?

General AMOS. Yes, sir.

Mr. DICKS. And one of the things we are told—and I would like you to find out if this is accurate—that the 767 competitor would have refueled the Osprey, the V–22, but that the Northrop Grumman larger airplane, because of speed concerns, can't refuel the Osprey. This would be a big thing to the Marine Corps, wouldn't it?

General AMOS. Sir, we would want a tank off this airplane and the Osprey. Now, I don't know that any Ospreys have gone up and tanked behind a KC–135.

Mr. DICKS. Well, you can't do that. But the 767 we are told would be able to do it?

General AMOS. And I can't speak to that, sir.

Mr. DICKS. I thought it would be something you would want to think about and evaluate.

General AMOS. Sir, I will. I will take that back and—seriously, because I will tell you what, we have got airplanes now, we have sold a V–22 on its worldwide deployability. And we do that with its great range as a result of in-flight refueling.

Mr. DICKS. But the fact that if our new tanker, because of its size and speed, couldn't refuel you, that would be a serious detriment, wouldn't it?

General AMOS. Sir, it would be something we would be very interested in.

Mr. DICKS. I think you need to check into this, General, and I will be eager to hear your answer.

General AMOS. Sir, I will. We will get back to you on that.

[The information follows:]

The Marine Corps supports the need for a new strategic tanker to support our tactical jet fleet and we look forward to the possible operational flexibility the KC–X will provide if it can refuel the MV–22. If the KC–X cannot refuel the MV–22, the effect on the Marine Corps will be minimal as we are capable of globally self-deploying the V–22 using our own KC–130 aerial refueler aircraft.

Mr. DICKS. Thank you. Thank you Mr. Chairman.

Mr. MURTHA [presiding]. Mr. Frelinghuysen.

MINE RESISTANT AMBUSH PROTECTED VEHICLES

Mr. FRELINGHUYSEN. Thank you, Mr. Chairman.

General Amos, just following up on the MRAP, there seems to be, obviously, a focus on what their use might be in future wars. And I am not asking you to do an advertisement for MRAP, but from what I hear from soldiers and marines, they are damn lucky; they feel that those MRAPs have saved lives.

I wasn't here for the Army's testimony yesterday, but I do understand that of the IED attacks on MRAPs I think we have lost, I think, one soldier. But you would agree, despite what we hear about issues of weight and flexibility, that on the battlefield our marines and soldiers like them?

General AMOS. Sir, they do. They love them. And I can personally testify. I stood in front of two staff sergeants, Marine staff sergeants and a Navy corpsman, and you may have seen that picture of the Humvee—or, excuse me, the MRAP that had the motor blown out, the whole front end blown off. And I stood in front of them, in front of that vehicle, and all three of them walked away and they are here today. And so they love it. We love the vehicle. It just has restrictions. In other words, there are places we just can't take it.

Mr. FRELINGHUYSEN. They are damn heavy. I forget how much they weigh.

General AMOS. Sir, they are very heavy. And they are really not an off-road vehicle. So if you start thinking about mobility off highways and you are out over terrain, then what kind of vehicles do we—we are buying vehicles like tanks, we are buying vehicles like—we have our Light Armored Vehicles (LAVs), we are going to buy the Marine personnel carrier that off road will be able to stay up with mechanized vehicles of forces advancing rapidly, and this can't. But there is a place for it in our inventory, there absolutely is.

And because it is so new—remember, we just really started getting large numbers of them in there this past fall. We are still learning where it can go and where it can't go. And that is the reason why we lowered the numbers 3,700 to 2,225, was once we got enough in there and we began to actually use them for operations, we began to realize that there are spots that you just can't take it. But we love the vehicle and the Marines love it.

LPD–17 PROGRAM

Mr. FRELINGHUYSEN. Okay. Thank you for your response.

Admiral McCullough, last year I quizzed your predecessor, and this is sort of apropos of Congressman Young's questions about the LPD–17, the condition of the San Antonio. That was the lead ship. And it was a little bit unclear, but that ship suffered some pretty massive cost overruns. It had some problems with its sea trial.

Where is the San Antonio today? And as we are rolling out other ships and moving ahead with various buys, how would you characterize it?

Admiral MCCULLOUGH. She is working with the Fleet right now and they are doing amphibious operational testing with that ship pretty much today as we speak.

Mr. FRELINGHUYSEN. So the ship is complete or incomplete?

Admiral MCCULLOUGH. It is complete, sir. LPD–18, as you know, was delivered with some outstanding work. That is in the process of being corrected. LPD–19 was delivered complete.

Mr. FRELINGHUYSEN. So whatever the problems were, those problems have been addressed?

Admiral MCCULLOUGH. Yes, sir. We have worked those issues with the contractors, and the ships are being delivered ready for us to use.

Mr. FRELINGHUYSEN. Well, I think I know the answer. General Amos, you are looking for a buy of 10, right? And what do they give you? You know, they obviously give you a huge ability to deliver, but maybe you could expand on it.

General AMOS. When you say——

Mr. FRELINGHUYSEN. The LPD–17s, why do you need, for instance, 10?

General AMOS. Sir, first of all, we are looking for the 10th one. We are actually looking for the 11th one as well, as I stated earlier. This ship will have the ability to—and I don't have the numbers in front of me, I can get them to you—increase the capacity, the capacity to put vehicles and have things like operating rooms, berthing for Marines, spots to put airplanes on the back end of it, spots to put LCACs in the well deck of the thing, has significant greater capability than the current legacy ships that we have today.

It also has a stability capability where it can actually stabilize itself weight-wise. It is a ballast and it is a readjustment of fuel, and it has a capacity that some of the older ships, quite frankly, don't have. So what you end up with is a new LPD–17 variant, a ship that, quite honestly, you can put an awful lot on.

What we are finding, because everything is getting heavier, if we go back to some of our legacy ships, some of those actually end up with stability and center-of-gravity issues, so that you get to a point where you can't put anything more on it. There may be room to put something on it, but you can't put it on it because of stability.

So with a newer ship you don't have to worry about that. So you end up with a greater capability, a greater square cubed capability on the ships, and we get on with the construction of the program of record.

Mr. FRELINGHUYSEN. And that is obviously endorsed by the Navy as well; I mean the same reasons, the same abilities?

Admiral MCCULLOUGH. Yes, sir; I agree with exactly what General Amos said.

Mr. FRELINGHUYSEN. Thank you, Mr. Chairman.

Mr. MURTHA. Mr. Moran.

IMPROVISED EXPLOSIVE DEVICES

Mr. MORAN. Thank you, Mr. Chairman. I want to ask you because of your position in acquisition and development, a question about JIEDDO. On too many occasions I have heard from defense contractors in my district that JIEDDO has a single-minded focus on supporting, really exclusively, new programs and technologies developed for the Army. And many of these companies have prod-

ucts with tailor-made applications to thwart IED attacks, but they are not given serious consideration by JIEDDO because they support primarily the Marine Corps.

So I would like to ask you, do you see any kind of bias in the Marine Corps funding for the Army as opposed to project approaches that might help the Marine Corps? Because the Marine Corps is getting very little of this JIEDDO money, and that was not the intention. The intention was to spread it out over all of the services.

General AMOS. Sir, let me open up on that because I worked with JIEDDO over the last year and a half, and then perhaps the Secretary can pile on. My sense was, to begin with, what you have described was, that was my sense coming into the job 20 months ago, was——

Mr. MORAN. You had heard the same thing?

General AMOS. I did. I heard it. I can't sit in front of this Subcommittee and say I saw this, this and this, but it was challenging. I will tell you that I saw the changes take place 10 months ago. General Miggs and I, before he left, had a very good relationship. I have known him for a long time. We sat down and said, Let's make sure—and I basically confronted JIEDDO with just exactly what you said. I said, Look, there are two of us on the ground in this. You may have more forces on the ground, but we have got a lot of Marines on the ground as well, so we need to share the wealth here. And I will be honest with you; I came away with, over the next probably ensuing 10 months, believing that we are getting our fair share of this thing. He was very forthright.

We put a Marine, by the way, a colonel, as his chief of staff. That began to help explain how Marines do business a little bit differently than the Army on the ground. I am pretty comfortable with where we are right now, Congressman Moran, with JIEDDO. I shared your frustrations about 18 months ago when I first got here, but I am not that way now.

ACQUISITION WORKFORCE

Mr. MORAN. I have one other question. And I tend to sound like a Johnny one-note on acquisition workforce, but the Chairman has asked me to pursue this.

Mr. Thackrah, you mentioned your acquisition workforce investment, but you were very unspecific. How much have you put into improving your acquisition workforce? How many new employees? What are you specifically doing? Because you know; this has been a whack-a-mole kind of thing. We keep asking, you know, What are you doing here? And we get assurance. And then it turns out that people are drawn from another area.

The workforce acquisition, the acquisition workforce really doesn't seem to get the kind of investment that it desperately needs, especially in the Army and Navy. So if you would address that specifically. How many people additionally are you bringing on and how much money are you putting into that?

Mr. THACKRAH. Congressman Moran, thank you for that question. There are several specific things that we are doing to address acquisition workforce. First of all, the budget, the fiscal year 2009 budget that is in front of you, has an additional $30 million in it

specifically for the hiring of systems engineers. This was directed and mandated as we suggested it to Secretary Winter. He concurred. And the additional funds are in our budget request.

Secondly, also in the fiscal year 2009 budget, is funding for an additional 100 acquisition interns annually. Typically, heretofore our acquisition intern program has hired 300 young college graduates per year. This budget that is in front of you is asking for 400 per year, so we are raising that level.

Beyond that, sir, we have a significant ongoing study looking at our working capital-funded resources across our warfare centers to evaluate what skillsets we are developing and maintaining and targeting them towards three specific areas, which are contracting professionals, program management and systems engineering. What we are saying by highlighting those three specific areas—because they are the three key areas that we have, we believe, that will assure us acquisition success—is that that may be at the expense of some other skillsets that are of a lower priority in those working capital-funded activities. These initiatives are some of the things that we have that are very specific and ongoing, sir.

Mr. MORAN. I am glad to hear that. I am not overwhelmingly impressed that you are getting 100 more interns, but that is a step in the right direction. I do hear—and this is the Navy—that some of the experienced acquisition people are not particularly well respected and they would rather bring in new people. But there are some folks with a whole lot of experience that just don't seem to be particularly appreciated in the Navy acquisition pipeline.

But I mean that is—I don't have any numbers to show that that is widespread. They are just anecdotal examples. But, again, I would hope that this is going to be a priority for obvious reasons.

Mr. THACKRAH. Sir, thank you for that comment. And I would say that not only within the acquisition community which I lead, but Admiral Roughead, upon his recent arrival, has put a significant priority on the civilian workforce within his organization. And he too is looking at not only civilian but Navy Captains, some of the acquisition professionals that have achieved the rank of Captain and then either they hastily retire or are hastily retired.

He is asking his staff to look at completely reviewing that and finding out ways that we can incentivize Navy Captains to stay longer that are acquisition professionals so that we can take advantage of that talent that we have grown over the years that they have been in those jobs.

Mr. MORAN. Well, good for you. That is just the kind of thing I hear. Once somebody turns 50, they got no use for you, they want to bring in somebody new. And it is the people with experience in acquisition that we need to keep. But I am glad you are on to that.

Thank you, Mr. Chairman.

Mr. MURTHA. Ms. Kaptur.

CAPABILITIES OF FOREIGN NAVIES

Ms. KAPTUR. Thank you, Mr. Chairman. Welcome, gentlemen.

Let me begin with Admiral McCullough. With a 313-ship Navy prospectively, what would be the country that would then follow ours and then the country after that that would have the next largest Navy? And on what rating scale would you rate those nations

today? In other words if the United States has 313, then who is next? Where does Russia fit, where does China fit, and the way you look at the future?

Admiral MCCULLOUGH. I had some folks pull up data for me. The next highest Navy with respect to ships are the Chinese, 164 ships.

Ms. KAPTUR. Today?

Admiral MCCULLOUGH. Today, yes, ma'am.

Ms. KAPTUR. And how do the quality of those ships compare to ours?

Admiral MCCULLOUGH. As you know, China has embarked on a military buildup. Some of their ships that have been delivered are very capable ships, and some of their ships in inventory, as you might imagine, were built on a former Soviet design and are not quite as capable. But the material they are delivering today is quite capable.

I would say the operational effectiveness of their force and the capability of their developing noncommissioned officer corps and their higher-level officers is increasing at a rate greater than we thought it would. So they are becoming capable. If you look at their proficiencies as compared to ours, I would say it is not on the same par.

Ms. KAPTUR. If you look at the numbers of persons in their Navy versus ours, do you know?

Admiral MCCULLOUGH. I will have to get that for you ma'am. I don't know.

[The information follows:]

The United States Navy's FY 2008 authorized end strength is 329,098. Conversely, our intelligence estimate of the number of people in China' People's Liberation Army Navy (PLAN) is approximately 255,000, while the Military Maritime Fleet of Russia numbers approximately 150,000.

Ms. KAPTUR. And who is after them?

Admiral MCCULLOUGH. The next would be the Russian Navy. It has got 108 ships currently. And as you just saw, the Kuznetsov Battle Group had a deployment to the Mediterranean out of the North Sea Fleet. She was met in the Mediterranean by a Slava cruiser that had come from the Black Sea Fleet. And that ship transited with the Kuznetsov Battle Group out into the Atlantic Ocean and went to a port visit. And I think it was Lisbon, I am not sure.

The Kuznetsov group then transited back to the north and returned home. And her out-of-area deployment was approximately 62 days. The cruiser went back to her home in the Black Sea Fleet; and I want to say she was out of home port about 25 days, but I would have to get the exact number.

Ms. KAPTUR. Thank you. I appreciate this information. I am sure every Member knows this already, but I would be very grateful for just a little chart that your Department might be able to produce for me that shows me the relative strengths of our respective navies, not just in numbers, but in terms of capabilities. Is there a way to do that that is understandable to a layperson?

Admiral MCCULLOUGH. Yes ma'am, I am sure there is. We will do that.

Ms. KAPTUR. All right. I would appreciate that very very much.

[The information follows:]

Ship categories	Russian Navy	United States Navy
Surface Combatants (carriers to frigates)	34	117
Amphibious Ships	21	31
Strategic Submarines (Ballistic missiles)	15	14
Attack Submarines (Nuclear and diesel powered)	48	56
Logistic Ships (Larger tankers)	14	31
C2/Support (Intelligence and larger rescue vessels)	32	[1] 17
Minehunters	0	14
Total	164	[2] 280

[1] U.S. Navy C2/Support number only includes T–ARS, AS, T–AGOS, T–ATF and LCC ships.
[2] Total U.S. Navy ship count reflected as of 31 March 2008.

The Russian Navy Order of Battle (OOB) presented here is distributed across four geographically widely separated fleets—Northern, Baltic Sea, Black Sea, and Pacific. The Caspian Flotilla units located in the completely landlocked Caspian Sea are not included. The presented OOB must be understood in the context of the Russian Navy's primary mission: to defend Russia while operating in adjacent seas out to about 1,200 nautical miles from the Russian coast. Because of significant differences in geography, history, training, and mission, the size and capability of the Russian Navy cannot be directly compared with that of the U.S. Navy.

The ship categories included in this listing generally mirror those used by the U.S. Navy in its description of the desired 313-ship navy. United States Navy ships listed are on active duty. These totals do not include USN ships in reserve or mothball status. SSGNs are listed under Attack Submarines category.

Only the larger and more open sea worthy logistics and other support vessels, comparable in function to those included in the U.S. Navy 313-ship listing, are included. The Russian Navy has many more auxiliary vessels of various functions.

Virtually all Russian Navy deployments beyond home waters in the last two years have been conducted to project presence, making port calls, and engaging in bilateral and multilateral naval exercise and operational activity.

Due to the highly disparate geographic circumstances and differences in mission scope between the Russian Navy and the U.S. Navy, in contrast to the Cold War days of the Soviet Union, meaningful direct comparisons are extremely difficult to make.

Ms. KAPTUR. Then I would like to ask you, Admiral, in terms of strategic technologies as you look at the Chinese, the Russians, and anybody else that is out there, what worries you the most as we look at intellectual property, as we look at advancements in everything from missile launchers to vessel construction? Where do you see our greatest weaknesses?

Admiral MCCULLOUGH. Trying to keep this in an unclassified environment, the Chinese have built a quite capable access denial force, both with ballistic missiles and their submarine capability. That concerns us. We work hard to try to counter that.

But when I look at high-end technology right now, I would say we look to the Western Pacific and what the Chinese are doing.

Ms. KAPTUR. In terms of the Russians, and maybe this is—in terms of the Russians, we seem to be moving apart rather than—our foreign policy is taking us in a direction that I don't really care for in terms of the Russians. But do you see any opportunities for cooperation on any level with the Russians at this point to begin to stem some of the rising animosity?

Admiral MCCULLOUGH. That is pretty much out of my lane ma'am.

I will take that for the record and get back to you.

[The information follows:]

The United States Navy and Russian Federation Navy (RFN) have a robust agenda of activities that provides valuable interaction between senior officials, staff-officers, and operational units. These efforts are designed to build trust, transparency and cooperation between our two navies. Some examples include:

Operation ACTIVE ENDEAVOR (OAE)—NATO's ongoing Maritime Security and Counterterrorism operation in the Mediterranean. U.S. Navy and RFN units are active participants.

Exercise FRUKUS—An annual multi-lateral naval exercise between France, Russia, UK, and US focused on improving interoperability at sea. In 2007, the U.S. hosted in and around Norfolk, VA. In August 2008, Russia will host in and around Vladivostok.

Exercise NORTHERN/PACIFIC EAGLE—An annual bilateral exercise focused on cooperation on Maritime Interdictions Operations (MIO), Maritime Domain Awareness (MDA), Search and Rescue (SAR), and tactical interoperability. The exercise rotates annually between the North Atlantic (NORTHERN EAGLE) and North Pacific (PACIFIC EAGLE). This year, Exercise NORTHERN EAGLE will take place in July 2008 off the coast of Norway and conclude with a U.S. ship visit to Severomorsk in conjunction with Russian Navy Day.

Port Visits—The U.S. Navy and RFN routinely conduct reciprocal port visits in Russia and the United States, respectively. The 2008 U.S. Navy RFN ship visit plan includes U.S. Navy ship visits to Russian ports in the Black Sea, Berents Sea, and North Pacific; as well as Russian ship visits to a U.S. Pacific port.

Naval War College Exercises—The U.S. Naval War College (NWC) and Kuznetsov Naval Academy (KNA) conduct an annual bilateral war game and command post exercise focused on cooperative planning in support of multinational Humanitarian Assistance / Disaster Relief (HA/DR) operations. Last year's exercise was hosted by Russia in St. Petersburg, and the 2008 event will be in Newport, RI.

INCSEA/Staff Talks—U.S. Navy and RFN staff officers meet annually to review the status of the 1972 Incidents at Sea (INCSEA) Agreement, plan inputs into the annual bilateral military workplan, and openly discuss issues of mutual interest or concern. Russia hosted the talks in 2007 in Kaliningrad, and the U.S. will host in 2008 in Naples, Italy.

NCIS-FSB Cooperation—The Naval Criminal Investigation Service (NCIS) has an active Memorandum of Understanding (MOU) with its Russian counterpart agency (FSB) to enable information sharing and cooperation on providing Anti-Terrorism/Force Protection (AT/FP) to U.S. and Russian assets during ship visits. Senior leaders from each agency also regularly participate in joint leadership conferences.

Submarine Rescue and Escape MOU—U.S. Navy and RFN subject matter experts are working on an MOU that institutionalizes cooperation on submarine rescue and escape procedures and practices. Experts from both navies also meet regularly in the NATO Submarine Escape and Rescue Working Group (SMWERG).

Black Sea Partnership Cruise (BSPC)—An annual multi-lateral partnership cruise hosted by the staff of Commander, Naval Forces Europe aboard a U.S. Navy ship in the Black Sea. Last year, the U.S. invited all the Black Sea (+Azerbaijan) littoral nations to embark Junior Officers and Non Commissioned Officers (NCOs) on the USS *Mount Whitney* for a week of academic seminars focused on general maritime safety and security, oil spill mitigation, helicopter interoperability, NCO development, and maritime operations. Although Russia was invited and did not participate last year, we are actively encouraging their participation in this year's partnership cruise.

ELECTRICAL POWER FOR NAVY FACILITIES

Ms. KAPTUR. All right. And I have a final question. In terms of the Navy, can you get me numbers on how much power the Navy purchased in the form—for its facilities, for electricity, whatever powers your systems, and fuel for 2007 and 2008, and what is your projection for 2009? How much are you spending and what plans are in place to transition to more—for less reliance on petroleum? How are you looking at that issue over the next 20 years?

Admiral MCCULLOUGH. That is for the facilities, ma'am?

Ms. KAPTUR. For anything you buy related to power production or consumption.

Admiral MCCULLOUGH. Yes ma'am, but for facilities?

Ms. KAPTUR. Facilities as well. How independently powered are your facilities? How are your vehicles or ships powered? How are you looking at the power trains that are used in them? And with fuel efficiency and new power systems as a priority, how does your Department look at that? Is this something that somebody is in charge of? Is everybody power-conscious over there?

Admiral MCCULLOUGH. Yes, ma'am, we are very power-conscious, because it drives cost. Now, the bases—I will get you the answer for the bases. But for our ships and aircraft we always look at the best way to power these devices. Now, jet airplanes, we haven't figured out a better way to power them other than fossil fuel. But we do look at the efficiency of the engines that we put in our airplanes.

For ships, we explore alternate propulsion forms every time we work on a new class of ships. And the Naval Sea Systems Command has done a detailed study on that, everything from direct energy conversion from nuclear reactors direct, to drive, to fuel cells, to photovoltaic and nuclear propulsion. So every time we build a ship, we look really hard at what the power density or the energy density requirements are for that particular ship class and what the current state of technology is and what we can incorporate in those ships.

Ms. KAPTUR. I know my time is up and I thank you, Admiral. I would be real interested for your research, how many dollars of your research budget are devoted toward energy independence projects?

[The information follows:]

The following table itemizes U.S. Navy purchased power and fuel:

	FY 2007 (actual)		FY 2008 (est)—Note 1		FY 2009 (est)—Note 1	
	Total units	Total cost ($M)	Total units	Total cost ($M)	Total units	Total cost ($M)
Shore:						
Electricity (MWH)	7,494,877	658.13	7,427,415	688.56	7,380,856	701.19
Natural Gas (MBTU)	8,365,420	75.63	10,305,939	72.00	10,842,661	75.74
Fuel (MB)	2.07	184.93	2.08	227.82	1.96	205.91
Transportation Fuel (MB) Note 2	0.34	30.81	0.24	28.90	0.24	28.47
Afloat:						
Fuel (MB)	26.86	2,524.00	21.02	1,928.00	20.79	2,416.00

Key:
MWH = Mega Watt Hour
MBTU = Million British Thermal Units
MB = Million Barrels

Note 1: Total Cost based off budgeted rate established in 2006.
Note 2: Transportation fuel includes 498,868 gallons of Alternative Fuel in FY 2007, an estimated 548,755 gallons in FY 2008, and an estimated 603,630 gallons in FY 2009.

The Department of the Navy Energy Board, under the Deputy Assistant Secretary of the Navy Installations and Facilities, provides overall program guidance for facility energy conservation and renewable energy resources. Commander Navy Installations Command and Commander Naval Facilities Command execute the Navy's shore facilities energy strategy.

The Navy is extremely power conscious, and aggressively purses the conservation requirements of Energy Policy Act 2005 (EPAct05), Energy Independence and Security Act 2007 (EISA07), and Executive Order 13423. In FY 2006 and FY 2007, Navy reduced energy consumption by 12 percent from FY 2003 baseline required by EPAct05 and EISA07.

The Navy constantly reviews facilities to reduce power consumption requirements and reliance on fossil fuels as a fuel source. Currently the Navy is:

- Investing heavily in Energy Savings Performance Contracts and private sector Energy Service Companies that clearly demonstrate consumption savings.
- Incorporating Leadership in Energy and Environmental Design (LEED) green building, sustainable design, and energy efficiency principles into new construction and major renovation.
- Evaluating use of commercial power and energy conservation products.

Highlights of the Navy's Energy Program include:

- Managing a world class 270 MW geothermal power plant at Naval Air Weapons Station China Lake and awarded a second geothermal plant at Fallon, NV, which is projected to come online in 2010. A 30 MW plant is projected to come online at El Centro by 2012.
- Operating two of the largest Federal photovoltaic projects in the U.S. and two wind-farms at San Clemente Island and Guantanamo Bay, Cuba, respectively, to provide electrical power.
- Constructing a bio-diesel production facility to utilize cooking oil as fuel.
- Aggressively investigating wave power and ocean thermal power.
- Installation of over 6,000 ground source heat pumps.

With few exceptions, however, Navy installations are not independently powered, but receive power from commercial available power grids. Critical facilities have back-up generators and the Navy has the ability to deploy mobile utility systems should the need arise. Expanded use of renewable energy sources reduce Navy's reliance on commercially provided power.

Fossil fuels continue to be used as the major fuel source for vehicles. The Navy continuously evaluates current fuel infrastructure and vehicle fleet size/composition with the goal of replacing petroleum vehicles with neighborhood electric vehicles, hybrids, and alternative fuel vehicles. The ESIAct07 requires federal agency fleets to reduce petroleum consumption and increase alternative fuel consumption so that by October 1, 2015, and for each ensuing year, each federal agency achieves at least a 20 percent reduction in annual petroleum consumption and a 10 percent increase in annual alternative fuel consumption. Navy is currently on track and fully intends to continue to comply with ESIAct07 through alternative fuel vehicles and petroleum conservation initiatives. Current Navy policy is that all new vehicles procured must be alternative fuel capable, if commercially available.

The Navy is coordinating with, and leveraging the efforts of the Department of Energy and other Department of Defense components to develop alternative energy sources, provide assured energy distribution, and reduce energy demand and our dependence on foreign oil. The Navy's energy security research investments focus on the Navy-Marine Corps unique aspects of energy efficiency and alternative energy with projects that range from basic science on advanced organic photovoltaic films for Marine Corps applications; to the evaluation of stern flaps for ships to reduce fuel consumption under the Ship Energy Conservation Program; and to prototype demonstrations of ocean energy harvesting concepts for shore-based facility power.

The Navy's energy security research projects in alternative energy sources focuses on achieving the effective use of alternative logistics—bio-based and synthetic—fuels in Naval power systems, and their effects on the combustion process and military equipment (engines, and fuel handling and distribution systems); developing renewable energy technology such as photovoltaics for Marine Corps applications and ocean energy harvesting concepts for facility power and remote in-situ sensors; and direct thermal-to-electric conversion for platform power.

Research in energy efficiency and reduced fuel consumption includes projects to develop high-efficiency fuel cells to replace internal combustion engines for ship auxiliary power, unmanned vehicles, and portable power sources for the Marine Corps; studies on advanced fuel efficient aircraft engines; and evaluation of variable speed drive pumps and stern flaps for ships.

In the FY 2009 President's Budget request, the portion of the Navy's research budget focused solely on "energy independence" is approximately $70 million.

The Office of Naval Research (ONR) energy security investment plan (see chart below) identifies the primary focus of science and technology funds—Alternative Fuels, Fuel Cells, Direct Thermal-to-Electric & Thermal Energy Harvesting, Photovoltaics, and Ocean and Mechanical Energy Harvesting. In addition, the ONR investments under the Navy's Power and Energy Science and Technology focus area will improve the power conversion and energy efficiency of the next generation of electrical systems targeted for future naval platforms; and the investments in the Navy's Platform Mobility Science and Technology focus area will improve the performance characteristics of ships, aircraft and vehicles to provide enhanced platform mobility while increasing energy efficiency.

ONR

Energy Security S&T

Technology	Near Term 0-5 years	Mid-Term 5-10 years	Far Term 10+ years	Goal
Alternative Fuels [A]	Understand chemistry, combustion, & stability of alternative logistic fuels. Investigate methane hydrates	Characterize, predict, & optimize performance of synthetic fuel blends	Develop & optimize fuel flexible engines.	Lower cost & optimize performance of alternative logistic fuels
Fuel Cells [A]	½ - 1MW ship sys(1) 10 kW USMC SOFC 200-700 W PEM UAV power 2 kW DBHFC UUV power ½ - 1 kW SOFC personal generator	1 – 5 kW air independent SOFC and DBHFC for undersea applications	Higher power & energy dense systems	40-50%eff.; multi-fuel capability
Direct Thermal-to-Electric & Thermal Energy Harvesting [A]	Efficient thermal-to-electrical materials & devices for heat energy recovery & thermal management	Small scale demos	Large scale demos	20% efficiency for primary power, heat energy recover, & thermal management
Photovoltaics [A]	Understand semiconductor charge transfer in organic-hybrid PV; 10% eff. Increase at film level	Materials level efficiency increase to 15%. Develop robust organic-PV products with 7% eff.	Military products. Increase Efficiency	Low Cost, flexible, PV power with 15% eff. Use on tents, disposable sensors, battery chargers
Ocean & Mechanical Energy Harvesting [B]	10 MW Ocean Thermal [2] 100 kW Wave Energy [3] 100 kW Tidal Hydropower Turbine [4] <10 w Ocean Current energy experiment <1 w Vibration generator experiments	1 kW Ocean Current energy scaled demos <5 w vibration generator demonstrations	5 kW Ocean Current energy large scale demos <20 w vibration generator demonstrations	Commercially available systems coming on line now thru 2012 Low cost disposable power for sensors/xmtrs. Cost effective distributed in-situ power systems

Comments:
[A] DoE is lead agency; ONR focus is Navy/USMC unique issues
[B] DoE is lead agency for ocean thermal & wave energy; ONR focus is Navy application issues

Notes:
(1) Follow-on work subject to Navy R&D / Ship Construction issue
(2) SBIR project funded thru FY07, NAVFAC is developing project at Diego Garcia (produces fresh water, power, air conditioning and could produce H_2)
(3) Congressionally funded Hawaii prototype (multiple buoys – 20 kW to 40 kW)
(4) Congressionally funded Puget Sound project (NAVFAC)

Admiral MCCULLOUGH. Yes ma'am.

Ms. KAPTUR. Thank you. Thank you, Mr. Chairman.

REALISTIC COST ESTIMATES

Mr. MURTHA. Mr. Secretary, the acquisition question Mr. Moran asked, every time that you put an RFP out, you know very well those ships are going to cost more than the company comes in. The company comes in, and you make change orders, and then in the end we have to pay the bill.

Now, we have encouraged the Navy to be more realistic, have more design work before they go and put an RFP out. We hope that you will do this. This is partly maybe acquisition, but it is also the fault of the Navy because you want to build a ship, you want to do it as quickly as possible, you want to do it in a certain year—and I don't know what other reason—but we can't afford to continue paying the bill. We can't plan when we have no ability to—we have got supplementals, money is going to be cut back. We have got a real problem here.

You have got to be more realistic in these proposals. For instance, you take the LCS. You told us when you came before the committee it was going to cost $188 million apiece. They are substantially more, as you know. That does not include the modules. The modules apparently are fairly well on target, but the rest of them aren't.

So I hope that you will have more design work done before you go to an RFP, so that we can have a more realistic proposal and make a decision based on the actual cost of these ships. You will never get the 313, the requests that are being made by the administration. You are going to need our help, and we are trying to help you.

But when we put—we are embarrassed sometimes when we put ships in and then something comes up like the LCS with these big cost overruns. I don't say the first ship isn't always going to have some exception. But if you have a better design and you are further along, I think you will have less of a problem. At least that is what I see.

So I would hope that you would be more careful about that. And the contracting out, I don't know how much you do in the acquisition part of it, and I have asked the Secretary of the Navy to give me a breakdown of contracting out, the categories of contracting out, so we get some handle on how much money is being spent; since we are reducing the size of the Navy by 28,000 how many contractors we hired in the meantime. So I am sure he will be talking to the acquisition part.

We obviously need professionals in that program. And as far as this IED program, I have never been happy. They have too much bureaucracy. They don't seem to get anything out in the field. They come and brief us and then—I have never seen the results I would like to see from whatever we call them. What do they call that?

The bureaucracy over there is unbelievable. I mean, we got nothing but complaints about—no consideration from anybody that has got ideas. And they keep increasing the number of people and they don't come up.

So your experience is different than what I have heard, the experience the Marine Corps has had, that they are taking care of people. I don't see that happening. But at any rate, I appreciate the problem you folks have. We are trying to help you. We can't help you if we don't get reasonable estimates about these ships. And the reason I was so anxious to get back here is because I wanted to hear what you saw. And then we want to help you get to the 313 ships that you are trying to build.

Mr. Visclosky, do you have any questions?

Mr. VISCLOSKY. No.

Mr. MURTHA. Mr. Young.

ATTACK SUBMARINES

Mr. YOUNG. Mr. Secretary, let us talk about the fast attack submarine for just a minute. The stated requirement by the Navy is 48 of the SSNs. But as we look at the decommissioning rate and we look at the build rate, we are pretty much convinced that you are going to end up with about 40 rather than 48 fast attack submarines. What happens—in the absences of those 8 submarines what happens? What do we do to fill the gap?

Mr. THACKRAH. Mr. Young, I am going to ask Admiral McCullough to help me with that one.

Admiral MCCULLOUGH. Yes, sir. First of all, when we added the second submarine starting in fiscal year 2011, the minimum number of submarines that we actually go to is 41.

Now, to mitigate the difference between 41 submarines that you physically have and the 48 requirement, we have looked at several things. One is to reduce the build time of the submarines that we are building to 60 months. That buys us back a couple of submarines.

Now, the second thing we have looked at is to extend the lives of—I believe it was 16 submarines. And that buys us back some of the gap.

And the third one was how we were going to operationally deploy the submarines. And that was to increase some of the deployments to 7 months. With those mitigating factors, we think we can meet the forward presence requirements of our submarine force while we are in the seven submarine delta of 41 to 48, sir.

Mr. YOUNG. Admiral, is this plan reflected in the budget request?

Admiral MCCULLOUGH. Yes, sir. The second submarine in fiscal year 2011 is in the budget request; yes, sir.

Mr. YOUNG. When do you think that—with this plan that you have just described, when do you think we close the gap?

Admiral MCCULLOUGH. I think that the gap in forward presence in force structure is closed in about fiscal year 2033. The gap starts, if my notes are right, in about fiscal year 2022.

Mr. YOUNG. Fiscal year 2033? I don't know if you and I are going to be here, Mr. Chairman.

Mr. MORAN. Oh, sure you will, sure you will.

Mr. YOUNG. We have had a lot of emphasis today, because this is Navy and Marine Corps day. And Ms. Kaptur brought up some interesting points.

And earlier this morning with the CNO and the Secretary, we discussed some other issues relative to that. But to close the gap

in 2033, it looks to me like we are going to have what could be a serious gap should there be a threat, especially with the growing activity that you mentioned in response to Ms. Kaptur with the Russians.

Mr. MURTHA. Especially, Mr. Chairman, especially if they push it out every year like they have been and they say, Oh, next year we are going to put more, next year we are going to put more.

Mr. YOUNG. Well, as the Chairman has said so many times, we would like to help. I don't think we are comfortable with having a gap for that long with submarines. So if there is something that we need to do, to consider to help close this gap a lot quicker, you need to tell us; because I don't feel comfortable with—if you need 48, but you are only going to have 40, I don't feel comfortable until you get your 48.

Mr. DICKS. Just a couple years ago it was 56, as I remember.

Admiral MCCULLOUGH. Sir, there was a joint staff study done in 1999 that said the requirement was 55.

Mr. DICKS. Close.

Admiral MCCULLOUGH. Yes, sir, that is very close. That was before we reallocated the attack submarine force to put 60 percent of it in the Pacific and home-ported three of the attack submarines in Guam. And that makes up the delta between the 48 and the 55.

Now, when I talk about the delta being as low as 41 to 48, it is not a delta between 41 and 48 for that whole time period. The actual delta between 41 and 48 I believe is two years. And I believe that is in 2028 and 2029. So it is sort of a valley that comes back. And that is the extent of it.

Mr. YOUNG. As the Chairman said, we want to help. So you let us know what we can do to help. And thank you, Mr. Chairman.

Mr. MURTHA. You can't keep doing these studies to prove what you want to prove in order to get down to the budget levels. I hope that is not what generated this study.

Admiral MCCULLOUGH. No, sir. Not at all. We understand the gap between the physical number of submarines and the requirement. And that is why we took the mitigative actions that we are taking to relieve that gap.

Mr. MURTHA. The mitigative action, huh?

Admiral MCCULLOUGH. Yes, sir. It was the best word I could come up with.

Mr. MURTHA. Mr. Kingston.

SUBMARINE BASING

Mr. KINGSTON. Thank you, Mr. Chairman.

Mr. Secretary, as you may know, BRAC recommended moving submarines from Groton to King's Bay. And there is a big capacity for additional growth in Kings Bay. Are you looking at any plans to move anything to Kings Bay?

Mr. THACKRAH. Sir, I am not aware of any other movement of activities to Kings Bay, but I will take that one for the record and come back to you.

Mr. DICKS. We are moving a few things out of Kings Bay out west where the problems are.

Mr. KINGSTON. Actually we have done plenty of that. The next question may be of interest to you, Mr. Dicks, anyhow. But we

have the space, we have people who are ready and willing to take on additional missions and do some great things. If you could get back to me and we could, you know, look at that, that would be very good.

Mr. THACKRAH. I would be more than happy to, sir.

[The information follows:]

The Navy regularly evaluates and assesses the global force posture and strategic laydown of our afloat forces and infrastructure. Before making recommendations for homeport shifts, the Navy allows adequate time to assure all considerations including national security requirements, total costs, programmatic implications, impact on sailors and their families as well as the current and future strategic environment have been fully evaluated.

Currently, and for the immediate future, NSB Kings Bay, GA is primarily an SSBN and SSGN base. The strategic placement of SSBNs and SSGNs remains largely driven by the need for them to efficiently maintain presence in their respective deployment areas in accordance with the Quadrennial Defense Review (QDR) 2006. Additionally, the SSBNs and the SSGNs are limited to one specialized location on each coast based on the Strategic Arms Limitation Talks (SALT) I.

AIRCRAFT TANKER PROGRAM

Mr. KINGSTON. And my next question, and the reason why it might be of interest to Mr. Dicks, this question was actually raised to me by the appropriator who does not like the recent decision of the Air Force on the tankers and said that Marine One helicopters have had lots of problems ever since they moved the contractor and said, Look at what happened to Marine One and now we are about to do the same thing with the tanker program. Are you familiar with that, Mr. Dicks?

Mr. DICKS. Well, Mr. Tiahrt is the expert on that. We discussed this earlier and there is a lot of concern about this approach. And, one, I think one of the major concerns—and I always applaud the Navy for protecting their industrial base, is that for some reason the Air Force doesn't—isn't as concerned about industrial base as the Navy has been. As they have protected their carriers, their submarines, their nuclear power equipment for both. I mean this has been very well done.

And so what I worry about is—and then also—the authorizers have created regulations now that make it more attractive if you are an offshore company to bid on a contract in the United States against a U.S. company because we have to follow the Berry amendment, the Italian rules, ITAR, and these things. And they are waiting in many cases for the Europeans. And we have created an unlevel playing field and we don't even take into account a subsidy when the WTO is bringing——

Mr. MURTHA. Mr. Kingston's time has run out.

Mr. KINGSTON. Mr. Chair, I do have one other thing I wanted to ask Mr. Dicks. Is that memorandum of understanding on which countries are allowed under Buy American, is that an Air Force or is that a DOD?

Mr. DICKS. DOD, they just did it. And it is a regulation.

Mr. KINGSTON. Well, with that——

Mr. DICKS. It could be changed.

Mr. KINGSTON [continuing]. My time has expired, so there is no reason for you guys to answer the question now that Mr. Dicks——

Mr. DICKS. I would be happy to yield back.

Mr. KINGSTON. That is okay. That is just a question I wanted to raise.

Mr. DICKS. Mr. Chairman.

Mr. MURTHA. Mr. Dicks has a question.

CVN–21 AIRCRAFT CARRIER

Mr. DICKS. Yes. Well, actually, aircraft carriers do have something to do with tankers. Tell us about your aircraft carrier program. You are bumping up on the $10.5 billion ceiling. That is a lot of money, by the way. And you know, when you are doing a lot of new things on this carrier, and you know with—so give us an update on the new carrier. This is the first of a new line of carriers, isn't that correct?

Mr. THACKRAH. That is correct. This is the Gerald R. Ford class of aircraft carriers. We call it CVN–21. The design for the ship, sir, is well along. I can provide you like, as part of the record, if you would like, the percent complete on this design. And we will be working with the contractor throughout this summer finalizing the construction contract for that ship.

As you stated, sir, there are some significant new technologies that are a part of this ship; that of the electromagnetic aircraft launch systems and advanced arresting gear systems that are all a part of that new ship, largely to make it more efficient, reduce manning and so forth.

Mr. DICKS. Are you worried about this $10.5 billion ceiling that the authorizers put on you that—if you keep adding technology, can you do it and stay under that ceiling?

Mr. THACKRAH. Sir, at this point we are not adding more technologies to that ship. The basic configuration of that ship is well defined. As I mentioned, it is well along in design and at this point we don't predict that we will have any issues with that ceiling.

Mr. MURTHA. Well, let me warn you though, Mr. Secretary, in the B–1—and I told this story and Members heard me say this. We made a deal with Caspar Weinberger, $20.5 billion for 100 aircraft, the B–1s. So what happened? It didn't have what it needed in order to go to war. I mean, be very careful when you say—I am not saying you should increase the cost of it, that is for sure. But be very careful when you make an agreement that you can live with a certain level because there is all kinds of technology that comes along that changes the plans.

V–22 DEFENSIVE WEAPON SYSTEM

Mr. DICKS. General—I just wondered if I could just do one more, Mr. Chairman. I have waited very—just on the V–22, the defensive system that we are now going to put on it, tell us about that.

General AMOS. Sir, are you referring to the gun?

Mr. DICKS. Yeah. I thought maybe it was an anti——

General AMOS. It comes already with an antimissile. It is what we call an ESM system. We have got similar systems on our helicopters flying around Iraq right now. We have them on the C–130s. It is a countermissile that pops out flares, it has sensors on it.

Mr. DICKS. We already have that kind of system.

General AMOS. Yeah. It has that, sir. What it doesn't have and what we are looking at is kind of the next generation of capabilities

for IR missiles and these kind of things. In other words, when somebody is looking at you with an IR source—and we want to look at this, and there are capabilities that are out there. But we are looking at them.

Mr. MURTHA. I hate to interrupt. Mr. Visclosky.

RELIABLE REPLACEMENT WARHEAD

Mr. VISCLOSKY. Thank you very much. Sorry for my late arrival. And, gentlemen, I appreciate your attendance. I was not able to attend the shipbuilding hearing. And just for the record, I want to add my voice to the concerns that hopefully were expressed about change orders and trying to, if you would, bring some balance to the needs of the Navy and making sure that we construct these ships in an expeditious and economical fashion as possible, and could not make the hearing. I do want to express my very strong interest in the issue and hopefully the progress will be made.

Secondly, there are questions for the record. But, again, as Chairman of the Energy and Water Subcommittee, we have jurisdiction, obviously, over NNSA and would want some very specific answers to the questions raised about the reliable replacement warhead. And I would point out that in my time here, Mr. Secretary, that in fiscal year 2009 for your budget request there is funding for the reliable replacement warhead program to commence phase III efforts in 2009, despite the fact that we eliminated all funding in the Department of Energy for this program in 2008.

And the question I would have: Is it prudent for the Department of Defense to get out in front of the Department of Energy, since they don't have one penny for this program in their budget this year?

Admiral MCCULLOUGH. I am going to have to take most of that for the record. Right now I know we are doing upgrades on the current warhead system. And this is a redundant capability. Sir, what I would say is General Chilton from STRATCOM is——

[The information follows:]

No effort on Reliable Replacement Warhead by the Navy is planned unless approved and funded by Congress and coordinated with the Department of Energy's National Nuclear Security Administration.

Mr. FRELINGHUYSEN. Put the mike up a little bit.

Mr. MURTHA. Could you tell us how it works? I am not sure that—as many times as I have heard Mr. Visclosky explain this, tell us the coordination, how you handle the coordination between the warheads, the Department of Energy and yourself.

Admiral MCCULLOUGH. Sir, that is not in my portfolio. And I would be remiss to be discussing that. That is really not under what I do.

Mr. MURTHA. Thank you. Mr. Visclosky.

Mr. VISCLOSKY. I appreciate that. And, again, this is the chance I have to show up. I want to make sure that my very strong interest in this is expressed.

And essentially, Mr. Chairman, there is a proposal for a replacement warhead and the concern that we have expressed on Energy and Water is that until—and we have very specific language in the omnibus—you have an overarching policy for this Nation, not a particular administration or a particular Congress as to what the

needs are. So that we know what the inventory should look like, so then we know what the size of the weapons complex should be.

The problem is, because money for the complex and the warheads itself does not come out of DOD but DOE, they are the customer. There is a proposal for a warhead but there is not a commensurate urgency at DOE, Department of Energy, as far as what the rational size of that complex should be.

Mr. DICKS. Which missiles would this go on?

Mr. VISCLOSKY. It is—I think I want to say it is the 80——

Admiral MCCULLOUGH. Trident D5s.

Mr. VISCLOSKY. Yes. But at this point, remember, it is not which missile. That is the problem. People are thinking about this individually. The issue is, what is your overall strategy, and not for the Bush administration or even any incoming administration, but our Nation's policy so we know what the needs are. And then what are the warheads you need and then what is the complex?

And my concern, Mr. Chairman, is in last year's budget, there was emphasis on having maybe a reliable replacement warhead online by about 2012, 2014. But the rationalization of the size of the complex was 2013 and the only concession by DOE this year was to take out 2030. As you know and which was expressed here, 2030 is forever. And when you start building a new warhead in place with the existing complex, and you create a new constituency with new challenges, you are never going to downsize the complex to whatever size it should be. And I do not know what it is, but that should be determined by the strategy before we go off spending more money on the warhead before we know what the ultimate strategy is.

And I just want to again—this exact isn't the exact forum. On the other hand, the Navy is the customer right now, and——

Mr. MURTHA. I think what he is saying is so important. I mean the Navy obviously has to tell DOE what it wants and why it wants it. Somebody has to address the threat. Who makes that decision? Who says to DOE, This is what we want?

Mr. DICKS. I think I can help here. It is Admiral Donald, who is the four-star who replaced Admiral Rickover. You know, not directly. He is the new Rickover. He does this with these dual-hatted—working for the Department of Energy and the United States Navy. So he is the guy that gets into all this nuclear stuff.

Mr. VISCLOSKY. This is an issue for DOD. This is an issue for the Intelligence Community. This is an issue for the State Department. This is an issue for DOE. And as a group of scientists expressed about a year and a half ago—we had Sam Nunn, former Secretary Perry testified before our Committee, as well as General Cartwright a year ago—is what is the overarching national policy? And then back up; what are the needs?

And my concern here specifically is you have a budget request for DOD to proceed for the discrete design when you have no money in DOD to match up with it. And so we do have a series of questions, and I realize our time is limited. But I just wanted to make sure people understood I am very concerned about this issue.

Admiral MCCULLOUGH. Yes, sir. I understand and you know we are on a D5 life extension program to continue the viability of that

weapon. Mr. Chairman, if I could, on behalf of Admiral Donald, he has nothing to do with weapons. It is nuclear reactors.

Mr. DICKS. It is just reactors?

Admiral MCCULLOUGH. Yes.

Mr. MURTHA. I thank the gentlemen. The Committee will adjourn until after the recess.

[CLERK'S NOTE.—Questions submitted by Mr. Obey and the answers thereto follow:]

SHIPBOARD CONTROL SYSTEMS

Mr. Thackrah and Vice Admiral McCullough:

What steps is the Navy taking in the development of the 313 ship Navy to increase commonality of equipment across the Fleet?

Question. With the existing shipbuilding plan, how many unique surface ship machinery control systems is the Navy currently supporting?

Answer. There are 13 unique machinery control systems in the Surface Fleet today.

Question. What are the plans for converting proprietary legacy hydraulic control systems to more modem technology that uses standard equipment?

Answer. Today there is no formal program to convert legacy hydraulic systems on in-service ships. The Navy monitors the supportability of shipboard hydraulic system components and will consider alterations to more modem technology when necessary. The Navy is designing new classes of ships, such as DDG 1000 and CVN 78, with significant reductions in the use of hydraulic systems where feasible to reduce life-cycle maintenance costs.

Question. How are these efforts prioritized and funded?

Answer. The Department continues to strive to achieve commonality at ship, system, and material levels. The Department is analyzing and implementing where possible greater modularity, open architecture, commercial technology, and common equipment and specifications.

Priority in these efforts is established by the systems engineering approach that permits tradeoffs of all available technologies, including more modern control systems, and provides a recommendation that is technically sound and economically attractive based in system acquisition and sustainment cost. Funding of these efforts for new construction ships is funded in the SCN line. Funding for in-service ships is established based on Fleet priorities to upgrade existing obsolete or unsupportable ship systems and leveraging existing technologies. Funding for in-service control systems is funded in OM,N and OPN.

[CLERK'S NOTE.—End of questions submitted by Mr. Obey. Questions submitted by Mr. Murtha and the answers thereto follow:]

F–35 JOINT STRIKE FIGHTER AIRCRAFT

Question. The F–35 Joint Strike Fighter tactical aircraft represents the future of tactical aircraft for the Department of the Navy, with 680 aircraft scheduled to be procured. Fiscal year 2008 represents the first year of Navy procurement for the F–35. The program has recently experienced some testing problems with the engine for the Marine Corps' Short Take Off and Vertical Launch (STOVL) variant. The problem with the engine will slip the first flight of the Marine Corps' variant and will likely slip the contract award for the fiscal year 2008 aircraft into fiscal year 2009. The engine problem underscores the concerns with having a single engine supplier for an aircraft that will make up such a significant portion of the Nation's tactical aircraft.

Secretary Thackrah, the engine for the Marine Corps' variant of the Joint Strike Fighter has recently experienced some testing issues causing an engine failure. This incident will delay the first flight of this variant of the aircraft. Has the root cause of the engine failure been determined? How long will first flight be delayed as a result of this failure?

Answer. Yes, the engine failure is believed to be the result of high cycle fatigue failure of the third stage low pressure turbine blade. The failure is consistent with prior findings. Both Pratt and Whitney and PEO JSF understand the causes of the failures and are conducting tests to confirm the root cause, which will be completed in April 2008. The engine failure will delay BF–1 first flight by 30 days. PEO JSF is confident that BF–1 will achieve the CTOL flight clearance following the root cause testing that will be completed in April 2008.

Question. Secretary Thackrah, the Committee understands that in addition to delaying the flight test, the actual Short Takeoff and Vertical Landing portions of flight testing will be even further delayed. Do you plan on awarding the initial production contract for the Marine Corps' variant of the aircraft before this capability has been demonstrated?

Answer. The acquisition strategy for the procurement of Low Rate Initial Production (LRIP) II STOVL aircraft has always been to contract for these aircraft after the BF–1 STOVL aircraft had flown in the conventional take off and landing (CTOL) mode. The test plan will gradually expand the BF–1 flight test envelope to include STOVL operations by late in the calendar year.

Question. Secretary Thackrah, do you expect this problem to carry over to the other variants of the Joint Strike Fighter?

Answer. No, development is on-track. Fifteen SDD aircraft are currently in production flow. Manufacturing quality is excellent, though production line activities for SDD jets have taken longer and cost more than planned, in part due to late supplier deliveries. Delays in SDD test article deliveries due to production line inefficiencies are not impacting the LRIP delivery schedule. DoD is closely monitoring program progress on technical issues and risk mitigation. No known technical issues preclude achievement of Service IOCs.

Question. Secretary Thackrah, in light of this issue with the Joint Strike Fighter, has the Department of the Navy considered extending the production run of the F/A–18E/F Super Hornet aircraft to alleviate the tactical aircraft shortfall that you are experiencing?

Answer: A plan to address the Strike Fighter Shortfall is being vetted through the POM–10 budget process. Should additional aircraft be required, a Multi-Year Procurement (MYP) acquisition strategy will be considered by the Navy. Multi Year Procurement has offered substantial savings in the past.

Question. Secretary Thackrah, in light of this engine failure, has the Department of the Navy considered complying with Congressional direction to fund the development of an alternate engine for this platform?

Answer. This type of incident is not wholly unexpected in a developmental program. Additional consideration of the alternate propulsion system should not be based on this incident. All three 2007 Congressionally-directed engine studies are supportive of competition in general, but do not obviate the Department's initial findings that the expected savings from competition do not outweigh the investment costs. All of the studies do identify non-financial benefits of a two-engine competitive program, such as better engine performance, improved contractor responsiveness, a more robust industrial base, increased engine reliability, and improved operational readiness. However, affordability is also a factor that the Department must consider.

Question. Secretary Thackrah, in your opinion, does this failure not reinforce the need for having an alternate propulsion engine for this platform since it will make up such a large percentage of the Nation's tactical aircraft fleet amongst the Navy, Marine Corps, and Air Force?

Answer. This type of incident is not wholly unexpected in a developmental program. The engine failure is believed to be the result of high cycle fatigue failure of the third stage low pressure turbine blade. The failure is consistent with prior findings. Both Pratt and Whitney and PEO JSF understand the causes of the failures, and are conducting tests to confirm the root cause, which will be completed in April 2008. The engine failure will delay BF–1 first flight by approximately 30 days. BF–1 first flight will be in conventional takeoff and landing mode. There will be a gradual expansion of the flight test envelope to include STOVL operations. Additional consideration of the alternate propulsion system should not be based on this incident.

Question. Secretary Thackrah, the F–35 program was recently restructured by reducing some test aircraft and events to increase management reserve for the development program. This has resulted in an aggressive and compressed test schedule that even if executed perfectly will result in over 250 aircraft being under contract prior to conduction the final operational testing for the aircraft. Is this a prudent course of action?

Answer. The Joint Strike Fighter Mid Course Risk Reduction plan reduces total development flight test aircraft from 15 to 13. The deleted aircraft are both mission systems aircraft (one CTOL variant and one CV variant). Deletion of these two test assets is consistent with a refined and optimized flight test plan that capitalizes on unprecedented investments in program ground and flying lab infrastructure for mission systems verification. The Department assessed the risks of this approach, and believes they are both acceptable and manageable, and mitigation options are available if needed. The Department's F–35 acquisition strategy includes an appropriate

amount of concurrency and the most effective balance of technical risk, financial resources and the Services' operational needs.

DDG–1000 COMBAT SYSTEM

Question. The combat system of the Virginia Class submarine has been extremely successful in that it is built on open architecture concepts that can be quickly upgraded to take advantage of technology advancement as the ship ages. The Navy calls this concept "Acoustic Rapid COTS (commercial-off-the-shelf) Insertion (ARCI)". The Navy claims the DDG–1000 program is being patterned after the Virginia program in its construction phase. It would be extremely forward-thinking to also model the combat system after the Virginia Class to ensure the combat system stays current throughout the life of the ship.

Secretary Thackrah, the combat system of the Virginia Class submarine program has been successful largely due to the concept of Acoustic Rapid COTS Insertion. Is the DDG–1000 combat system being designed along the same lines such that the combat system can be upgraded without major ship modifications?

Answer. Yes, the DDG 1000 is an open architecture compliant combat system designed to decouple hardware and software developments so improvements can be economically incorporated as they develop without major ship modifications. The DDG 1000 also isolates the combat system sensors and weapon systems from the Total Ship Computing Environment (TSCE) so that introduction of future sensors/weapon systems do not significantly impact the core combat system hardware or software.

Question. Secretary Thackrah, one of the big advantages of the Virginia Class program is that the combat system can be upgraded fairly easily (relative to legacy submarine and surface ship programs). In fact, as submarines are delivered to the fleet, they come with the most current version of the combat system rather than the combat system that was available when construction began. Can the same be said for the DDG–1000 ships? How easy will it be to modernize and update the combat system of the DDG–1000 given that electronics become obsolete every two to four years? How frequently will modernization occur for this class ship?

Answer. DDG 1000 has made substantial investments in Open Architecture which provides the ability to isolate the hardware from the software programs and install technology updates as needed. DDG 1000 plans to follow similar COTS refresh cycles (hardware upgrades approximately every 4 years) in order to introduce the latest COTS processors and middleware. The DDG 1000 program is working to identify the most cost effective timeframe for a COTS technology upgrade that will not impact the shipbuilders' ability to complete construction and testing. Since the DDG 1000 employs a Total Ship Computing Environment (TSCE) that is comprised of a homogenous set of COTS processors that meet Open Systems standards, this will enable efforts to modernize the combat system electronics.

[CLERK'S NOTE.—End of questions submitted by Mr. Murtha.]

THURSDAY, APRIL 24, 2008.

BIOLOGICAL COUNTERMEASURES AND THREATS

WITNESSES

Panel I

DARRELL GALLOWAY, DIRECTOR, JOINT SCIENCE AND TECHNOLOGY OFFICE, DEFENSE THREAT REDUCTION AGENCY

MAJOR GENERAL STEPHEN REEVES, USA, JOINT PROGRAM EXECUTIVE OFFICER FOR CHEMICAL AND BIOLOGICAL DEFENSE

TONY TETHER, DIRECTOR, DEFENSE ADVANCED RESEARCH PROJECTS AGENCY

INTRODUCTION

Mr. MURTHA. The committee will come to order.

I want to welcome this panel and the committee. We have been working on this issue for a long time, trying to get some semblance of some coordination between HSS and DOD to make sure we knew what was going on, see if we could play a part in the funding part of it.

I have had a concern for several years that we wouldn't be able to produce the amount of vaccine we needed in case we had a pandemic. HHS is farther along than I realized, but I think the key if something did happen, for instance, I think you told me over 20 million people died in World War I from the Spanish flu then.

So we know there are programs of vaccination. We know there are programs that the Defense Department does with anthrax. We know there are programs that HSS does. But I think this is a unique idea, where we do research and the private drug companies participate; and I would be interested to hear, though, what your feeling is, how much we need to be involved from the Defense Department standpoint so the subcommittee can hear what the threat is.

The thing that worries me the most is the fact that we started a synthetic fuel program in the Carter administration, and it turned out that we didn't have a customer, and oil prices dropped from $30 to $10 a barrel. So, of course, the program fell flat. And here I don't know that we will have that problem, but obviously somebody has to be a customer. DOD can be a small part of the customer.

But I am interested to hear and the committee is interested to hear exactly what we need to be able to produce in case something like this happens. So we welcome you to the committee, and I ask Mr. Young if he has any comments.

REMARKS OF MR. YOUNG

Mr. YOUNG. Mr. Chairman, thank you very much; and I want to add my welcome to our distinguished panel of guests.

We are here today to review the efforts of the Department to protect our soldiers, sailors, Marines and airmen and airwomen from biological attacks. In this case, protection has multiple meanings, including detecting and identifying the biological threat, preventing it from doing harm by using the best protective equipment and vaccines, and treating those affected by it with proper therapeutics. So we are anxious to hear today what it is that we are doing, and we want to be supportive in any way that we can to make sure that these protections are available to our warriors.

Thank you very much.

ADDITIONAL REMARKS OF MR. MURTHA

Mr. MURTHA. One last thing I will mention is when I was in Kuwait about 10 days before the war started, they thought there was going to be a biological threat, but they were well-prepared for that. They had the protective gear they needed. They were not concerned. They felt the heat and the wind would dissipate the threat. So the troops were convinced that they would be able to work their way through it.

Now, of course, it didn't happen. But the point was we were prepared in case something did happen. So that is what I hope this hearing will be able to conclude.

So if you will go forward with summarizing your testimony, then we will put your comments in the record.

SUMMARY STATEMENT OF GENERAL REEVES

General REEVES. Mr. Chairman and Congressman Young and distinguished members of the committee, thank you for the opportunity to testify on behalf of the Department of Defense, the Army as the Executive Agent, and as the Joint Program Executive Officer for Chemical and Biological Defense regarding the biological threats and biological medical countermeasures.

The rapid pace of biological technology development and its proliferation through the information age and the globalization of technology and expertise has broadened the threat context. This makes uncertainty a defining characteristic of the present and future environment.

The Department of Defense mitigates that threat from biological threats using what we call a "defense in depth" strategy. Essentially, this strategy provides multiple capabilities, a layered approach that reduces the risk if a biological threat compromises or circumvents any one capability.

Layers in the defense include personal protection—both physical and medical protection—collective protection, biological agent detection, along with warning analysis and reporting, medical surveillance and consequence management, including decontamination and post-exposure medical treatments.

Pre-exposure treatments, including vaccines, provide our first level of defense. These significantly conserve combat power, as opposed to post-exposure treatments. Pre-exposure treatments take

the aces off the table, threats such as anthrax and smallpox, forcing potential adversaries to use comparatively less effective biological agents.

However, we clearly can't anticipate every threat. Additional mutual supporting layers of defense provide the capabilities to detect, warn, protect, analyze and deal with the consequences as needed.

Even with that progress, challenges remain. Specialized testing facilities to evaluate our detection systems against biological agents and biopharmaceutical research development and manufacturing continues to be a lengthy, costly and risky process. Specifically, medical biologic countermeasures manufacturing poses a challenge due to the need for highly trained and skilled personnel in meeting rigorous FDA manufacturing standards. To address this challenge, we use multiple commercial contract manufacturing organizations that specialize in flexible manufacturing. This approach also reduces the risk of a single point of failure. These contracts are rated contracts under the defense priorities and allocation system, giving the Department of Defense manufacturing priority in the event of a national emergency.

Additionally, we work with the Department of Health and Human Services to fund common pharmaceutical stockpiles for routine military use and for military and civil emergencies.

The potential threat from the ongoing biological revolution also requires developing broad spectrum countermeasures, including new detection capabilities and medical systems. Addressing these concerns, the Chemical and Biological Defense Program initiated the Transformational Medical Technology Initiative to rapidly identify and develop medical countermeasures to these new threats; and Dr. Galloway will speak to that in some detail.

Additionally, we are working with our partners in the Defense Advanced Research Projects Office and in the Department of Health and Human Services to investigate alternative biopharmaceutical manufacturing concepts that are flexible enough to produce a variety of medical products and are rapidly expandable to support surge production requirements while meeting FDA requirements and adhering to biosurety regulations.

Mr. Chairman, Congressman Young and distinguished members of the committee, thank you for allowing me to testify today. Your continued support of the Chemical and Biological Defense Program is crucial for our military and for our Nation to succeed in defeating the biological threat. We sincerely appreciate your support in providing our Armed Forces the resources necessary to develop and field a balanced biological countermeasures capability. Together with your guidance and assistance, we will continue to support ongoing operations, improve our current capabilities and bring future technologies forward to protect our military and the Nation against the biological threat.

Sir, that concludes my statement.

[The statement of General Reeves follows:]

UNCLASSIFIED

STATEMENT OF

MAJOR GENERAL STEPHEN V. REEVES, USA

JOINT PROGRAM EXECUTIVE OFFICER FOR

CHEMICAL AND BIOLOGICAL DEFENSE

BEFORE THE

HOUSE COMMITTEE ON APPROPRIATIONS

SUBCOMMITTEE ON DEFENSE

APRIL 24, 2008

NOT FOR PUBLICATION

UNTIL RELEASED BY THE

COMMITTEE ON APPROPRIATIONS

1. INTRODUCTION

Mr. Chairman and distinguished Members of the Committee, I am honored to testify on behalf of the Department of Defense (DoD) Chemical and Biological Defense Program, the U.S. Army as the Program's Executive Agent, and as the Joint Program Executive Officer for Chemical and Biological Defense regarding the DoD's biological defense and biological medical countermeasure capabilities.

Public Law 103-160 Establishes the Chemical and Biological Defense Program

Enacted by Congress in 1993, Public Law 103-160 required the Secretary of Defense to assign responsibility for overall coordination and integration of the Chemical and Biological Warfare Defense Program and the Chemical and Biological Defense Medical Program to a single office within the Office of the Secretary of Defense. The Secretary designated the Assistant to the Secretary of Defense for Nuclear and Chemical and Biological Defense Programs as the focal point for oversight of the Chemical and Biological Defense Program. Public Law 103-160 also designated the U.S. Army as the Department of Defense (DoD) Executive Agent for certain key aspects of the Chemical and Biological Defense Program. It also consolidated all chemical and biological warfare defense training activities of the DoD at the U.S. Army Chemical, Biological, Radiological and Nuclear School.

Key organizational elements of the Chemical and Biological Defense Program (CBDP) now include the Joint Staff's Joint Requirements Office, the Defense Threat Reduction Agency's

Joint Science and Technology Office, the Joint Program Executive Office for Chemical and Biological Defense, the U. S. Army's CBDP Test and Evaluation Executive, and the Special Assistant for Chemical and Biological Defense, the ATSD(NCB)'s Principal Deputy and primary staff action officer for CBDP matters.

The U.S. Army, as the Chemical and Biological Defense Program Executive Agent for the Department of Defense coordinates and integrates research, development, test, and evaluation, and acquisition, requirements of the military departments for chemical and biological warfare defense programs.

As stated in the 2008 Army Posture Statement, persistent conflict and change characterize our strategic environment. We will confront highly adaptive and intelligent adversaries who exploit technology, information and cultural differences to threaten the interests of the United States. While advances in technology are benefiting people all over the world, extremists are exploiting that same technology to manipulate perceptions, export terror and recruit those who feel disenfranchised. The diffusion and increasing availability of technology increases the potential of catastrophic biological attacks. Our preparation to protect our forces from these potential attacks with biological Weapons of Mass Destruction is what I will summarize for you today.

My testimony today will address how the Chemical and Biological Defense Program executes a defense in depth strategy to minimize the impact of biological attacks; how the program provides a balance across the spectrum of biological defense capabilities needed to

execute that strategy, the current state of, and challenges presented by, the biological medical countermeasure manufacturing and what we see as potential solutions to those challenges. I will begin with a brief overview of the biological threat.

2. THE NEW THEORY OF WAR

The rapid pace of biological technology development and proliferation through the information age, as well as globalization of technology and expertise has broadened the biological threat context.

These facts make uncertainty the defining characteristic of the present and future threat environment. Where once the capabilities of our adversaries were generally well understood and their intentions unclear, we now face the reverse situation. The intentions of our adversaries are clear while their capabilities are more varied and expanding. Jihadist websites and public statements frequently refer to "decisive strategic operations with Weapons of Mass Destruction." The July 2007 National Intelligence Estimate on "The Terrorist Threat to the U.S. Homeland" concludes that "Al Qaeda will continue to try to acquire and employ Chemical, Biological, Radiological and Nuclear material in attacks" This view was again reinforced by the Director of National Intelligence as recently as February 5, 2008.

We must now prepare our armed forces for a much broader array of current threats while also preparing for future threats. For example terrorists may soon be able to cause mass casualties, or create significant socio-economic impacts, that in the past were only possible for state-run biological weapons programs. Scientists can already engineer biological agents to enhance their lethality either through genetic engineering or other types of manipulations. Given

the exponential growth in the field of biotechnology and global access to scientific information on the Internet, our vulnerability to this threat may be closer than we suspect.

Nation-states pose an additional biological weapons threat, and the weapons they can produce are potentially more sophisticated, and therefore more lethal, than those made by terrorists. While fear of retribution may deter nations from using biological weapons against the U.S., their covert use may be a different matter. States could attack the United States or its military installations and avoid retaliation by posing as terrorists.

The threat from the potential use of biological agents is expected to increase over the next decade as those countries now believed to have biological warfare programs, as well as additional states, terrorist groups and even individuals seek advanced capabilities. There is an increasing availability of biological warfare-related technology, materials, information and expertise, and publicity about potential vulnerabilities. Genetic engineering is just one of a growing number of biotechnologies that could allow countries to develop agents, such as modified viruses, that could make detection and diagnosis difficult and may defeat current protection and treatment protocols. Because of the dual-use nature of the materials needed to produce biological warfare agents, any country with the political will and a competent scientific base could probably produce these agents.

3. A DEFENSE IN DEPTH STRATEGY

A "defense in depth" strategy mitigates the risk posed by a broadened biological threat context.

To mitigate the risk posed by a broadened biological threat context the DoD conducts operations using a "defense in depth" strategy. Operationally, this means we use multiple types of weapons systems, forces, and placement of those forces to ensure we are prepared to meet and counter a wide variety of threat weapons and tactics. This same strategy applies to how we use chemical, biological and radiological countermeasures to protect our fighting forces.

Our first level of defense in depth against the biological threat is to develop and use vaccines to protect our Forces from the use of known threats that are highly communicable and lethal, such as anthrax and smallpox. This forces a potential enemy with intent to use biological weapons to use a threat that is relatively easier to treat, and the use of vaccines also conserves the combat power of our Forces when compared to the use of post-exposure treatments. The use of medical pretreatments also reduces the load on medical systems which enables caregivers to focus on conventional battle injuries. For example, normal disease rates expected for forces deployed in the Middle East are about eighteen to twenty five soldiers per day for every one hundred thousand personnel deployed. In a biological weapons attack against troops that are unprotected this disease rate, depending on the threat used and the exposure time, would be measured in the thousands of personnel per week. This heightened disease rate, in addition to conventional battle casualties, would put significant strain on the fighting power of combat units and the medical evacuation and treatment systems.

The DoD has conducted numerous mass casualty exercises, all of which demonstrate the logistical burden created when large numbers of people suddenly require treatment in our medical systems. In the case of biological agent scenarios, an additional burden is caused by the "worried well", or those who suspect they may have been exposed to an agent and seek treatment, further burdening the medical evacuation and treatments systems.

Our second level of defense in depth is the capability to "detect to warn" or to "detect to protect". When we "detect to warn" we detect the agent in sufficient time to provide early warning to personnel in the path of the threat to move out of the path of the agent or to move to facilities that provide collective protection (including filtered air). Our stand-off detection distances for biological agents is limited by technology at this time, therefore we accomplish "detect to warn" by using a variety of point and stand-off detectors throughout the battle space that are linked through a warning and reporting network capability as well as predictive modeling of the potentially contaminated areas. When we "detect to protect", we mean that the detector sensed the presence of a biological threat in sufficient time for personnel to put on their individual protective equipment such as protective masks, but not with sufficient time for them to move out of the way of the threat agent cloud or to seek shelter in collective protective facilities.

In the event a vaccine is not available, or protection could not be obtained in time, our third level of defense in depth is "detect to treat," which is to decontaminate and provide treatment as necessary to those exposed to a biological threat. Decontamination limits the spread of the threat and allows units, to include medical treatment and evacuation units, to continue

their mission unencumbered. Detect to treat can provide the earliest indication of a biological attack in situations where detectors were not employed or a biological threat is surreptitiously employed in small quantities. Detect to treat involves combining biosurveillance, which identifies illness trends in personnel, and medical diagnostic devices such as the Joint Biological Agent Identification and Diagnostic System, to rapidly identify the illness and to recognize when that illness must be attributed to other than natural causes.

As part of a defense in depth strategy our program provides critical military installations here and abroad with a tiered and integrated protection and response capability to maintain essential critical mission operations and quickly resume essential operations in the event of a chemical, biological or radiological attack. Installations designated as critical to our National Military Strategy possess biological threat response capabilities that include portable biological collectors, biological detection hand held assays, biological medical post-treatments, individual protective equipment for emergency personnel, mass casualty decontamination showers and tents, and a mass notification and warning system. Installations that are designated as one-of-a-kind strategic assets receive additional capabilities, to include continuous biological collection and identification capability and collective protection for installation strategic assets.

To enhance our installation protection we have also partnered with the Department of Homeland Security to leverage the capabilities provided by their BioWatch program. We collaborate with BioWatch to optimize the bio-monitoring capabilities within the National Capital Region and will expand that collaboration across the country. The Installation Protection Program adheres to the Biomonitoring Memorandum of Understanding between the Department

of Homeland Security, Department of Justice, Department of Health and Human Services, the U.S. Postal Service and the DoD to provide interagency notification of a bioevent within two hours of discovery. In addition, they participate in interagency working groups that standardize and coordinate responses to a bioevent.

Defense in depth requires a balanced biological medical countermeasure approach

While a strategy of disease prevention using vaccines has advantages over a post-exposure treatment approach, such as the conservation of combat power, there are also limitations to a vaccine approach. We do not have vaccines for every biological threat, extreme doses of an agent may overwhelm a vaccinated person's immune system, and creating a vaccine for a new type of biological threat takes a significant amount of time and approximately three quarters of a billion dollars to develop. In these cases the DoD uses therapeutic agents to treat the resulting disease. Therapeutics may also be used for post-exposure treatment of people who are known to have been exposed to an agent, but have not yet developed symptoms. This approach reduces, but does not eliminate illness from an exposed population. There are a number of products in the DoD approved by the Food and Drug Administration of the Department of Health and Human Services, but gaps remain. Although broad spectrum antibiotics are generally effective against bacterial agents circulating in the blood, such as anthrax and plague, they are less effective against bacteria located primarily within cells, such as tularemia. Bacterial resistance to antibiotics creates additional capability gaps as do agents from other groups of pathogens, for example smallpox, that are unaffected by antibiotics.

To address the biological agents for which there is no vaccine capability currently, and to provide a means to address the threat posed by engineered biological threats and other emerging biological threats, the Chemical and Biological Defense Program initiated the Transformation Medical Technologies Initiative, that focuses on broad spectrum effects of therapeutic agents for intracellular bacterial pathogens and viral hemorrhagic fevers.

4. MAINTAINING ONGOING OPERATIONS

Supporting Defense in Depth; Our Functional Capability Areas

Within the Chemical and Biological Defense Program we group our chemical, biological, radiological and nuclear capabilities within the functions of Sense, Shape, Shield and Sustain. These functional areas, combined with Consequence Management, directly support the defense in depth concept both abroad and at home. I will summarize only the biological threat defense capabilities within each functional area.

Sense Capability

Sense Capabilities includes biological detection to facilitate warning to the force, which can then avoid the threat or avoid exposure to the threat by assuming a protective posture. Deploying multiple sensors upwind of forces and providing standoff sensors to scan wide areas provides the foundation for our defense in depth strategy. Biological detection is also used in restoring operations, consequence management and medical diagnostics to confirm decontamination results, and to identify the boundaries of a contaminated area or to confirm the identity of the threat.

To support biological detection capabilities we have fielded over 100 Joint Biological Point Detection Systems. The Joint Biological Point Detection System is the first automated system to routinely monitor the air for biological agents and provide presumptive identification for up to 10 agents. Next year we will field the Joint Biological Standoff Detection System, the first biological standoff detector of its kind in the world.

Shape Capabilities

Shape capabilities support an integrated system that provides warning and supports a Commander's situational awareness on the battlefield. The Joint Warning and Reporting Network provides a warning, analysis and reporting capability. The Joint Operational Effects Federation provides a prediction capability of the threat effect on personnel, equipment and operations. The Joint Effects Model provides the DoD a validated capability to predict the dispersion of a threat agent.

Shield Capabilities

Shield capabilities provide protection to the Force by providing vaccines and by eliminating or reducing individual and collective (or group) exposure. Individual protection includes protective equipment such as the Joint Service General Protective Mask and the Joint Service Lightweight Integrated Suit Technology. Collective protection includes capabilities such as Collectively Protected Field Hospitals and mobile medical shelters such as the Chemical Biological Protective Shelter.

Consequence Management

Consequence management is not a functional capability, but its own collection of defense in depth capabilities that apply to missions at home and abroad. Earlier I described our Installation Protection Program, and within this section we will describe other biological threat defense in depth capabilities this program provides. We field capabilities to National Guard units to detect, protect and decontaminate biological threat agents. We also field enhanced capabilities of the same type to National assets, such as the Chemical and Biological Incident Response Force, which can augment local first responders and State assets.

Included in these capabilities is the Analytical Laboratory System, a mobile analytical laboratory system enabling personnel to conduct on-scene analysis and presumptively identify suspected chemical, biological and radiological agents and toxic industrial chemicals, and the Unified Command Suite, a self-contained, stand-alone mobile communications platform providing real time voice, data, and video connectivity.

Sustain Capabilities

Sustain capabilities include decontamination and medical capabilities needed to sustain operations. Decontamination technologies remove and neutralize contamination and detoxify contaminated material without damaging combat equipment, personnel, or the environment. Capabilities in this area include the Joint Service Personal Decontamination System or Reactive Skin Decontamination Lotion, which is a Food and Drug Administration cleared product used for skin decontamination against chemical warfare agents.

An underlying mandate of the DoD biological medical countermeasure approach is that any product used must be approved by the U.S. Food and Drug Administration. The DoD has a wide variety of Food and Drug Administration approved products in use to prevent and treat disease and is engaged with industry to develop new Food and Drug Administration approved products to meet existing capability gaps.

Biological medical countermeasure products we have fielded include the anthrax and smallpox vaccines. We also provide critical reagents, which are necessary to support biological detection and medical diagnostic systems and the Joint Biological Agent Identification and Diagnostic System. This system rapidly provides a positive identification and diagnostic confirmation of biological agents and pathogens of operational concern.

Developing and acquiring new medical biological technologies and products entails using government and commercial best practices to obtain Food and Drug Administration approval of biological medical countermeasures within benchmark timelines. These best practices have helped keep eighty percent of the chemical and biological medical products (approved or in development) on track in terms of safety and effectiveness. This success rate compares favorably to the ten to twenty percent of products that normally achieve Food and Drug Administration approval within the industry benchmark.

The DoD Chemical and Biological Defense Program provides fielded countermeasures, such as anthrax and smallpox vaccines, to the DoD through contracts and interagency agreements. We are also engaged in cooperative efforts to develop vaccines for Plague and

Botulinum toxin. Since the events of September 11, 2001, the need for biological agent countermeasures by other U.S. Government Agencies such as the Department of Health and Human Services, has converged with those of the DoD. As a result, the DoD works very closely in an Interagency/Intra-Agency/International collaborative environment to meet its and other Agencies requirements for medical countermeasures, including the HHS Public Health Emergency Countermeasures Enterprise.

Interagency/Intra-Agency/International Biological Medical Countermeasure Collaborative Efforts

The Chemical and Biological Defense Program partners with government, industry, academia and international organizations for the materiel development and manufacturing of approved medical countermeasures and diagnostics. Interagency partners work together to achieve Food and Drug Administration licensure; leverage BioShield and DoD funding; and use Economy Act purchases once a product is licensed. Our interagency partners include the Department of Health and Human Services (HHS; to include their Biomedical Advanced Research and Development Authority), The HHS National Institutes of Health, the Department of Homeland Security, the HHS National Institute of Allergy and Infectious Diseases, , and the HHS Food and Drug Administration.

The DoD has interagency agreements with the HHS Center for Disease Control and Prevention to share licensed anthrax and smallpox vaccine from the Strategic National Stockpile. The agreements establish the framework for the acquisition, storage, management, and delivery of these vaccines to meet DoD operational and inventory requirements for these vaccines.

Intra-agency partners include the U.S. Army Medical Research and Materiel Command, the U.S. Army Medical Research Institute for Infectious Disease, the Defense Advanced Research Projects Agency, the Joint Science and Technology Office, the Joint Requirements Office, and Defense Logistics Agency and others. These organizations collaborate to ensure alignment between requirements, the technical base and advanced development.

The DoD coordinates all aspects of its research, development and acquisition programs among its many assets. For example, the U.S. Army's Medical Research and Materiel Command provides an important scientific discovery capability as well as ongoing laboratory and technical support for products in advanced development. Relationships have been forged to transition medical countermeasures from the science and technology phase of the Joint Science and Technology Office and Transformational Medical Technology Initiative programs to advanced development.

Partnering with the Defense Advanced Research Projects Agency is developing the Rapid Vaccine Assessment tool to create an artificial human immune "system-on-a-chip". If successful, this technology will facilitate rapid screening of candidate vaccines within weeks instead of years. All of these partners work together to provide support for our effort to produce Food and Drug Administration approved medical countermeasures for the protection of our fighting force.

The Chemical and Biological Defense Program leverages international programs to gain access to foreign technology and infrastructure; mitigate risk in the research and development process; and establish multinational standardized test procedures and common data. An example is the Australia, Canada, United Kingdom and United States Chemical, Biological and Radiological Memorandum of Understanding. Our efforts under the Memorandum support international interoperability; achievement of regulatory harmonization (licensure in member countries) and work on established project arrangements for the acquisition and development of smallpox and plague vaccines.

Manufacturing and maintaining the industrial base is a critical part of our ability to provide medical countermeasures for chemical, biological, radiological, and nuclear threats. The remainder of my testimony will focus on those issues.

5. BIOLOGICAL MEDICAL COUNTERMEASURE MANUFACTURING

Existing Manufacturing Capability

The existing capacity to produce licensed biologics for national defense is limited. Contractors making biologics for the government are relying on the government to pay to maintain the production capability. For products in development, there are few manufacturers in the US and Europe that will be able to produce licensed biologics and many of those manufacturers are close to their current operational capacity. Because of the risk associated with biopharmaceutical manufacturing the DoD, the Department of Health and Human Services and

other Federal Agencies have been collaborating to develop and stockpile products for civilian and military protection.

Biopharmaceutical development is a lengthy, costly, and risky process. Because vaccines and biologics are given mostly to healthy people, there is a greater regulatory focus on safety associated with their development. Because the regulatory requirements to license biologics are considerable, DoD works with industry partners and the Food and Drug Administration to ensure we are provide safe and effective Food and Drug Administration licensed medical countermeasures to our troops. The probability of success in the final, and most costly, stage of development is lower for biologics than for other pharmaceuticals, and the market for biodefense countermeasures is relatively small. This probability is highlighted in the Journal of Managerial and Decision Economics (28:467-479) article *The Cost of Biophamaceutical R&D: Is BioTech Different* (Joesph A DeMasi and Henry G. Grabowski – Tufts Center for the Study of Drug Development, Tufts University. Also, the Journal of Health Economics (22(2003)151-185), *The price of innovation: new estimates of drug development costs* (DeMasi et al.)

All of these disincentives result in large pharmaceutical companies being unwilling to develop these biologics with their own Research and Development funding. Even though the DoD is funding the entire cost of development of these products, there is little industry interest in this work. To develop interest we permit the contractor to serve as the product sponsor and eventual Food and Drug Administration license holder as an incentive to attract industry partners to this market. Despite this and other incentives, large pharmaceutical companies, or "Big

Pharma," have not been nearly as involved in development of biodefense medical countermeasures as we would hope.

The companies that are willing to enter into this market are usually smaller, specialized and not very experienced in biopharmaceutical development. Some of the current contractors making licensed biodefense products have small manufacturing facilities. Because the government is the only customer for these products, the government must pay for maintenance of the production capability, known as industrial base maintenance. This may require the government to purchase more product than is needed for the purpose of maintaining the capability, but that cost far outweighs the alternative - shutting down and then restarting biological production lines, to include again qualifying and validating the process to Food and Drug Administration standards.

Many of the companies currently developing biodefense products do not have their own manufacturing capability so they outsource to Contract Manufacturing Organizations. The use of Contract Manufacturing Organizations adds more risk for the government to an already risky development process because they may have many other products in their facilities and have tight scheduling timelines and queues. Any schedule delay in the rest of the development process could mean that time is no longer available at the facility and may require an extended wait to get back into the manufacturing queue. This delay will have a domino effect on the rest of the program because unavailability of material will delay the start of the next study which will delay availability of results to start the next study, and so on.

Not all Contract Manufacturing Organizations are created equal. It is difficult to find manufacturers capable of making material to support later stages of development and to serve as the commercial manufacturer. As products advance through the development cycle, the regulatory compliance requirements associated with manufacturing increase and the number of capable Contract Manufacturing Organizations available to produce late stage and commercial material decreases. Only twenty-eight percent of all Contract Manufacturing Organizations are capable of making a late development stage commercial product (from *Biopharmaceutical Contract Manufacturers 2007*, prepared by HighTech Business Decisions purchased by DVC LLC, a CSC Company). Because there are so few manufacturers with the capability to make these products, it is very difficult to get into their manufacturing queues and schedule time to produce material for clinical studies and licensed product to deliver to the troops. Some of the larger Contract Manufacturing Organizations require that suites are booked at least twenty-four months in advance to ensure availability. In a recent market survey on biopharmaceutical manufacturing, scheduling suite time and capacity issues were cited as the biggest challenges facing the biomanufacturing industry.

Many U.S. and European manufacturers are reaching their current capacity to produce biologics. For both microbial and mammalian product manufactures, the Contract Manufacturing Organization industry is above a seventy-five percent use rate. Most manufacturers consider themselves at full capacity when they reach an eighty percent use rate to ensure sufficient time for equipment maintenance and ongoing validation efforts.

Additional Biopharmaceutical capacity does exist in the Asia – Pacific region. This region represents eighteen percent of the global biopharmaceutical manufacturing market and has billions of dollars worth of facility capacity sitting idle. For that reason, many pharmaceutical companies are exploring the option of outsourcing to this region. However, the DoD is reluctant to rely on manufacturers in this region due to the vulnerability associated with offshore locations and the instability in some of this region.

Current Stockpile and Capacity to Stockpile / Surge Capability -Government wide

DoD has interagency agreements in place with the Department of Health and Human Services/Center for Disease Control and Prevention to share smallpox and anthrax vaccines from the Strategic National Stockpile. The agreements include the vaccine, cost of maintaining industrial base and surge capacity and post marketing commitments to the Food and Drug Administration. The U.S. Government currently has approximately two hundred million doses of smallpox vaccine, with a "warm base" contract planned for the future delivery of between 1 and 10 million doses of vaccine per year, beginning in 2011. The smallpox manufacturing base is presently in the process of transferring the technology from European to U.S. facilities.

Our anthrax manufacturer operates four manufacturing trains, producing approximately one hundred and seventy thousand doses per lot, with a total capacity of about 7 million doses per year. They are currently operating at full capacity, and until their new manufacturing facility is on line and validated for production by the Food and Drug Administration, they do not have additional surge capacity. Once the new facility is on line sometime in 2009, they will be capable of producing approximately eighty million doses per year.

Involvement of Non-Governmental Entities

Food and Drug Administration approved biodefense medical countermeasure production relies exclusively on non-governmental entities, although the HHS National Institute of Allergy and Infectious Diseases (NIAID) does maintain a Vaccine Research Center which develops and performs clinical testing of a narrow spectrum of biodefense related vaccine candidates (e.g., Ebola and Marburg). . There are two models through which biologics are produced. The current licensed products are made by small companies with their own manufacturing capabilities. In this scenario, the government is usually the only customer and therefore must pay to maintain the production capability or pay much more to restart production lines when the demand arises. In the other model, small companies are developing products without an in-house manufacturing capability. These companies are required then to outsource manufacturing to contract manufacturers who are already at a high rate of use and commitment.

This complete reliance on industry and the industry capacity issues mean the DoD has little flexibility in producing biodefense medical countermeasures. Because contract manufacturers are already above seventy-five percent of their capacity, there is little opportunity for surge capacity in the event of an emergency. We have attempted to reduce our risk and ensure the availability for product by issuing Defense Priorities and Allocations System Delivery Order rated contracts for biological countermeasures. This rating affords DoD products production priority over unrated orders, including commercial orders. In the event of an emergency, the Defense Production Act would also require industry to use its resources to fulfill the needs of national defense. Under certain conditions, this Act could be used to require

pharmaceutical manufacturers to produce biodefense medical countermeasures rather than products normally manufactured in their facilities.

While the Defense Production Act is helpful for surging industrial capacity for many defense items, it is not much assistance for biologics. Manufacture of licensed biologics can only occur in a facility, suite, and with the equipment that was validated to obtain Food and Drug Administration approval of the original biologics license application. Setting up production of a licensed vaccine in another facility or suite of the same facility can require months to years to validate the manufacturing process using the new facility and / or suite and equipment. Additionally there must be highly trained and certified personnel to operate the facility. However, some manufacturers of biodefense products that produce biological medical products for the U.S. Government also have numerous commercial product lines. In those cases, contracts that are designated as "rated orders" would help to ensure that the U.S. Government receives production priority.

6. PROVIDING MEDICAL BIOLOGICAL THREAT COUNTERMEASURE CAPABILITY AT THE RIGHT COST AND AT THE RIGHT TIME

Future medical biological countermeasure manufacturing capability, cost implications and risk

Since contract manufacturers are close to current capacity, many facilities are planning or undergoing expansion. This increased capacity will not improve the outlook for manufacturing of defense products because the demand for this capability is also expected to increase over the next few years. If this projection is correct, the biopharmaceutical production industry will be facing the same challenges as today – scheduling suite time and capacity.

DoD's concern about the risks associated with biomanufacturing dates to the 1990s. In 1993, the DoD investigated the development of a conceptual design of a Government Owned Contractor Operated vaccine production facility. The facility was to be designed to be flexible enough to produce a variety of products and easily expandable to support future production requirements. However, the DoD did not proceed with the facility in part because at that time there was an indication that pharmaceutical manufacturers had the capacity to support DoD vaccine production requirements, and that has proven to be the case until recent years.

The DoD released a Request for Proposal for a Government Owned Contractor Operated manufacturing capability, to include multiple vaccines, in 1996. The large scope of that contract was expected to encourage participation from "Big Pharma." Large pharmaceutical manufacturers did not respond to the request, with the result that the contractor selected is a virtual biopharmaceutical company that relies exclusively on Contract Manufacturing Organizations for production. The perceived risk associated with a small company Contract Manufacturing Organization approach lead to new discussions on the possibility of a Government Owned Contractor Operated facility in 2000.

In 2001, the DoD again investigated a DoD Government Owned Contractor Operated vaccine production facility. An independent panel of experts was also convened to review DoD vaccine acquisition plans and make recommendations on future solutions. Their findings noted that there was limited available industrial vaccine capacity, and limited industry interest in

manufacturing most DoD vaccines. This finding reflects the change in the industry from the situation nearly 10 years earlier.

The previous studies of the Government Owned Contractor Operated facility concept were focused solely on DoD requirements for production as at that time there was not a significant requirement for biodefense countermeasures to protect the civilian population. Since September 11, 2001 and the anthrax letters, a civilian requirement for these countermeasures has emerged. Considering the current manufacturing capacity issues and the combined DoD and civilian requirements for biodefense medical countermeasures, the government is once again looking for biologics manufacturing solutions.

The development of medical countermeasures is a long and expensive process with two key focal points: safety and efficacy. The urgency to field an effective defense must be tempered with the need to ensure that the safety of recipients of those products is not compromised. Thus, the Food and Drug Administration is vigilant in requiring sufficient data to provide the Nation with products that are safe and effective in protecting against or treating disease .

Given these requirements, we must look to new ways of achieving safety and efficacy that are more effective and efficient so we can get products to the field more quickly. The DoD is working closely with the Department of Health and Human Services, other government agencies, and non-governmental entities to do just that. At the interagency level, DoD is an active participant in efforts such as the Food and Drug Administration's critical path initiative

that seeks to look at new technologies and processes that might streamline its regulatory processes without compromising product quality.

The DoD, Department of Homeland Security, and Department of Health and Human Services are coordinating countermeasure requirements, developing cooperative agreements, and seeking economies of scale to use our respective resources more efficiently. The DoD and Department of Health and Human Service's Biomedical Advanced Research and Development Authority are also closely coordinating our research and development programs in light of our requirements which sometimes overlap, and are sometimes complementary. The focus is on eliminating unnecessary duplication of effort, although some duplication may still be necessary as a risk reduction strategy in the highly risky business of biological product development. Still other programs that may at first appear duplicative actually involve complementary programs that although they address the same pathogen, may be focused on different product indications (e.g., therapeutic vs. preventive).

From my perspective, Interagency cooperation in this critical area of National Defense is at an all time high and Agencies continue to work together to leverage each other's programs, maximize the use of tax dollars and minimize the time it takes to get products to our respective constituents.

7. CHALLENGES

We are facing a long-term biological threat that poses significant challenges.

Maintaining Technological Superiority

We are committed to keeping pace with the broadened biological threat context by developing ways to more rapidly develop both pretreatments and post-treatments and to develop broad spectrum countermeasures. The Chemical and Biological Defense Program's Transformation Medical Technologies Initiative is one approach to address these challenges. This approach uses platform technologies, such as genetic sequencing, to accelerate the identification of the specific biological threat agent, development of broad-spectrum medical countermeasures, and the production of an effective countermeasure. We are leveraging Defense Advanced Research Projects Agency projects that are also focused on rapidly producing medical products. As an adjunct to these technological approaches, the Food and Drug Administration's Critical Path Initiative is aimed at speeding the regulatory pathway to product approval. These various efforts all have the same focus of reducing the challenges presented by long product development times.

Food and Drug Administration and Bio-surety Regulations

All DoD medical products must be Food and Drug Administration approved for their intended use. The Food and Drug Administration regulatory process is complex, with increasing development costs and schedules due to many factors, including: additional studies required to maintain compliance with Food and Drug Administration regulations, increasing cost of research tools and increasing clinical trial size and complexity. In spite of these industry-wide

challenges, DoD medical programs remain competitive with industry benchmarks in obtaining Food and Drug Administration approval for medical countermeasures.

Maintaining Adequate Biological Medical Countermeasure Industrial Base Capabilities

Many studies have documented the limited industrial capacity available to the Government for the production of biological medical countermeasures. We endorse studies that are investigating alternative approaches to meeting manufacturing challenges such as a Public-Private Partnership. We do see a significant challenge to a modular and flexible biological medical countermeasure manufacturing facility – meeting the requirements for approval by the Food and Drug Administration. The complexity of such a facility will make approval by the Food and Drug Administration a challenge. This poses a major program developmental risk. It my view, it requires a strategy that first develops and demonstrates the efficacy of the concepts in a scalable way to the satisfaction of the Food and Drug Administration. This approach minimizes developmental cost and risk prior to committing to full scale development.

Biological Medical Countermeasure Industrial Surge Capacity

Surge capacity for emergency response within the biological medical countermeasure industrial base is problematic. Adding capacity, whether in an existing or new facility, requires significant time and resources to achieve Food and Drug Administration approval. Modular and flexible manufacturing concepts may save time in establishing manufacturing infrastructure, but Food and Drug Administration approval will still take time and resources. We will continue to work with our interagency and intra-agency partners to establish acquisition strategies and contracts that provide us the maximum flexibility for surge requirement demand.

Funding

Our capability development across the entire spectrum of biological defense measures and must keep pace with the rapid advances in science, which directly influence the scope and structure of threat agents. To do this we must maintain adequate funding in place to ensure our capabilities in detection, protection, decontamination, medical surveillance, warning and reporting and medical countermeasures matches this fast changing and uncertain environment.

7. SUMMARY

Mr. Chairman and distinguished committee members, thank you for allowing me to provide this written testimony. Your continued support of the Chemical and Biological Defense Program is crucial for our military and nation to succeed in the face of a biological attack. To mitigate the broadened biological threat context we must use a defense in depth strategy that, to be effective, also requires a balanced biological countermeasure development strategy. We have been successful in fielding capabilities across the capabilities spectrum, including medical biological countermeasures. We continue supporting ongoing world-wide operations, and we are improving our products, and building our future strategies to continue to counter the broader biological threat context. Together, with your guidance and assistance, we are bringing future technologies forward to protect our military and the nation against the biological threat.

SUMMARY STATEMENT OF DR. TETHER

Mr. TETHER. Mr. Chairman, members of the committee, thank you very much for having me here today to discuss medical countermeasures against biological attack.

If we are attacked with a brand new pathogen, one we can't have stockpiled against, it is unlikely we could use today's technology to produce enough of the new drug fast enough. DARPA has been working on technology to break out of this strategic conundrum. We started several years ago by challenging the "one drug, one bug" paradigm, by moving towards "one drug, many bugs" or the broad-spectrum type of antibiotics that we have today that could be used against many bugs. We are extending this from drug design to production, trying to go from "one production line, one drug" to "one production line, many drugs".

An industrial base for this capability would blunt the effect of any BW attack, thereby making it less valuable to the attacker and less likely in the first place.

We are exploring two approaches to accelerating drug manufacturing.

One is a facility that manufactures drugs but can manufacture many different types and can be reconfigured quickly and efficiently. DARPA has a study determining the efficacy of building a facility that combines flexible bioreactors with new technologies to produce large protein biologics faster and cheaper than today. This study is trying to make a business case for doing this, but it is not yet complete. We will be complete probably in the next 2 months.

Another approach is adapting the organisms widely used for industrial processes today so they can make highly purified drugs in extremely large quantities. Our Accelerated Manufacturing of Pharmaceuticals program is pursuing this vision, creating technology to rapidly and inexpensively manufacture millions of doses of biologics in weeks, instead of the years required today.

We are working with both bacteria and fungus where there is considerable industrial experience using them to produce smaller, less complicated proteins for things like laundry detergents and bio-enzymes for environmental cleanup, bugs that basically eat dirt.

As an example, we are looking at using tobacco plants to make these biologics. The tobacco we are using is grown hydroponically under very tightly controlled conditions. Special bacteria are then used to infect the leaves, bacteria that cause the leaves to produce the protein that we want. A 10 by 10 foot tray of such tobacco should yield the protein for 1 million vaccine doses, the equivalent of 3 million chicken eggs if done in that way.

In November, tobacco demonstrated that within a month it could produce over 800,000 doses of a crude influenza vaccine that was protective in an animal model, in this case, ferrets. Tobacco has also produced an avian flu vaccine that could not be made in eggs because it kills the eggs.

We will be testing these various technologies to see whether they are speedy and flexible. The performers know they have to produce a protein, but they don't know which one in advance. In the actual test, they will be told a specific protein but given only 3 months

to produce it in a specified quantity. We feel this approach keeps them focused on being able to produce a wide variety of biologics, in quantity and very quickly.

But let me hasten to add that, while this is great progress, we are still a long way from FDA approval. At a minimum, we must demonstrate that these vaccines are as pure and effective as those produced conventionally in order to receive FDA approval at the end of the day.

But, in summary, we are proud and excited about our work and think it holds great promise to make BW attacks against us less harmful and, accordingly, less likely.

Thank you all very much for your support of DARPA over the years. Thank you.

[The statement of Dr. Tether follows:]

Statement by

Dr. Tony Tether

Director
Defense Advanced Research Projects Agency

Flexible Manufacturing of Pharmaceuticals for Biological Warfare Defense

Submitted to the

Subcommittee on Defense
Committee on Appropriations
United States House of Representatives

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NOT FOR PUBLICATION UNTIL RELEASED BY THE SUBCOMMITEE

Mr. Chairman, Subcommittee Members, and staff: I am pleased to be here today to discuss DARPA's efforts to ensure that the United States has the manufacturing capability we need to produce the complex pharmaceutical proteins – also known as biologics – that are a key medical component of biological warfare defense (BWD). My focus today will be on the technology DARPA is developing to quickly make a population-significant quantity of biologics used in vaccines and therapeutics for BWD.

In 1996, DARPA was authorized to conduct an independent program within the DoD to develop technologies to protect our forces against biological attack. This led to a comprehensive and aggressive BWD program that has developed sensors to detect an attack, technologies to protect people in buildings, vaccines to prevent infection, therapeutics to treat those exposed, and decontamination technologies to recover the use of an area. More recently, we have turned our attention to technology to quickly produce the complex pharmaceutical proteins (i.e., biologics) we would need to counter a BW attack.

Before I talk about DARPA's specific technology development efforts, let me touch on the threats we face and our options for responding.

The Evolving Threat

A wide variety of pathogens could be used against either U.S. military forces or our civilian population, including anthrax, smallpox, tularemia, ebola, botulism, enterotoxin, and ricin. But these – as serious as they are – represent only *known* threats. In this age of genetic engineering, there is also the real risk of some completely novel and previously unknown engineered pathogen rapidly appearing to threaten us. And this is to say nothing of new threats that appear naturally and spontaneously, such as Severe Acute Respiratory Syndrome (SARS), avian influenza, and multi-drug-resistant organisms.

Let me illustrate how quickly genetic engineering is advancing today. Today you can buy a toy for ages eight and above called *DNA Explorer Kit.* This toy costs around eighty dollars and has everything you need to extract DNA and purify it. In the 1980's, this required three days in a half-million-dollar university lab filled with people with graduate degrees. Now for eighty dollars, an eight-year-old can do it in two hours.

Responding with Flexibility

It is true that some of the BW threats we face are known and understood. However, others are unknown or known but could be evolving.

In the face of this uncertainty, how should we respond?

A major limitation of current pharmaceutical manufacturing technology is that it is expensive, and inflexible. You can't take a facility that is producing "Drug A" and rapidly turn it around to produce "Drug B." Given the wide variety of potential threats and the inflexibility and high cost of today's pharmaceutical manufacturing facilities, it is difficult if not impossible to use today's drug manufacturing technology to provide the surge in biologics production we could need in case of a BW attack.

If we were faced with a brand new pathogen – and even if we developed a new therapy right away – it is highly unlikely that we could use today's capability to produce enough of the drug in time to protect a meaningful fraction of the population.

DARPA has been working on technology to break out of this strategic conundrum.

We began several years ago by challenging the "One Bug, One Drug" paradigm for therapeutics to be "One Drug, Many Bugs." Instead of having only one treatment for each pathogen, we pursued broad-spectrum therapeutics so that one drug could be used against many bugs. This has been evident as we have transitioned several projects to the Chemical and Biological Defense Program's Transformational Medical Technologies Initiative (TMTI).

For example, DARPA supported work on new vaccine adjuvants such as CpG, which can increase the immune response to any vaccine. CpG is now funded for advanced development by the National Institutes of Health, and by at least four major pharmaceutical companies.

We have also developed broad-spectrum approaches to countering drug-resistant strains of certain pathogens, such as anthrax that is resistant to Ciprofloxacin. This project is now in advanced development in the Chemical and Biological Defense Programs' Joint Science and Technology Office.

DARPA is extending this logic from drug design to drug production and manufacturing. In the last few years we have been pursuing the technology to change the "One Production Line, One Drug" paradigm to "One Production Line, Many Drugs."

DARPA's vision is to develop pharmaceutical manufacturing technology that can respond rapidly, agilely, and inexpensively to any BW attack – whether with known or unknown pathogens. Here "rapidly" means it can scale up to large volumes quickly; "agilely" means it can produce a wide variety of products equally well; and, "inexpensively" means it can do all this at lower costs than today.

An industrial base with this capability would blunt the effect of any BW attack, and greatly diminish the strategic value of launching such attacks in the first place.

Accelerated Manufacturing of Pharmaceuticals Program

The current platforms for producing large protein biologics, e.g., chicken eggs and Chinese Hamster Ovarian (CHO) cells, tend to be slow, inefficient, and expensive. For example, flu vaccines are typically grown in chicken eggs, and three eggs are required for each vaccine dose. This approach is well understood, has been in use for decades, and is suited to situations where the threat is understood and reasonably predictable, and time is not critical.

But to counter any BW threat, we need to replace these complicated, low-yield processes with very high yield, inexpensive processes that can scale up rapidly for a wide range of products.

There are two interesting but quite different approaches to accelerating manufacturing of drugs.

One way is to develop a facility that can only manufacture drugs but can manufacture many different types and can be configured quickly and efficiently. In the last few years, flexible bioreactors have been developed to produce small amounts of biologics. These bioreactors use portable, low-cost, disposable plastic components connected together to build the production line needed for a given drug or vaccine. DARPA does have a small study determining the efficacy of building a facility which seeks to combine these flexible bioreactors with new technologies to produce large protein biologics at faster and cheaper than today. This study is trying to make a business case for doing so but is not completed.

Another way is adapting the biological organisms now widely used for industrial manufacturing so that they can make highly purified drugs in extremely large quantities. These organisms, like certain bacteria, now make components of food and even laundry detergent. DARPA's Accelerated Manufacturing of Pharmaceuticals (AMP) program is enabling these organisms to rapidly and inexpensively manufacture millions of doses of life-saving vaccines or therapeutic proteins in weeks, instead of the years required today using traditional technologies such as chicken eggs or mammalian cells.

The AMP approach is showing great promise.

Let me describe some of the advanced biologics platforms that DARPA's AMP is pursuing.

First, we are working with both bacteria and fungus. These are currently the best-developed technologies, with considerable industrial experience using them to produce smaller, less complicated proteins.

Bacteria have been used for a while to make smaller proteins, like the industrial enzymes used in laundry detergents. In a few cases, such as insulin production, millions of dollars have been invested to develop bacteria that produce larger proteins.

Large fermenters can use the fungus *Neurospora*, which grows in liquid with long, thread-like cells, to produce bio-enzymes for environmental cleanup, pulp degradation, ethanol production, and boosting the protein content of animal feeds.

DARPA's AMP program wants to extend these approaches and modify these relatively simple and inexpensive organisms to make much more complicated proteins than they can now, and across a wide range of biologics. Under AMP, small quantities of some large complex proteins have been produced, but they are not yet pharmaceutical-grade, i.e., they are not produced under the U.S. Food and Drug Administration's Good Manufacturing Practice (GMP) regulations. For example, bacteria have demonstrated a high yield of 30,000 doses of raw viral vaccine per liter of culture, which would result in a process six times faster than mammalian cell based production.

We can also contrast the power of this new approach with using CHO cells. CHO cells can produce up to 500 milligrams of protein per liter and tend to be very expensive. If we could use

bacteria to produce the same protein, indications are that we could produce more than 20 times more protein per liter at dramatically reduced cost.

Beyond bacteria and fungus, which are the best understood, we are also supporting research into using plants. One example is tobacco, because it is a plant that is extremely well understood since it has been studied for years due to its economic importance. The tobacco is grown under very tightly controlled, sterile, hydroponic conditions. Special bacteria are used to infect the leaves of the plant; the bacteria cause those leaves to produce the protein we want. A hydroponic tobacco growing tray, roughly 10 feet by 10 feet, would yield sufficient protein for at least one million vaccine doses – the equivalent of using three million chicken eggs as a growth medium.

In November 2007, AMP's tobacco-based technology demonstrated the capability to produce within a month over 800,000 doses of crude influenza vaccine that was highly protective in an animal model. Tobacco has also produced an avian flu vaccine that cannot be made using eggs because it kills the eggs.

DARPA's next steps are to demonstrate that vaccines produced this way are as pure and effective as those produced conventionally. The plan is to transition these techniques to the Chemical and Biological Defense Programs' Joint Science and Technology Office for additional research and development.

We are testing these efforts to make sure they have the required speed and agility. Our researchers are preparing to produce protein, but we have not told them which specific protein they will have to produce. This emphasizes our requirement that they be ready to produce a wide variety of biologics on-demand and on short notice.

In our actual Go/No-Go test, they will have only three months to produce the specified protein in the specified quantity. This keeps them all focused on being able to make a wide variety of biologics, in quantity and very quickly.

Some, and perhaps all, of these platforms will fail which is OK. There is no stigma for a Program Manager or performer to fail on a DARPA program as long as they understand why and keep trying.

I am pleased to have had the opportunity to tell you about the exciting, ongoing research in DARPA's AMP program. We are excited about this work and its potential payoff.

We believe that not only will this new technology provide new policy options for how our Nation prepares for biological warfare threats, but it will also act as a deterrent against those who might want to use BW against us since it won't have the desired impact.

SUMMARY STATEMENT OF DR. GALLOWAY

Dr. GALLOWAY. Good morning, Mr. Chairman and distinguished members of the committee. I am honored today to testify before your committee and appreciate the opportunity to describe for you some of the important and innovative work that is being managed by the Defense Threat Reduction Agency (DTRA) on behalf of the Department of Defense's (DoD's) Chemical Defense Biological Program.

I would like to add that I also appreciate the opportunity to appear before you in this panel with two associates, Major General Steve Reeves of the Joint Program Executive Office, with whom we work on a continuing basis, as well as Dr. Tony Tether, the Director of the Defense Advanced Research Projects Agency (DARPA), where we have a continuing collaborative relationship.

DTRA is the joint service agency that has responsibility for consolidating many of those DoD elements that have a role in responding to the threat posed by weapons of mass destruction. This would include, of course, chemical and biological agents.

As the Director of DTRA's Chemical and Biological Technologies Directorate, I am responsible for managing the Science and Technology (S&T) portfolio within the Chemical Biological Defense Program. It is within the context of our close coordination with the Joint Requirements Office for Chemical and Biological Defense as well as the Joint Program Executive Office that our office is sometimes referred to as the Joint Science and Technology Office.

Our overall mission within the S&T effort encompasses both physical as well as medical countermeasures, as General Reeves mentioned earlier. This covers everything from diagnostics to detection to decontamination and so on. But our role is not only to discover and validate technical solutions against the threat of chemical and biological agents but to provide detailed knowledge and information that is going to be required by decisionmakers that may have to deal with any such incident. But my remarks today will principally concentrate on the establishment of a relatively recent program in medical countermeasure development.

The Department of Defense has been increasingly concerned about dealing with the threat of an unknown genetically modified pathogen or other emerging pathogens. It is true that the rapid pace of technological development in genetics and molecular biology has provided unprecedented progress in medical science. It offers much hope. But, at the same time, we recognize the increased potential for our adversaries to develop new weapons.

About 2 years ago, a new program was designed to develop broad spectrum therapeutic countermeasures within the Department of Defense; and I would like to talk a little bit about that this morning. This program has been referred to by General Reeves a moment ago as the Transformational Medical Technology Initiative, or TMTI for short. The long-range goal of this program is to develop an end-to-end integrated capability to respond to and rapidly develop medical countermeasures against an unknown biological threat.

TMTI differs from traditional programs in three ways.

First, its focus is the rapid development of broad spectrum medical countermeasures effective against entire classes of biothreat agents, instead of the usual or customary one drug, one bug approach.

Secondly, it is an unprecedented aggressive consortium of academic, industrial and DoD partners which concentrates and integrates the emerging and best technologies available across the world against a subset of pathogens which has been largely ignored by the pharmaceutical industry. It is the strength of TMTI that it concentrates and bears down with these emerging technologies. The outreach of the program is international. It is significant in scope.

Third, TMTI represents a new paradigm for medical countermeasure development within the Department of Defense, where essentially we are bringing the S&T portion of the effort in line with, from the beginning, the advanced developer in the process in an effort to shorten the overall process of drug development as much as possible. In this context, we worked very closely with General Steve Reeves' organization. We both oversee this process.

At this point in time, I can report that the program has identified at least a dozen potential investigational new drug candidates that are in our current portfolio. Two of these have recently initiated discussions with the FDA. Several of these candidate drugs represent novel approaches in technologies, and all would be significant medical achievements. We are very excited about the program and the potential of these new technologies.

Of course, in order to have an integrated capability for countermeasure development, the manufacturing component is essential. In collaboration with DARPA and the accelerated manufacture of pharmaceuticals (AMP) program, we are presently evaluating five manufacturing technology platforms; and, at this point in time, several of these look quite promising. We are very encouraged by the early results.

I wish to take a moment to point out that we are working very closely with our interagency partners, and this entire effort is a collaborative effort at many levels as we work jointly to protect our Nation and our forces against these types of threats.

Once again, I appreciate the opportunity to meet with the committee; and I look forward to your guidance and support as we work together to protect our military and the Nation against these threats. That concludes my statement.

[The statement of Dr. Galloway follows:]

STATEMENT OF

DR. DARRELL GALLOWAY

DIRECTOR, CHEMICAL AND BIOLOGICAL TECHNOLOGIES

DIRECTORATE,

DEFENSE THREAT REDUCTION AGENCY

BEFORE THE

SUBCOMMITTEE ON DEFENSE

COMMITTEE ON APPROPRIATIONS

UNITED STATES HOUSE OF REPRESENTATIVES

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10th Anniversary 1998 - 2008
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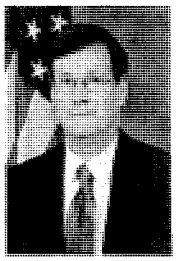
Biography

Dr. Darrell R. Galloway



Dr. Darrell R. Galloway, a member of the Senior Executive Service, is director, Chemical and Biological Technologies directorate, Defense Threat Reduction Agency (DTRA), Fort Belvoir, Va. DTRA safeguards America and its allies from weapons of mass destruction (chemical, biological, radiological, nuclear, and high yield explosives) by providing capabilities to reduce, eliminate, and counter the threat, and mitigate its effects.

As the director of the Chemical and Biological Technologies directorate, he is responsible for the management and integration of all medical and non-medical chemical/biological science and technology efforts within the Chemical and Biological Defense Program.

As an active duty naval officer, directly commissioned into the service in 1980, Galloway worked in the field of vaccine development at the Naval Medical Research Institute. Following four years of service at the research institute, he accepted a tenure track appointment in the Department of Microbiology at The Ohio State University (OSU) in 1984. During his university career, Galloway served as a mentor for 12 doctoral students and taught numerous courses on infectious diseases, immunology and various aspects of molecular and general biology. As a tenured faculty member, he maintained an active research program until his retirement from OSU in 2007.

During his university career, Galloway remained actively involved with Defense Department research programs through his Naval Reserve commitment. Among his other achievements, he organized and established a chemical-biological reserve unit under a unique program at the Office of Naval Research. He retired as a captain in June 2006.

When recalled to active duty in 2001, Galloway served as the deputy of the Navy's Biological Defense Research directorate (BDRD) at the Naval Medical Research Center. In this position, he aligned the chemical-biological unit with the Navy's BDRD. The alignment enabled the Navy to develop a real-time biodetection capability for the fleet during Operation Iraqi Freedom.

In 2003, Galloway was detailed to DTRA where he served as the Medical Pretreatments Capability Program officer (2003-2005) and chief, Medical Science and Technology division (2005-2006). He served as the acting director, Chemical/Biological Technologies directorate, from December 2006 until assuming his current position on Sept. 2, 2007.

Galloway earned his undergraduate degree in microbiology in 1973 and his doctorate in biochemistry from the University of California at Riverside in 1978. He completed postdoctoral studies in immunochemistry at the Scripps Clinic and Research Foundation, La Jolla, Calif., as a National Cancer Institute Fellow in 1980.

In recognition of his scientific contributions to biodefense vaccine development, Dr. Galloway was awarded the Joel M. Dalrymple award in 2004 and the Federal Laboratories Consortium

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award in 2005. In addition, during his career at OSU, he was the recipient of a prestigious National Career Development award from the National Institute of Health. He is presently a member of the National Academy of Science Institute of Medicine Microbial Forum Group and serves as a reviewer for numerous journals and organizations.

April 2008

Introduction

Mr. Chairman and members of the committee, it is an honor to be here today to address the technologies being developed by the Defense Threat Reduction Agency (DTRA) to counter the threat of biological weapons.

DTRA was created in 1998 to consolidate into a single Combat Support Agency those Department of Defense (DoD) elements that had a role in responding to threats posed by weapons of mass destruction (WMD), which encompass chemical, biological, radiological, nuclear, and large-scale high explosive threats capable of mass destruction. DTRA, in partnership with other U.S. Government (USG) organizations, industry, academia, non-governmental organizations, and allies and friendly nations, has expanded the nation's ability to reduce and, where possible, eliminate or minimize WMD threats. DTRA accomplishes its mission through a wide range of activities that span all aspects of the National Strategy to Combat WMD, from non-proliferation, through counterproliferation, to consequence management.

As the Director of DTRA's Chemical and Biological Technologies Directorate, I am responsible for the integration of the Department's Chemical & Biological Defense Program (CBDP) Science and Technology (S&T) portfolio with the broader mission of Combating Weapons of Mass Destruction (CWMD). In that role, my organization explores and develops technologies that can be passed to the Joint Program Executive Office, for further development and fielding to our forces.

Biological Countermeasures

The CBDP explores new capabilities and technologies to counter not only known and existing threats, but novel threats, potentially including genetically engineered biological weapons. This portfolio includes the complete range of means to protect our military forces from the effects of chemical, biological and radiological weapons.

The CBDP S&T strategy is derived from a balanced mix of requirements and innovative insights. In the near term, the CBDP focuses on meeting requirements by

transitioning technologies to programs of record as quickly and efficiently as possible. In the far term, the CBDP focus is increasingly driven by scientific advances and technical innovations with the goal of having countermeasures available when advanced threats emerge.

The development of medical and physical countermeasures against biological weapons requires long-term investment in the pursuit of fundamental scientific knowledge, as well as the development of complex technologies for transition to deployed capabilities. Such developmental work is inherently of a high risk nature, for ideas and approaches that seem promising at the theoretical level, or as implemented in model systems, do not always lead to workable solutions. Transitioning technology from the laboratory to the military operating environment not only takes time, but also requires thoughtful strategies and continuous, rigorous, and disciplined analyses of how, when, and where to expend resources.

Protecting military forces from the effects of biological warfare requires the fielding of detection, protection, and response capabilities. As previously noted, these capabilities may be medical or physical in nature.

Our Detection S&T programs are intended to provide a real-time capability to detect, identify, characterize, quantify, locate, and warn against all known or validated CBRN warfare agent hazards, including Toxic Industrial Materials and nontraditional agents. Related S&T efforts are intended to provide the rapid assimilation of intelligence information, sensor information, and medical surveillance systems and are critical to providing situational awareness and early warning of threats, as well as enabling battlefield commanders to better protect and employ their forces. Related S&T activities address high-performance based modeling and simulation, source term and toxicology, advanced hazard-assessment methodologies, understanding medical effects, interoperability, and battlespace management. Our efforts leverage the full range of DoD and USG high-performance modeling and simulation capabilities.

If WMD agents are used against our forces, we must also have the means for decontaminating personnel and equipment so that operations can proceed with reduced

hazard to forces. Decontamination S&T efforts include advanced understanding of process fundamentals, solution chemistry, solid phase decontamination, and alternative processes by which the risks from residual contamination can be reduced.

In the area of Protection S&T, the goal is the fielding of equipment that provides life sustainment and continued operational capability in a contaminated environment by preventing or reducing individual and collective exposures, and by protecting critical equipment.

Individual protection programs develop new ensembles to be worn by the individual warfighter to provide protection against CB agents. Protective masks with reduced respiratory stress, improved protection, compatibility with weapon sighting systems, and reduced weight and cost are being developed. Respiratory protection projects focuse primarily on air purification technologies, as well as materials technologies for mask lenses and face pieces. Protective gloves are being developed that will have greater durability, tactility, and dexterity and that are flame resistant. Protective footwear will provide equal or increased durability while greatly reducing weight and volume. Percutaneous protection technology mainly focuses on the development of materials such as engineered permeable materials that include semipermeable membranes, sorbentloaded semipermeable membranes, nanobarrier materials, and reactive materials.

Collective protection programs develop systems that provide shelters, buildings, and platforms (vehicles, vessels, and aircraft) with a toxic-free environment to support mission continuity without impacting the operations tempo. Air purification technology projects seek temporary and permanent air purification solutions for transportable and fixed-site applications. Advanced vapor separation technologies, advanced aerosol/particulate separation technologies, and filter residual life indicators are being investigated to enhance the performance of both single-pass and regenerable air purification systems. Shelter technology mainly focuses on the development of materials such as engineered permeable materials, impermeable materials, and material treatments. Supporting technologies are being investigated to advance environmental control units,

motor blower units, structural components, and test methodology. Technology improvements are being pursued to reduce power requirements and improve filtration capacity against current and future hazards, with the goal to reduce weight, volume, and cost.

Biological Medical Protection

Along with individual and collective protection, medical systems form the third component of protection from WMD. Medical systems include all pharmaceuticals, biologics, and devices that preserve combat effectiveness by timely identification, diagnosis, and provision of medical countermeasures in response to Joint Service Chemical, Biological, Radiological, and Nuclear (CBRN) defense requirements. My remarks will focus upon biological medical protection.

First, we seek to develop countermeasures which provide both specific and broad-spectrum protection to warfighters prior to their exposure to biological agents. Robust and broadly effective pretreatments are essential components in the layered, system-of-systems approach to force health protection, conserving warfighter operational flexibility, and reducing the logistical burdens of sustaining forces in biological environments. Research in this area explores technologies and validates the effectiveness of candidate vaccine platforms which include the use of engineered viruses, recombinant or fusion proteins, genetic vaccines, and new adjuvants that will be applicable to development of next-generation multiagent biodefense vaccines. The development of "molecular vaccines" as a vaccine platform would permit insertion of new immunogenic cassettes, facilitating rapid development of vaccines effective against new threat agents, such as genetically engineered threats or emerging infectious diseases. Efforts in molecular immunology seek to understand at the molecular level the events that induce and maintain rapid and effective protective immunity, and to exploit that understanding in the rational design of the next-generation biodefense vaccines. Additionally, results from this research may permit augmentation or enhancement of innate immunity, which could provide nonspecific and broad-spectrum protection against biothreat agents.

The next category of countermeasures, therapeutics, are intended to be administered after exposure to a biological agent, to mitigate or curtail the effects of that exposure and sustain forces operating in the hazard area. To meet this requirement, medical research and development is directly tied to warfighter capability requirements. Categories of threat agents addressed in this capability area include viruses, bacteria, toxins, and genetically modified biological agents. Increased emphasis is being placed on technologies and approaches leading to next-generation biodefense therapeutics, including treatments and pharmaceuticals effective against specific agents and broad spectrum therapeutics effective against entire classes of biological or chemical agents. All subareas within the therapeutics capability area depend on the development of validated animal models and surrogate indicators of human efficacy, which would provide a basis for approval by the Food and Drug Administration (FDA).

Finally, early, sensitive, and specific diagnostic testing is an essential means to determine the appropriate treatment for warfighters exposed to biological agents. Diagnostics research is focused on developing assays and evaluating technologies that meet FDA standards for clinical testing. Specifically, the goal is to employ FDA-approved systems to identify and confirm individual exposure to BW agents as soon as possible after exposure, and ideally before symptoms develop, to allow early initiation of the appropriate countermeasure and rapid return to duty. New and existing technologies are being investigated in order to discover, identify, and monitor biomarkers of infection and/or exposure. An increasing emphasis is being placed on the development of presymptomatic diagnosis. Diagnostics research is tied directly to warfighter requirements and is developed with the end-user in mind. Fielded systems should be easy to operate, inexpensive to use and sustain, and highly specific and sensitive. Research in this capability area supports diagnostic systems used in the military reference laboratories, deployable medical facilities, and on the battlefield.

The medical countermeasure program is primarily oriented toward biological threat agents that are already relatively well understood and believed to be suitable for potential use by states or terrorists as biological weapons. However, we know that we

need to prepare for more advanced bio threats in the future, and we have a critical program underway to meet these threats.

Transformational Medical Technologies Initiative (TMTI)

During the 2006 Quadrennial Defense Review, the Department recognized the serious threat posed by rapidly advancing biotechnology that will enable the production of novel or genetically engineered pathogens. In response, the Department initiated a potentially "game-changing" approach to how the Department would develop medical countermeasures against an unknown or emerging agent, known as the Transformational Medical Technologies Initiative (TMTI).

The purpose of this effort is first to develop broad-spectrum therapeutic countermeasures to protect the warfighter from conventional or genetically engineered biological threats, known or emergent. The technologies to be validated have been initially applied to two categories of disease that are particularly hard to treat, viral hemorrhagic fevers, such as Ebola, and intracellular bacterial pathogens, such as tularemia. Rather than just a few more drugs for our doctors' kitbags, the ultimate goal of this initiative is to develop, demonstrate, integrate and implement an enduring capability to rapidly identify and characterize any emerging, genetically engineered or unknown threat agent and develop a medical countermeasure against it. The use of novel technology platforms and an innovative management approach to achieve seamless integration between drug discovery and development are integral to the acceleration of countermeasure development.

More specifically, TMTI will accelerate the development of new medicines by establishing alliances with academia, the pharmaceutical and biotechnology industries, and government laboratories through which promising enabling platform technologies, as well as potential drug candidates, will be identified and incorporated into the program. Our current portfolio of projects spans the platform technology areas of genomics and bioinformatics, target discovery, drug discovery, test and evaluation, development of animal models and manufacturing. Taken together, these platform technologies,

integrated by a systems biology approach, form the basis of an end-to-end capability to rapidly identify, develop and manufacture novel medical countermeasures. Although the initial TMTI therapeutic development program addresses warfighter requirements to counter hemorrhagic viruses and intracellular bacteria, technology platforms will have the capability to identify any novel or genetically modified biological agent, and to facilitate the rapid preparation and manufacture of therapeutic products. This system of systems approach will also provide the capability to rapidly respond to a given bio-incident by providing key genetic identification and characterization of an unknown agent which would be essential in any course of action, including potential retribution.

Directed development through targeted solicitations has been initiated to broaden the scope of therapies for consideration. Additionally, the development of new indications for drugs currently approved by FDA, and the selection of drug candidates that are already in an advanced stage of development, may significantly reduce the time needed for FDA approval.

Together with Major General Reeves we have established a joint program office to oversee and integrate the ongoing execution of the projects under the TMTI. One of the transformational aspects of this program is the integration between the basic discovery research and advanced development efforts from the beginning of any given project. This assures the early anticipation and resolution of the multiple challenges involved not only in drug discovery, but in manufacturing and regulatory issues, which are also significant challenges.

We have also established stronger relationships with potential performers and are seeing a much larger response on their part. To date, more than 35 projects/contracts have been initiated, with a dozen candidate drug compounds identified so far. These are all contracted to progress to Investigational New Drug (IND) submission to FDA and, absent FDA notification otherwise, would subsequently be able to enter clinical trials by the end of 2011. Significantly, some of these IND candidates represent novel, broad spectrum drugs which will be revolutionary in medical countermeasure development and constitute a significant advance in medical science. A significant percentage of these

candidates are expected to prove successful. However, not all of the current projects will result in a final FDA-approved drug. Importantly, the integrated capability which allows the selective application of different platform technologies against desired threat agent targets will assure the continuous identification and development of new drug candidates. Thus, the program, assuming stable funding, will guarantee a continuous supply of new drug candidates in a timely, regular fashion and have broad application to all aspects of medical countermeasure development, including therapeutics, vaccines and diagnostics. In combination, this effort will provide the best overall approach to countering any emergent bio-agent threats.

With regard to a complete and integrated capability for the development of medical countermeasures, the manufacturing element is the essential culminating component. We are closely monitoring the technologies being developed and demonstrated by DARPA under their Accelerated Manufacture of Pharmaceuticals Program, and approaches to medical countermeasures research and development at the Department of Health and Human Services National Institute of Allergies and Infectious Diseases and the Biomedical Advanced Research and Development Authority. We are making plans to take the most successful of those candidates into further, scale-up demonstration of their potential to comprise an enduring, responsive capability to produce the novel countermeasures that may be necessary in the face of a never-before-seen biological threat.

Conclusion

Mr. Chairman and Members of the subcommittee, we witness daily the significant advances in the biotechnology arena that offer tremendous potential for significant new medical capabilities. The Department believes that these technologies present unprecedented opportunity for potential state or terrorist adversaries to develop biological threats not found in nature, and for which our conventionally developed countermeasures may be useless. If our military force, or our nation, is presented with an attack using such genetically engineered pathogens, it is essential that we have a capability to respond.

Such a capability will require us to work closely with our interagency partners, and to assemble the integrated end-to-end means to move from recognition of an event to production of drugs on a timescale much shorter than has traditionally been possible

I believe that we have assembled a sound, balanced portfolio of medical countermeasure science and technology, one that continues to close down remaining known gaps, and that sets a path towards countering unknowns that are probably inevitably in our future. I urge your support for this effort and our budget request.

I look forward to working with the subcommittee to reduce the threat that biological warfare and terrorism pose to our nation, and I would be pleased to take your questions.

VACCINE PRODUCTION RATE

Mr. MURTHA. Let me say I am impressed by the direction we are going. As I understand it, there is over $2 billion authorized for this program. I think we need to know if there is anything we can do to speed up the programs, anything this subcommittee can do.

Now, one of the things I asked General Reeves, they were slow in obligating money from either DTRA or DARPA, but he thinks there was too much money maybe available initially and there weren't enough plans. It sounds like you have got a good plan, a public/private plan, and it sounds like the public is deeply involved in this and HHS is deeply involved in it.

Of course, the Defense Department is a very small proportion of the vaccines we need. But I always found the Department of Defense is ahead of the game, or at least tries to get ahead of the game, and could produce much faster than the other agencies in some cases.

But tell us what the real threat is and what we see as the goal. What are we trying to do here? I know what the threat is, but how do we alleviate the threat? How to reduce the threat?

Mr. TETHER. Well, I mean, I believe we can find the technique. We are learning very—I think we have learned a lot on if a new drug—a new bug comes along, to be able to discover what kind of vaccine or therapeutic can be used against it. We have gotten that part down. They used to take a long time, but I think we now know how they do that.

Mr. MURTHA. Give us an idea what you mean by a long time.

Mr. TETHER. It used to be, actually, years.

Mr. MURTHA. Years?

Mr. TETHER. Yeah, years. If a new bug came out, to actually find a vaccine against, it would take years. We believe we now have that down to possibly weeks.

Mr. MURTHA. So if you had a flu epidemic similar to what happened in 1918 where 20 million people died, what would be the result of your work that you have done so far?

Mr. TETHER. Well, we could probably learn what the vaccine was against that flu very quickly, but there is still the problem, and the real problem is—we have got that part of the problem I think well in hand or at least in hand. People may disagree how well we have it in hand.

But after you have it, this manufacturing, in the quantities to get it to the people—I mean, we are talking about not just getting the one or two doses of the vaccine. We are talking about getting millions and millions of doses of vaccine. And that is the issue right now.

Mr. MURTHA. Now, how do we help you solve that problem?

Mr. TETHER. Well, I guess, you know, we are trying hard. We have talked about techniques that we are looking at.

Mr. MURTHA. Is there anything we can do money-wise to help the situation?

What I am asking is, there is plenty of money authorized; and it sounds like money is not obligated, because you at this point haven't come to a conclusion that they can spend it appropriately. And I agree with that. We shouldn't be just throwing money at the

problem. But is there anything we can do to help you reduce the time it takes to get these manufacturing installations up and running?

Mr. TETHER. From my viewpoint, I think we are more idea starved than we are money starved. I mean, we are funding every idea that we can find. I mean, we are not funding people with—we are funding everything that we can think of funding.

The only time from our viewpoint, DARPA's viewpoint, that I am not sure how to solve it is when you get into this business you end up having to go into animal and human testing; and that means you have to go and create internal review boards, independent review boards. And that takes time.

Now, even after that, because of the way we contract, say, through the Army, when we go to them, it even takes more time for them to look at what comes out to end up with the contract. And sometimes we have had examples where it can take as long as 6 months to a year after we at DARPA have approved the work to go on because of this process.

Now, the process is there for a good reason. It is to avoid abuse, if you will, of people. So the reason for the process is good.

I won't speak for General Reeves. Maybe he just needs more people to help him.

Mr. MURTHA. Here is what we are trying to get at. If it takes you a year and you have an epidemic, obviously, it is too late. What we are trying to decide is, is there an amount of money that we could help the Department with that they could speed up the process and be prepared to produce the vaccines in a timely manner?

For instance, I hear what you are saying. I like the concept. But what can we do to help? Is it just we can't do anything until the ideas come forward?

Mr. TETHER. Unfortunately, I think that is correct. I mean, I know it is frustrating. It is frustrating for us.

Mr. MURTHA. No. Well, I understand. DARPA has been in the forefront in trying to fund these programs.

What do you think, General Reeves?

General REEVES. Sir, I would tell you, as it stands today, the various options that are on the table are in policy review; and the funding options are being looked at. There certainly is, in my view, benefit in going forward rapidly with a business case analysis and an analysis of alternatives to look at how do we meet the manufacturing and surge requirements. And given the potential multibillion dollar size of any kind of facility, I think it is appropriate that we do the up-front work first to assure ourselves that we are proceeding down the correct path.

Mr. MURTHA. Mr. Young.

INTERAGENCY COLLABORATION

Mr. YOUNG. Thank you, Mr. Chairman.

Dr. Galloway, you mentioned just briefly the collaboration with other entities to work on this very serious issue, and I assume that you are talking about maybe the Department of Homeland Security? Health and Human Services? Are you working with them at all?

Dr. GALLOWAY. Yes, sir. We are working with DHHS most certainly, Department of Homeland Security. We talk with the Food and Drug Administration (FDA). We are meeting with the folks at the Biomedical Advanced Research and Development Authority (BARDA). We have occasionally met with the folks from the Centers for Disease Control (CDC). So we have a pretty good cross-section of representation across the different Federal agencies on this effort.

Mr. YOUNG. Is there an established working group or a coordinating group or is it loosely structured? Or is it structured?

Dr. GALLOWAY. There is some structure to it. I have a number of the key individuals from those organizations that serve on various review boards and selection groups from our organization. They have a very good view and knowledge of what we are doing and how we are approaching it. We do meet on a regular basis with all of those organizations; and, if anything, I would characterize the situation as the level of conversation and collaboration is increasing.

Mr. YOUNG. Let me ask you about some of the entities that you did not mention.

For example, after some of the terrorist attacks leading up to September 11, 2001, the University of South Florida established a center for studying biological threats and the response to biological threats; and they have an ongoing program. And I would expect that a lot of other universities or research organizations are doing the same thing. Are you coordinating with them?

Dr. GALLOWAY. Yes, sir. We actually interface with a number of particular academic organizations that do have programs. So our office does communicate with those. There are some congressional funds that have found their way to these projects. So we do coordinate that. We are familiar with those. Yes, sir.

Mr. YOUNG. Well, I think that is a very good idea. Because I, frankly, have observed the program at the University of South Florida; and I am really impressed with how far they have come. And if you haven't been to visit their center there, I would highly recommend that you do that, because I think they have a lot to teach us.

Dr. GALLOWAY. I have heard quite positive things. I have not been there personally, but I know that they do communicate with our staff. We are aware of their efforts.

Mr. YOUNG. Well, I want to echo what the chairman said. Whatever we can do to help on this issue, because it is important to our troops in the field from a military or a terrorist standpoint. It is important to us at home because we know that terrorists have been trying to develop the ability to use biological warfare against us, whether it is in a place like the Capitol of the United States or whether it is on a street someplace or what it might be. So what you are doing is very, very important; and we want to be there to help any way we can.

And, Mr. Chairman, thank you very much.

TIMELINESS OF VACCINES

Mr. MURTHA. I want to go back to the amount of time it takes before something breaks out and the time it takes to get to the vac-

cine that would protect people. What are we talking about? Is it a year? Is that what I heard you say?

Mr. TETHER. It used to be.

Mr. MURTHA. Now it is how long?

Mr. TETHER. Weeks.

Mr. MURTHA. Take Type A flu.

Mr. TETHER. I don't know. I would guess that we could probably come up with a vaccine—what would you say?

General REEVES. Sir, the answer very much depends on whether or not it is a known bacteria or virus. If we have——

Mr. DICKS. I am having a hard time hearing you.

General REEVES. I beg your pardon. It very much depends on whether it is a known threat. In other words, if it is an outbreak of a disease for which we already have developed a vaccine or a therapeutic, then that is a much shorter transition time than if it is an emerging threat that has been genetically modified or has mutated in nature, which takes a rather considerable amount of time not only to identify but then to turn around and develop the manufacturing processes and the delivery mechanisms to provide countermeasures.

Mr. MURTHA. We have a facility that does research and then translates that into the manufacturing. Do we have that process in place at this point?

Mr. TETHER. We most certainly have a program to do just that; and, as I was saying, we worked hard on the front part of finding the vaccine. And we do believe that—especially we know what the bug is, to come up with that. It is after that, after you know what the vaccine is, is to then be able to make it in quantity that seems to be the remaining major issue.

Mr. MURTHA. Is that where you have the private manufacturer in place?

Mr. TETHER. Correct. That is the program we were talking about, advanced manufacturing of pharmaceutical, where we have two studies going on. Well, one is a study to take existing new capability to create a facility and the other is to look at other more novel techniques of being able to make things fast, like using bacteria to infect tobacco, as an example.

Mr. MURTHA. Well, we are still—the possibility was not having the correct vaccine for over a year? I mean, is that a distinct possibility?

Mr. TETHER. That is a distinct possibility, depending upon if the bug is brand new and we have never seen it before, it will take us a while to figure it out. But that is short compared to the amount of time to make it. I want to really——

Mr. MURTHA. I understand what you are saying.

Let me say how I got involved. Joe McDade, who used to be on this committee and in Congress for 35 years—he is here. He 2 or 3 years ago mentioned this to me, and we have not had a chance to have a hearing until now.

But you have got to find a way to tell us how you can help to reduce the time it takes to produce the vaccine when we have a real threat nationwide or worldwide. Because I am worried we manufacture much of this vaccine overseas and they won't sell it to us because they are going to have a threat themselves. We need

some guidance from HHS, which is going to be the second panel, or you folks about what we can do in order to speed up the process.

Mr. Dicks.

EVOLUTION OF DIFFERENT VACCINE TYPES

Mr. DICKS. Dr. Tether, maybe you can help us. There was a process where the Department of Homeland Security was supposed to go over to HHS to develop certain packages or programs to deal with these issues, and that thing kind of broke down. At least it did a couple of years ago. Has that changed now?

Mr. TETHER. You know, Mr. Dicks, I really don't know. I think you really need to ask the second panel.

Mr. DICKS. The second panel. You are not aware of that?

Mr. TETHER. No, I am not.

Mr. DICKS. So when you were talking about developing these vaccines, the manufacturing is the problem, right? What you are saying is we can develop the vaccines, especially if we have previously identified this flu?

Mr. TETHER. Correct.

Mr. DICKS. But then the problem is getting it manufactured?

Mr. TETHER. That is correct.

Mr. DICKS. And a lot of the companies have come in with innovative ideas. That is where DARPA is supposed to be the lead in trying to develop new approaches to this. Are we getting many innovative ideas from the private sector on these issues?

Mr. TETHER. Oh, yes. In fact, Darrell spoke of some.

Dr. GALLOWAY. Certainly. I will be happy to give you some thoughts on that.

At this point in time, we have been receiving a very robust response from the industrial sector and the academic sectors. We are presently engaged in some projects that are extremely innovative and novel and that show absolutely a stunning process. Key among these type of technologies are high-throughput robotic systems that allow us to literally produce large numbers of possibilities and screen them rapidly. With the benefit of the rapid pace in the areas of genomics and bioinformatics, we are seeing approaches in testing evaluation as well as 'de noro' drug development that are really unprecedented. A lot of good ideas are out there, and we are seeing these.

In fact, to come back to a question raised earlier, how could the committee help, right now, we have a number of very promising projects in the queue that we would like to engage. An issue for us in this program is just stable funding. Just simply put, we really are going to be able to deliver on the identification of a number of what we call IND candidates, investigational new drug candidates. The issue will be being able to follow all the way through to see that they get through clinical trials and so on. But the portfolio is very good right now.

Mr. MURTHA. Let me interrupt and just mention what the staff mentioned to me before we started that we have taken money out of this program because it wasn't obligated. You need to tell us. You need to come to the committee staff and tell them, look, we have got things going.

I agree with you. Stable funding is a key. But when we have all these different people coming to see us from the Defense Department, you need to tell us that, okay, if you take money, here is what happens. So we are aware of it now, and you need to make the staff aware of the problems.

Mr. DICKS. Are the people coming in—we have a company out in Seattle that is talking about developing a pre-vaccine. Would that be useful?

Dr. GALLOWAY. Absolutely. What we are finding is that a lot of the innovation that is out there are in these small biotech companies. They are quite hungry, but they are extremely sharp. They have some extremely promising technologies.

But I would like to add, and I think it is a significant point, that we have actually managed to bring two of the big pharma corporations into our portfolio. That is Novartis and GlaxoSmithKline. That is a significant achievement within the Department of Defense programs. Big pharma is showing increased interest in what we are doing. They are watching very closely; and, in fact, in some respects they are a bit of a challenge. Because in a couple of cases they bought up a couple of these small companies we have been dealing with, and then suddenly they are gone. So we must be doing something right if big pharma is paying this much attention.

Mr. DICKS. Thank you, Mr. Chairman.

Mr. MURTHA. Mr. Lewis.

VACCINE MANUFACTURING CAPACITY

Mr. LEWIS. Thank you, Mr. Chairman.

Tony, you and I got to know each other about the time that Joe McDade was most active in the defense arena. And over the years, I have watched DARPA with great care; and I must say I am very, very impressed with the help they give the Department of Defense in a variety of mixed ways.

This issue I have never heard discussed in our committee before. But a little over a couple of years ago, when I happened for a short time to be the chairman of the full committee, I began spending time in other subcommittees where I never served, including HHS.

The testimony from CDC relative to avian flu really got my attention. Judy Gerberding is a fabulous person, but the information she provided about our inability to respond if there was an avian flu that metastasized and suddenly affected human beings and began to move—the amount of time it might take to get an effective vaccine was one thing, and that was really serious at the time. A reduction in the time to identify the vaccine is encouraging, I must say, but manufacturing at any volume is way beyond our capacity.

Dr. Gerberding suggested to me that we probably would be dependent upon France if the avian flu started moving in that direction; And if it started moving in Europe, they sure as hell wouldn't be sharing it with us very fast. And it seems to me that it is a serious, serious priority there. I don't know about the rest of the country.

I hear from Mr. Dicks for the first time that there is a small company up in Washington that is working on this, and Florida has people working on it as well. I thought all of the pharmaceutical

companies in the world existed in New Jersey and not anywhere else. But, as a matter of fact, I will bet you——

Mr. ROTHMAN. Where they belong.

Mr. LEWIS. I would bet you that those companies do have considerable interest in this subject area. And we are way beyond the point we can wait. It has been 2½ years since we had that conversation in HHS, and we have not made any serious progress in terms of manufacturing capacity, let alone have any knowledge of our decreasing time to identify what kind of vaccine would be needed.

Norm, we can get the vaccine quickly to take care of your throat. It is these other problems that really, really could be serious. If we have the need to respond to hundreds of millions of doses, for example, because of an outbreak that is the result of some overaction on the part of our enemies, we have got to have capacity.

So tell me what we are doing in terms of that capacity. I think it is nuts for us not to be talking to CDC, to be talking to big pharma, the small guys around.

I am not surprised. Dr. Galloway said that big pharma is even buying up some of these companies. When we are dealing with major problems in the Department of Defense, we always had the ability to find small companies innovating, coming up with great ideas to help us solve big problems. And what happens? Big companies buy them up, and maybe the project goes forward, and maybe it doesn't.

So I, frankly, want to see us reaching to small companies, the universities around the country. This should be a very, very serious—not just defense challenge. And there are other budgets besides the defense budget to do this, and your advice and counsel about that would be helpful as well.

Mr. TETHER. As I said, Congressman Lewis, we have all been working hard on the first part, find the vaccine; and little companies and all that are very good at that.

Now let's say you found the vaccine. I don't want you all to think we have that problem licked, by the way. Don't go thinking there might be money there. Because we are still working hard on that. It is coming up with the vaccine against something you haven't seen that is going to take a long time. But after you have it, making it in the millions and millions of doses that are needed is really a major issue; and little companies aren't geared up to do that. They are geared up to come up with the vaccine, but then it goes to the next step of how you are going to make it.

Mr. LEWIS. Tony, it has been 2½ years ago since we identified that problem. We said we have to be doing something about that. But nothing is done that I know of that involves our increasing or providing incentive to develop manufacturing and the ability that involves millions of production very quickly.

Mr. TETHER. We at DARPA have really turned towards that problem and the program that we talked about earlier, AMP, that was also mentioned by Darrell. We really went out and looked for the craziest ideas we could think of.

For example—this didn't work out by the way, but it was a neat idea at the time—if you look at the way Tide is made, Tide has these huge fermenters where they actually use bacteria that comes

up with the stuff that eats your dirt. And we thought that is the issue. What if we could take that big fermenter and have them make Tide on Mondays, Tuesdays, Wednesdays and Thursdays and then on Fridays they make vaccine. If we could have made that work, then we would have had an industrial capability that there was for another purpose and is sort of like a craft. Like we have on aircraft, where we buy from the airlines, you know, the ability to go take their planes. Then we could take over that plant.

So we had been looking at these ideas trying to look at current industrial capability to see if we could take that current industrial capability and then use it to make in quantities these drugs and vaccines that have been discovered through other processes. Some of it hasn't worked.

This tobacco thing looks really exciting. Who would have thought that you take tobacco and you infect it with a bacteria to make a protein and then that protein obviously is what is your vaccine. Who would have thought that?

I mean, these are—now, to get this through the FDA processes is still some time. But those are the kinds of things that we have been looking at to try to overcome this.

On the other hand, we can go and put together a facility. This study that we have ongoing is we could put together a facility, but then it becomes a government-owned facility. It is not useful for anything else. It is unfortunate. We could make it useful for maybe making commercial drugs. But, short of that, you end up with a facility that could satisfy this surge problem, but——

Mr. MURTHA. Here is what we are trying to do. We are trying to help you reduce the time that Mr. Lewis found 2½ years ago. You have looked at all these things. There has been no major disaster happen in the meantime. We want to help figure out a way to reduce—you are doing the research. That takes time. But we have got to have a process where we manufacture the vaccine once we discover it. And I think the ideas are one thing, but we have to come up with a way to do it now.

As I understand it, the civilian side, the drug companies are willing to put money into this as long as we buy the product. And I think that is the key, isn't it, to buy the product?

Mr. TETHER. They do need a market; and that would, I think—BioShield tried to do that.

Mr. MURTHA. When you say a government—ammunition product—we used to do ammunition plants, all kinds of things we used to own and we have sold them off since that time, most of them.

But the point is, I don't know how much time we have. But we have been 2½ years, and we are still not there, and if a flu epidemic broke out we would have to depend on somebody else to produce the damn stuff.

Mr. TETHER. Yep. That's not a good situation to be in.

General REEVES. Let me suggest one model that we looked at which is potentially private which is the public/private relationship. As you suggested, it involves private enterprise investing in the model. But in the larger sense there is a trend in the pharmaceutical manufacturing industry, something called contract manufacturing operations; and these are stand-alone facilities whose sole function is to take developed technology and put it into full-scale

manufacturing and then ultimately do what is known as fill and finish, put the bulk content into a vial or some usable way of giving it to an individual. That kind of a model, I believe, has a great deal of potential for the future for both HHS as well as the Department of Defense.

Mr. MURTHA. We talked about you have to work with the staff, telling them how you are going to do this, what we need to do to help. There is plenty of money authorized. And what Dr. Galloway says is, you know, you need a stable program. Well, you have got to tell us what that stable program is and how much money it would take so we have some idea of how we solve his problem. We want to help.

Mr. DICKS. Would the chairman yield just briefly?

Mr. MURTHA. Sure.

Mr. DICKS. Isn't it true that BioShield has been a flop? Isn't that basically true? I mean, the first one they did was Vac-Gen. It was $800 million for anthrax, and they came up with nothing.

That is what I was talking about earlier. When you have this relationship between the Department of Homeland Security, when they are supposed to be doing threat assessments on these various possibilities and then HHS doesn't do anything. That is what we were told at the Homeland Security Committee. I think maybe the next panel has to answer this. Unless somebody here knows about it. Isn't it true that BioShield, after we spent billions, has produced almost nothing?

Mr. TETHER. Anybody want to answer that?

Next question.

Mr. DICKS. I think I know what the answer is. That is why we are worried about this, Mr. Chairman.

Mr. MURTHA. We want to move this thing. So you have got to tell us what you need in order to move it.

Mr. Visclosky.

Mr. VISCLOSKY. I am fine, Mr. Chairman.

Mr. MURTHA. Mr. Moran.

INTERAGENCY COORDINATION

Mr. MORAN. Thanks, Mr. Chairman. Thanks for having this hearing. It is great to hear people who are thinking out of the box. This is the kind of area where we need a lot of that thinking.

And particularly DARPA, it is wonderful things you are coming up with in this area, but in so many others. Getting the brainwaves to be able to move prosthetic devices, that is the kind of stuff that DARPA came up with. It is terrific. So, Tony, you are doing a great job; and it is good to see you with your colleagues.

And it is not surprising our friend, Mr. McDade, urged that we have this kind of hearing. So I know—thank you. It is just that I talk so loud. I don't want to be obnoxious here, you know. I don't want to—thank you, Mr. Dicks. You are my mentor.

Now, let me ask you about at Virginia Tech; and this goes to DTRA, particularly. They developed this very substantial computer model because they understand that, if you were to have a natural disaster or terrorist event, one of the things you have got to figure out is how do people behave, how do they react in large population centers?

For example, if there is a dirty bomb, what happens with the transportation infrastructure that is available? You know, what do stores do, commercial enterprises, social institutions and so on? And DTRA is figuring this out so that we are prepared, not just with the people we have direct control over but large population centers.

But my question is, when we get this kind of information, are we coordinating with the Department of Homeland Security? Because it is really a Homeland Security matter more than Defense. You know, our military can't really intervene and organize things and direct things and so on. It is going to have to be the local responders, police, fire, EMT and the like. They need to have the benefit of this information. So how are we transferring this information, Dr. Galloway, to the people on the ground that are the first ones that are going to be asked to respond?

Dr. GALLOWAY. Well, in this particular case, I am aware that DTRA is involved in a project down there, but it is one of those areas that doesn't happen to be in my lane, that I can't really give you—so I will take it on the record and see to it that you get an answer.

Mr. MORAN. Good.

[The information follows:]

The Defense Threat Reduction Agency's (DTRA) Comprehensive National Incident Management System (CNIMS) is designed to create a "simfrastructure," or simulated infrastructure, which can be used to model the effects of a pandemic incident on a population. The model mimics human interaction, allowing for the use of numerous variables such as treatment or quarantine options. The study affects overall response planning and emergency preparedness, because analysts can then examine how the disease spread throughout the simulation. In short, CNIMS provides leaders in the United States military with essential operational information about the populations that may be affected by a possible crisis, such as an influenza epidemic.

This prototype application provides previously unavailable detail and performance in scalable agent-based epidemiological models that will be used by DoD planners and policy makers for analysis of optimal responses to a crisis situation.

Thus far, studies have been run on Alabama's National Guard, Fort Lewis, Washington, and Fort Hood, Texas. In response to a Combatant Command request, DTRA analysts are planning to conduct studies of major metropolitan areas in the United States. These studies will result in more detailed contingency plans in specific locations and greater understanding on the impact of the resident military populations.

The understanding of the phenomenology underlying pandemics and other catastrophic events, natural and man-made, will be fundamentally improved by the use of high-performance computing-based decision and policy informatics. Our intent is to make this advanced capability directly available to subject matter experts and decision makers—providing for greater situational awareness and higher fidelity course-of-action analysis/development and is a key part of our on-going commitment to develop the best possible tools needed for crisis management at the national level.

A comprehensive and unified national response to such an event would require the sharing of situational awareness and the full mobilization of national and international expertise and capabilities. DTRA's relationship with USNORTHCOM is the liaison to the Department of Homeland Security (which includes the United States Coast Guard, the Federal Emergency Management Agency, the Transportation Security Administration and Customs and Border Protection) and our linkage to ensure effective interagency synchronization across the USG. Additionally DTRA has entered into a Interagency Agreement with the Department of Health and Human Services (HHS). This is in support of the HHS modeling hub and it extends DTRA capabilities to provide onsite HHS support for CBRNE exercises, operations and overall coordination.

Further development of CNIMS technology will support the analysis of a range of problems such as urban evacuation, epidemiological events, population risk-exposure estimation, logistical planning, site evacuations, interdependent infrastructure failures and nuclear, chemical, biological and radiological threats.

BEHAVIORAL ANALYSIS MODELING

Mr. MORAN. That is a principal concern. Because we have the money and the chairman makes clear—he is probably the only chairman of all of the Appropriation Committees that actually ask witnesses how much money do you need. It is because he is the only one that can produce any money. Everybody else, we are lucky if we can stay on a continual resolution, even Interior. So we are developing things in Defense that are really needed in other areas of governmental responsibility.

I wonder if Dr. Tether or General Reeves have any comment about this. If there is a biological warfare attack, have we studied what is the likely reaction of large population centers and how we deal with them? And if we do have this kind of information, how are you transferring it to the local responders?

General REEVES. Sir, I can answer the first half of your question.

The program you referred to that is working with DTRA also works with the Department of Defense model called the joint effects model. And we in fact work very closely with DTRA in leveraging that research so that we can provide our commanders in the field the various modeling and analysis tools that are necessary.

Now, that model is designed for tactical forces and forces that might be operating in urban environments. To date, we have not transitioned that to any first responders. So the answer to your second question or the second half of your question would be we haven't done anything.

SMALL BIOTECH COMPANY INNOVATION

Mr. MORAN. Okay. Well, I mean, I prefer that you be honest about it. But you understand it is something that you are going to have to deal with at some point. We have got to transfer that information.

One of the things that concerns me, we have been talking about big pharma; and that in and of itself is a problem, because some of the best ideas can come from these small biotech firms, you know, a handful of really bright people who really don't want to work for some large corporation. You know, they come out of MIT or any number of institutions and they come up with great ideas, but it is almost impossible to start up any kind of drug firm today. The huge sums of investment capital that are needed, it makes it really prohibitive for small biotech firms to get into the production of vaccines or other preventive measures. And, as you suggested, you come up with a great idea, Novartis or somebody is going to buy you up and then you are gone.

But I am afraid that, because we rely almost exclusively on these large institutional corporations, a lot of the best ideas don't make it. And one of the things DARPA I know does, you develop these things and then you try to spin them off, get some commercial off-the-shelf technology out there, but it is so difficult to come up with investment capital to get it going.

Can you address that at all? Or should it be a concern?

Dr. GALLOWAY. It is a concern. A couple of thoughts that come to mind are that you are correct, that, by and large, the biotech in-

dustry has got a lot of ideas, a lot of innovation, but most of them probably never figure to get to the manufacturing stage. They are just not set up for that scale of things and probably have a strategy that thinks along the lines of being either bought out or getting to that bridge if and when they ever reach it.

The manufacturing capability and the experience certainly lies principally in some of the big pharmaceutical operations or some of the organizations set up just for manufacturing. However, it is also true that there is incentive, for example, in the program where we are investigating broad spectrum therapeutics, the development of and the identification of such measures.

You know, a lot of these things are all driven by a marketing and profit motive, if you will. There has to be incentive for these companies to take on projects of this magnitude. But in the development of broad spectrum therapeutics, there could be a lot of incentive. We think this is one of the reasons why a lot of these companies are looking at us.

Because while we are looking for certain applications for our needs as we see it in DoD or it gets to biothreat agent, if some of these things are as broad spectrum as they appear to be, they could have much broader utility and application and therefore a market. And so I think that is partly why we are getting an increasing amount of interest that is coming on board.

For example, we are looking at an interesting drug candidate that seems to be effective against the methicillin-resistant staphylococcus auras. That is not a biothreat agent that is in our lane. But it is of clear utility and application. And so we would take something like that and make sure that that was handed off to National Institutes of Health (NIH) or somewhere to try to find application for that.

Mr. MURTHA. The time of the gentleman has expired.

What we are going to do now is move to the second panel, and some problems that were brought to my attention is the FDA approval. It takes so long to get through the process, 4 or 5 years. And what Mr. Lewis is talking about, we are just scratching the surface here. And we will see the second panel, and then we will start with you in the second panel. We know your interest in it, but that is the panel that is going to be as involved as anybody else. So let's have the second panel.

WITNESSES

Panel II

DR. MICHAEL E. KILPATRICK, DEPUTY DIRECTOR, FORCE HEALTH PROTECTION AND READINESS PROGRAMS, OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE FOR HEALTH AFFAIRS

ROBIN ROBINSON, PH.D., DIRECTOR, BIOMEDICAL ADVANCED RESEARCH DEVELOPMENT AUTHORITY (BARDA), OFFICE OF THE ASSISTANT SECRETARY FOR PREPAREDNESS AND RESPONSE, U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

SUMMARY STATEMENT OF DR. KILPATRICK

Dr. KILPATRICK. Good morning, Mr. Chairman, members of the subcommittee, Michael Kilpatrick, Deputy Director, Force Health Protection in the Department of Defense. Thank you for the opportunity to speak to you today on behalf of the Office of the Assistant Secretary of Defense of Health Affairs in the Military Health System.

As you know, the mission of the Military Health System is to provide health services in support of our Nation's military mission any time anywhere, and that includes proper preparations for responding to biological threats. DoD recognizes that anthrax and smallpox are lethal biological threats. As a result, since March of 1998 more than 1.9 million service members have received more than 7.4 million doses of anthrax vaccine and more than 1.5 million service members have been immunized against smallpox since December 2002.

On April 1, 2008, DoD began using the newly licensed ACAM2000 smallpox vaccine. To educate our health care providers, our service members, their families and other beneficiaries around the world on biological threat protection, we provide detailed vaccine information at the time of the vaccinations and we use on-line educational briefings, brochures and training videos. In addition, we use live interactive Web casts in support of vaccination programs. DoD also tracks suspected reactions to these vaccines. The Armed Forces Health Surveillance Center collects severe adverse event information from vaccinations as part of its mission to provide continuous surveillance for the Military Health System.

The Vaccine Health Care Center Network provides educational assistance to individuals who are concerned about their vaccinations and assist individuals who experience a rare adverse event. With every anthrax and smallpox vaccination, the service member is provided an educational brochure that details the possible adverse events and provides contact information for clinical services.

An interagency agreement between DoD and the Department of Health and Human Services establishes a framework to coordinate mutual support in the event of a shortfall in critical medical material when responding to or recovering from a public health or med-

ical consequences of a domestic catastrophic incident or an incident of national significance.

For example, in 2006, in concert with the Implementation Plan for the National Strategy for Pandemic Influenza, Health Affairs issued policies and guidance on preparation and response to a pandemic caused by bird flu virus. It is DoD's policy to provide military personnel with safe and effective vaccines, antidotes and treatments that will eliminate or minimize the effects of potential health threats.

Mr. Chairman, protecting and preserving the health of our servicemen and women is one of our highest priorities, second only to the military mission.

I will be pleased to answer your questions.

[The statement of Dr. Kilpatrick follows:]

STATEMENT BY

MICHAEL E. KILPATRICK, M.D.

DEPUTY DIRECTOR

FORCE HEALTH PROTECTION AND READINESS

OFFICE OF THE ASSISTANT SECRETARY OF
DEFENSE FOR HEALTH AFFAIRS

DEPARTMENT OF DEFENSE

BEFORE THE

COMMITTEE ON APPROPRIATIONS

SUBCOMMITTEE ON DEFENSE

UNITED STATES HOUSE OF REPRESENTATIVES

APRIL 24, 2008

Mr. Chairman and members of the subcommittee, thank you for the opportunity to speak to you today on behalf of the Office of the Assistant Secretary of Defense for Health Affairs (Health Affairs) and the Military Health System (MHS). Today, I will speak on the roles and responsibilities of the Assistant Secretary of Defense for Health Affairs in the use of medical countermeasures against biological warfare agents and other infectious disease threats. In addition, I will summarize Department of Defense (DoD) preparedness efforts for countering a potential influenza pandemic.

The mission of the MHS is to provide health services in support of our nation's military mission – anytime, anywhere. This includes military operations, responding to natural disasters, and humanitarian crises around the globe, and delivery of world-class healthcare to all Service members, retirees, and other beneficiaries. The MHS promotes a fit, healthy, and protected force to reduce non-combat losses, optimize healthy behaviors and physical performance, and provide comprehensive casualty care. Health Affairs is responsible for ensuring the medical readiness of our soldiers, sailors, airmen, and Marines, including protecting them against biological warfare agents, and militarily-relevant infectious disease threats that could affect operational readiness.

The research, advanced development, and procurement of chemical, biological, radiological, and nuclear medical countermeasures is the responsibility of DoD's Chemical Biological Defense Program (CBDP). Health Affairs provides medical consultation to the CBDP on all aspects of the program, including development of the requirements for medical countermeasures. Health Affairs has the primary responsibility within DoD for developing medical policy and guidance to the Services for the use of Food and Drug Administration (FDA) approved

medical countermeasures against routine infectious diseases and biological warfare threats.

The Joint Staff recognizes anthrax and smallpox as lethal biological weapon threats. The Department's Anthrax Vaccine Immunization Program began in March 1998. Since then, more than 1.9 million Service members have received more than 7.4 million doses of anthrax vaccine. In October 2006, DoD directed a resumption of mandatory anthrax vaccinations for higher threat areas, and voluntary anthrax immunizations for individuals who are not in the mandatory category, but who have previously received one or more doses. Military Service members, emergency-essential DoD civilians, mission-essential contractors deployed to higher threat areas for 15 or more consecutive days, and units with special missions, will receive mandatory anthrax vaccinations. These higher threat areas include the United States Central Command's area of responsibility, and Korea.

The Department's Smallpox Immunization Program began in 2002 when the President announced that DoD would vaccinate selected units and personnel against smallpox to preserve critical mission capabilities. The policy includes military personnel, emergency-essential DoD civilians, and mission-essential contractors deployed to higher threat areas for 15 or more consecutive days, and units with special missions. Since December 2002, more than 1.5 million Service members have been immunized against smallpox.

On April 1, 2008, DoD transitioned from use of the Dryvax smallpox vaccine to the newly-licensed ACAM2000 smallpox vaccine. DoD made this transition to ensure a continuous supply of smallpox vaccine that is manufactured using modern cell-culture techniques, which are designed to comply with current

vaccine manufacturing standards. As with all DoD immunization programs, medical personnel and vaccine recipients were informed of changes in the vaccine program through extensive communication, education, and training initiatives. We continue to use the latest advances in technology to distribute our education materials to our healthcare providers, Service members, families, and other beneficiaries around the world. We continue to provide online educational briefings, products, and training videos designed towards each individual group, as well as providing detailed vaccine information at the time of the vaccinations. We are now using live, interactive, webcasts in support of the vaccinations programs. This provides valuable education through briefings by clinical staff and the ability to provide customized interactive question and answer sessions for specific issues.

DoD has implemented a robust surveillance program for monitoring the safety and efficacy of its immunization programs. These range from clinical studies, which increase scientific understanding of the vaccines, to large database surveillance programs, which provide early indicators of vaccine safety. As an example, for the current anthrax vaccine, the DoD has supported continuing research into the scientific understanding of this vaccine resulting in 26 published studies, numerous ongoing studies, and the concurrence of eight independent reviews. The Armed Forces Health Surveillance Center collects serious adverse event data for vaccinations as part of its mission to provide continuous surveillance for the MHS. The primary tool for this study is the Defense Medical Surveillance System, an executive information system whose database contains up-to-date and historical data on diseases and medical events (e.g., hospitalizations, ambulatory visits, reportable diseases, acute respiratory diseases, and health risk appraisals) and longitudinal data on personnel and deployments.

The Vaccine Healthcare Center Network is an initiative the DoD that fulfills Section 751 of the National Defense Authorization Act of 2001 to support

Service members and other beneficiaries. Established in 2002 with four centers, this Network provides educational assistance to individuals who are concerned about their vaccinations, and they assist individuals who experience a rare adverse event. With every anthrax and smallpox vaccination, the Service member is provided an educational brochure that details the possible adverse events and provides contact information for clinical services, such as the Vaccine Healthcare Centers Network.

Since May 2005, an Interagency Agreement has existed between the DoD and the Department of Health and Human Services (HHS) for support of contingency medical materiel requirements. The agreement establishes a framework to coordinate mutual support in the event of a shortfall in critical medical materiel (pharmaceuticals, biologics, medical/surgical supplies, and equipment) when responding to, or recovering from the public health and medical consequences of a domestic catastrophic incident or incident of national significance. The agreement establishes procedures by which HHS can request delivery and transfer of DoD contingency materiel assets. HHS maintains contingency materiel in the Strategic National Stockpile. Health Affairs provides technical expertise and advice to identify, establish, and recommend DoD priorities regarding allocation of Strategic National Stockpile assets from HHS.

DoD is making extensive preparations to ensure its ability to continue its mission in the event of an influenza pandemic. In 2006, in concert with the Implementation Plan for the National Strategy for Pandemic Influenza, Health Affairs issued policies and guidance on preparation and response to a pandemic caused by the bird flu virus. This included policy guidance for the use of stockpiled anti-viral medications during an influenza pandemic, such as oseltamivir phosphate (commercially sold as "Tamiflu"), as well as policy

guidance for the use of pre-pandemic influenza vaccines.

Since Fiscal Year 2004, as part of its responsibilities outlined in the President's National Implementation Plan for Pandemic Influenza, DoD has made significant investments in materiel readiness for pandemic influenza, including pre-pandemic vaccines, antiviral medications, personal protective equipment, and antibiotics. DoD medical preparedness planning for pandemic influenza has been based on the projected clinical requirements, industry capacity to satisfy those requirements in the event of a pandemic, and DoD's ability to store materiel. DoD has positioned quantities of oseltamivir at military medical treatment facilities worldwide, and is expanding supplies for the immediate use of the overseas Geographic Combatant Commands. DoD has positioned additional quantities of oseltamivir at strategic storage sites in the Pacific, Europe, and Pennsylvania, which could be distributed to specific points of need, as required. Approximately one-third of military medical treatment facilities hold stocks of antibiotics specifically allocated to treat bacterial infections secondary to pandemic influenza. DoD is also assisting the Department of Health and Human Services by storing a cache of antivirals in the U.S. Pacific Command, which could be used in an attempt to contain a potential outbreak in Asia. Last August, Health Affairs worked with the DoD Personnel community to conduct a pandemic influenza exercise where 1,500 individuals simulated a 40% absenteeism rate and tested its ability to continue its mission by implementing social distancing and telework.

Military personnel deployed to specific military operations could be potentially exposed to a range of chemical, biological, and radiological weapons, as well as to endemic diseases specific to that area. It is DoD's policy to provide military personnel with safe and effective vaccines, antidotes, and treatments that will eliminate or minimize the effects of these potential health threats. DoD also

stockpiles these countermeasures as part of contingency planning.

Mr. Chairman, protecting and preserving the health of our Service men and women is one of our highest priorities, second only to our military mission. Thank you for the opportunity to provide you with an overview of Health Affairs' role in the use of medical countermeasures.

Mr. MURTHA. Doctor.

SUMMARY STATEMENT OF DR. ROBINSON

Mr. ROBINSON. Thank you. Chairman Murtha and distinguished members of the Committee, I appreciate this opportunity today to testify on behalf of the U.S. Department of Health and Human Services, where I serve as the newly appointed Deputy Assistant Secretary and Director for the Biomedical Advanced Research and Development Authority, or BARDA. BARDA is responsible for the development and acquisition and coordination of medical—

Mr. MURTHA. Tell the Committee where you served before.

Mr. ROBINSON. I will come right to that, yes, sir. Before the coordination of American countermeasures for chemical, biological, radiological, nuclear threats, pandemic influenza and emerging diseases for the civilian population, prior to becoming the Board of Director I served for the last 3½ years as the Deputy Director for Influenza and Emerging Disease Program, where we implemented strategic plans and policies for medical countermeasures outlined in the President's National Strategy for Pandemic Influenza.

First, allow me to thank you for your kind and generous support of our efforts to prepare the Nation for pandemic influenza and other hazards. I look forward to working with you in my new role as we strive to build upon the successes of the Pandemic Influenza Preparedness Program and renew the focus of our Nation's medical countermeasures portfolio for chemical, biological, radiological and nuclear threats.

HHS concurs with our Department of Defense colleagues on the critical role that medical countermeasures play in our normal national preparedness against threats, against these threats and pandemic influenza, and the need for domestic manufacturing facilities capable of producing these products. We see medical countermeasure development and acquisition as only one component of our overall preparedness efforts towards an all hazards preparedness.

The policy of shared responsibility for preparedness empowers many stakeholders, including the entire HHS Department, our partners in the international community, other Federal interagencies like the Department of Defense, State, local and tribal territorial governments, the private sector and ultimately individual people.

The central framework to support medical countermeasures initiatives in the Federal Government is the HHS Public Health Emergency Medical Countermeasure Enterprise. This enterprise is a coordinated interagency group that is led by the Assistant Secretary of Preparedness and Response at HHS, Admiral Vanderwagen, and includes the Centers for Disease Control, Dr. Gerberding, the FDA with Dr. von Eschenbach, and the NIH with Dr. Zerhouni, and partners for the Departments of Defense, Homeland Security and Veteran Affairs.

I would like to give you a few examples of where HHS is coordinating and acting with our cousins at the Department of Defense relative to medical countermeasure programs. HHS has achieved a significant level of preparedness against a number of CBRN threats. HHS and DoD subject matter experts are on the CBRN threats committees to serve as interagency threat determinations

and product requirements setting panels to inform U.S. Government policymakers. HHS and DoD share joint stockpiles of AVA vaccine for anthrax and ACAM2000 vaccine for smallpox and aligned research and development programs for many medical countermeasures to CBRN threats by serving on interagency project teams.

With regard to pandemic influenza, great strides have been made over the past 3 years towards pandemic preparedness, including the developments and acquisition and domestic manufacturing infrastructure building of vaccines, antivirals, diagnostics and other pharmaceuticals. The development of an H5N1 vaccine resulted in the licensure last year representing the licensure of the first pandemic like noninfluenza vaccine and the number one medical breakthrough in 2007. HHS and DoD coordinate stockpiling of this vaccine, the clinical instability studies and, similarly for the antiviral stockpiles, use contracts to give the best price for the taxpayers.

BARDA and DoD just sponsored this week a symposium of Federal Government R&D activities for rapid diagnostics to detect novel influenza viruses. These joint analyses allow us the opportunity to reference one another's portfolios that reduce duplication but allow synergistic approaches like stockpiling to proceed.

These represent prime examples of this integrative all hazards approach that the Enterprise affords. Utilization of the Enterprise and product portfolio approaches will continue at HHS and DoD with other stakeholders to prepare the Nation for pandemic influenza and CBRN threats.

Using some of these specific examples of accomplishments in the pandemic influenza program and the successes in CBRN, I am beginning to redefine how we at HHS with our Federal partners can coordinate our respective programs to develop and acquire these products for the establishment and maintenance of medical countermeasure stockpiles as well as expand domestic manufacturing search capacities for these products. The Enterprise began a collaborative process that brings together Federal partners for decisionmaking throughout the life cycles of medical countermeasures. We are expanding that process for coordination, to include the discussions on the strategy behind the development of priorities and portfolios.

HHS and DoD are strategic partners with complementary missions to provide integrated systematic approaches to the development and purchase of necessary vaccines, drugs, therapeutics and diagnostics for public health medical emergencies.

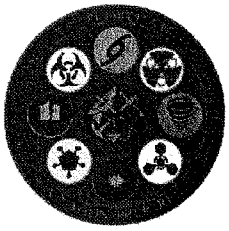
In closing, sir, I thank you again for this opportunity to discuss our coordinated efforts toward national preparedness and look forward to many more visits with you to deliver news of progress and find ways to make our Nation better prepared. Thank you. I will be happy to answer questions.

[The statement of Dr. Robinson follows:]

Testimony
Committee on Appropriations
Subcommittee on Defense
United States House of Representatives

The HHS Role in Medical Countermeasure Development and Acquisition

Statement of
Robin Robinson, Ph.D.
Deputy Assistant Secretary
Biomedical Advanced Research and Development Authority
Office of the Assistant Secretary for Preparedness and Response
U.S. Department of Health and Human Services



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I. Introduction

Mr. Chairman and Members of the Subcommittee, I appreciate the opportunity to join you today to testify on behalf of the U.S. Department of Health and Human Services (HHS), Office of the Assistant Secretary for Preparedness and Response (ASPR), where I serve as the newly-appointed Deputy Assistant Secretary for the Biomedical Advanced Research Development Authority (BARDA). Prior to this position, I was the BARDA Deputy Director for the Influenza & Emerging Disease Program, where we implemented the strategic plans and policies for medical countermeasures outlined in the *National Strategy for Pandemic Influenza.*

I look forward to working with Congress in my new role, hoping to build upon the successes of the pandemic-influenza preparedness program as we focus on the broader chemical, biological, radiological and nuclear (CBRN) threats portfolio.

II. Bioterrorism Preparedness: HHS Role(s)

As you know, the role of medical countermeasures is critical to our national preparedness against the threats associated with CBRN and pandemic-influenza. However, medical countermeasure development and acquisition is only one component of our overall efforts to be prepared against all-hazards. Our all-hazards preparedness involves a shared responsibility among our entire Department, our partners in the international community, the Federal interagency, state, local, tribal and territorial governments, the private sector,

and, ultimately, individuals and families. For instance, we support state and local authorities through the State and Local and Hospital Preparedness programs and the Public Health Emergency Preparedness program for a broad range of medical and public health preparedness activities, including the development of medical and public health plans for response, establishment of local stockpiles of critical medical equipment and supplies, improvement of surveillance and investigation capabilities, maintenance and distribution of countermeasures, and sharing of resources.

Our progress in securing medical countermeasures begins with and depends on effective planning. The central framework for medical countermeasures planning and implementation in the Federal government is the HHS Public Health Emergency Medical Countermeasures Enterprise (PHEMCE), established in July 2006. This coordinated interagency group is led by the Assistant Secretary for Preparedness and Response (ASPR), and includes the Centers for Disease Control and Prevention (CDC), the Food and Drug Administration (FDA), and the National Institutes of Health (NIH) as well as our partners from the Department of Defense, Department of Homeland Security, and Department of Veterans Affairs. Through this Enterprise-wide effort, we are able to ensure that Federal activities with respect to needed medical countermeasures are effectively coordinated from research and development to acquisition and ultimately deployment. This supports a range of programs that I will briefly summarize for developing and acquiring medical countermeasures for man-made and naturally-

occurring public health threats while building domestic manufacturing infrastructure.

Anthrax: Anthrax remains a top priority for ongoing public health emergency preparedness efforts at HHS. The Department is committed to developing and acquiring a robust, comprehensive portfolio of medical countermeasures against this threat.

Antibiotics represent the first line of defense to protect the nation following an anthrax attack. Today, we have over 60 million courses of antibiotics on hand and on order for the Strategic National Stockpile (SNS). Anthrax vaccines are also an essential element of our national preparedness. It is possible that vaccines given as post-exposure prophylaxis in combination with antibiotics could provide longer-term protection, or allow for a reduction in the duration of the antibiotic regimen. HHS has awarded contracts for the acquisition of nearly 30 million doses of anthrax vaccine since 2005, including the recent contract award of 18.75 million doses of Anthrax Vaccine Adsorbed (AVA, BioThrax™) in partnership with the DoD. In addition, antitoxins are necessary to treat individuals with advanced stages of infection, and may contribute to a more successful therapeutic outcome. Beginning in 2007, HHS has awarded contracts to two manufacturers to deliver antitoxins sufficient for treating 30,000 people. These vaccine and antitoxin contracts were awarded under the authorities of the Project BioShield Act of 2004. In addition, three BARDA contracts for the

advanced development of other anthrax therapeutic candidates were recently awarded through a partnership with the NIH/ National Institute of Allergy and Infectious Diseases (NIAID).

HHS remains committed to the development and acquisition of a second generation anthrax vaccine. While procuring and continuing to improve the currently available anthrax vaccine, HHS is investing over $40 million in the continued development of a recombinant anthrax vaccine. This investment builds on the recombinant vaccine program that has been ongoing at the NIAID since 2002. BARDA also released a Request for Proposals (RFP) in March 2008 for a recombinant anthrax vaccine contract award. In addition, BARDA and NIAID released a Broad Agency Announcement in September 2007 for vaccine enhancement that will support important improvements in storage conditions and administration for vaccines against a wide array of biological threats; these proposals are currently under USG review.

Smallpox virus: In June 2007, BARDA awarded a contract for a next generation modified vaccinia Ankara (MVA) smallpox vaccine for use in immune-compromised Americans. This was the first BARDA contract to utilize performance-based milestone payments allowable under the Pandemic and All Hazards Preparedness Act (PAHPA). HHS/CDC has also procured ACAM-

2000, a live, single-dose smallpox vaccine developed by Acambis, which is the first new bio-defense vaccine to be approved by the FDA.

Botulinum toxin: In June 2006, HHS awarded a contract under Project BioShield to the Cangene Corporation for 200,000 doses of a botulinum antitoxin that targets all 7 serotypes of Clostridium botulinum. The $363 million contract will expand greatly our existing stockpiles in the SNS. Deliveries of this product to the SNS initiated in 2007.

Radiological/Nuclear: We hold significant stockpiles of supplies to treat many of the complex aray of medical problems following a potential radiological or nuclear attack, including antibiotics, anti-nausea drugs, and quantities of supplies to treat burn and blast injuries. We have procured medical countermeasures to mitigate the effects of radiation exposure from either dirty bomb scenarios (Prussian blue and DTPA) or resulting from accidents or deliberate attacks involving nuclear power plants (potassium iodide (KI) in both tablet and liquid forms). In addition, in order to acquire therapeutics to treat the effects of bone marrow suppression associated with the acute radiation syndrome (ARS) that might result from a nuclear blast, BARDA released an RFP in March 2008. Lastly, BARDA released a Broad Agency Announcement in May 2008 for early-stage product

development and partnered with NIAID to fund advanced development of these medical countermeasures and for necessary testing facilities.

This enterprise approach has been successful as HHS prepares the Nation for the threat of an influenza pandemic, and we can transition this model into our CBRN portfolio going forward. Using some of the specific examples of accomplishments in the pandemic influenza program, I'm beginning to redefine how we, at HHS, along with our Federal partners, can coordinate to achieve the necessary measures to develop, acquire and establish stockpiles, expand domestic manufacturing surge capacities for vaccines, antiviral drugs, rapid diagnostics, and non-pharmaceutical countermeasures including respiratory devices.

III. Summary of Pandemic Influenza-Related Accomplishments

The pandemic influenza program is focused on vaccines, antivirals, diagnostics, and non-pharmaceutical countermeasures. In December 2005, and June 2006, Congress appropriated $5.6 billion for HHS pandemic influenza preparedness efforts. With these funds, scientists and public health experts at HHS have built an aggressive and broad-based medical countermeasures program for pandemic influenza. These funds support the acquisition of existing products, advanced development projects to produce modernized and next-generation

countermeasures, and the retrofitting and construction of the facilities necessary to produce pandemic influenza vaccines.

With respect to vaccines, HHS has a number of efforts underway. These efforts supported the first U.S. licensure of an H5N1 vaccine in April 2007, which was highlighted as the number one medical breakthrough of 2007. By the end of 2007, HHS in coordination with DoD had stockpiled 12 million courses of pre-pandemic H5N1. However, maintaining a domestic production capability for these priority countermeasures is also an essential component of the pandemic influenza preparedness strategy. In May 2006, HHS awarded five contracts for over $1 billion to GlaxoSmithKline, MedImmune, Novartis (formerly Chiron), Solvay, and Dynport (with Baxter) for support of advanced development of cell-based influenza vaccines toward U.S. licensure and expanded domestic vaccine manufacturing surge capacity. In June 2007, we awarded two contracts for the retrofitting of existing domestic biological manufacturing facilities to produce egg-based influenza vaccines and included warm base operations for up to five years. Additionally, contract awards are expected in 2008 for the construction of new domestic facilities for manufacturing cell-based influenza vaccines that is expected to quadruple the domestic pandemic vaccine manufacturing surge capacity by 2012.

A robust and groundbreaking advanced development program has led to the rapid maturation of modernized cell-based influenza vaccine production and antigen-sparing technologies. New combinations of adjuvants and products provided by multiple manufacturers are currently supported by performance-driven milestone contracts. More rapid vaccine production may be afforded by the development of next generation recombinant influenza vaccines, which HHS will support in FY2008.

Antiviral drugs have become an increasingly important medical countermeasure for influenza. Today, in coordination with DoD and VA, the SNS contains 50 million treatment courses of antiviral drugs, completing the Federal stockpile one year ahead of schedule. HHS has also supported antiviral stockpiling at the state level. Through a federally subsidized program, states have purchased 22 million treatment courses of influenza antiviral drugs to date and are expected to reach our goal of 31 million courses by the end of 2008.

The nature of severe influenza infections has also required us to focus on preparedness through non-pharmaceutical countermeasures, such as ventilators which play an essential role in the health care of critically ill patients. The FY 2009 President's Budget includes $25 million to develop ventilators that are more amenable to public health emergency use. This presents a prime example of the

integrative, all-hazards approach that the PHEMC Enterprise seeks. A more portable and easier to use ventilator could be an essential tool for responding to many different public health threats, when having a sufficient supply of ventilators could have an impact on the morbidity and mortality of exposure.

IV. Learning from Pandemic Influenza: A Portfolio Approach to CBRN Preparedness

As I outlined, we've learned much from our pandemic influenza preparedness activities over the last three years, and as the Director of BARDA, I appreciate the challenges that applying these lessons to a broader portfolio of CBRN will bring.

HHS established the Biomedical Advanced Research and Development Authority (BARDA) to direct and coordinate the Department's countermeasure and product advanced research and development activities. In support of the mission and priorities of the HHS Public Health Emergency Medical Countermeasure Enterprise, (PHEMCE), BARDA establishes systems that encourage and facilitate the development and acquisition of medical countermeasures such as vaccines, therapeutics, and diagnostics, as well as innovative approaches to meet the threat of chemical, biological, radiological and nuclear (CBRN) agents and emerging infectious diseases, including pandemic influenza. BARDA provides an integrated, systematic approach to the development and purchase of

the necessary vaccines, drugs, therapies and diagnostic tools for public health emergencies. It directs and coordinates the Department's countermeasure and product advanced development activities and medical countermeasure domestic manufacturing infrastructure building, including strategic planning for medical countermeasure research, development, and procurement. This coordinated approach is critical to achieving success in the area of bioterrorism preparedness.

V. Integration with Federal Partners: A Coordinated Model for National Activities

HHS, through the Public Health Emergency Medical Countermeasures Enterprise (PHEMCE) began a process that brings together federal partners for decision-making along the lifecycle of a medical countermeasure. We also are working on a process that expands this concept of coordination, to discuss the strategy behind the development of priorities and portfolios. One of our principal colleagues for this dialogue is the Department of Defense, given our complementary missions in providing an integrated, systematic approach to the development and purchase of the necessary vaccines, drugs, therapies, and diagnostic tools for public health medical emergencies. Indeed this week BARDA and DoD are sponsoring a symposium to coordinate activities for rapid diagnostics to detect novel influenza viruses. Our stakeholders are civilians and DOD's are military personnel, but these joint analyses allow us the opportunity to not only reference one another's portfolios, but also develop synergistic

approaches to our planning, like stockpiling. Currently HHS/CDC and DOD are maintaining joint stockpiles of both AVA and ACAM2000 and using similar contracts for H5N1 vaccines and influenza antiviral drugs.

We appreciate the partnership throughout the Federal government and recognize it is a key to success with medical countermeasures as well as bioterrorism preparedness in general.

Thank you for the opportunity to share this information with you. I am happy to answer any questions.

Mr. MURTHA. Mr. Frelinghuysen.

PROTECTION OF THE ARMED FORCES

Mr. FRELINGHUYSEN. Thank you, Mr. Chairman. In the interest of full transparency both Mr. Rothman and I come from New Jersey, which we are very proud of our pharmaceutical base. Whether you are a large pharma or a small pharma stable funding is important. That is one of the issues here. It is not a question of big companies taking over small companies. That is part of a capitalistic system. But nobody is going to make these types of investments if they have to wait on HHS to come up with requests for proposals. With all due respect, it has been pretty damn slow, maybe in some areas been expedited. But my questions actually go to Dr. Kilpatrick.

Thank you both for what you do. This is the Defense Appropriations Committee, and I want to be somewhat selfish and ask particularly what we are doing for our armed services for those in uniforms, in uniform relative to anthrax, smallpox or radiological, nuclear. What are we doing in terms of protecting our soldiers? I know it is a big question, but I would like to sort of get a general overview of what we are doing.

Some of us remember the refusal of some people in the military to go ahead with the anthrax immunization. Where do we stand relative to a comprehensive program for those in the military where we actually have a known quantity of people that we are dealing with? Obviously, all volunteers; Guard, Reserve. Where do we stand? How would you characterize it?

Dr. KILPATRICK. I think we stand in very good stead with this. We have really focused the program on continuing to educate people. Not just a brochure in the hand right before the shot goes in the arm, but to really answer questions and sit down with people and to really discuss with them what is understood about the threat. We try to look at this on a priority basis, saying what is the risk. And certainly when people are deployed in a setting where we can't control the environment, where we can't really control what is happening in the environment, then clearly those are areas where a vaccine is the most secure protection we can give somebody.

As General Reeves discussed, if you are in the detect to treat environment, in a deployed setting, it is not satisfactory to have an un-vaccinated population.

Mr. FRELINGHUYSEN. As long as the information isn't secret or confidential, where do we stand relative to anthrax?

Dr. KILPATRICK. As far as the vaccination program?

Mr. FRELINGHUYSEN. Right.

Dr. KILPATRICK. We are doing very well.

Mr. FRELINGHUYSEN. What does that mean? Does that mean anthrax isn't just a battlefield potential situation, obviously it could happen here domestically?

Dr. KILPATRICK. It could happen domestically.

Mr. FRELINGHUYSEN. Where do we stand relative to those that have been immunized?

Dr. KILPATRICK. Our program is to vaccinate all people going into theater. That is the greatest point of risk. But we are continuing

to keep people's vaccinations up to date as they return. So if they go to theater, get their series of shots, and come out of the theater——

Mr. FRELINGHUYSEN. Is this mandated?

Dr. KILPATRICK. It is voluntary for them to keep up. It is mandated when they go to theater.

Mr. FRELINGHUYSEN. It is voluntary to keep up?

Dr. KILPATRICK. To keep up when they come back, yes.

Mr. FRELINGHUYSEN. We have an Appropriations Committee that has been pretty generous towards investments in national pandemic, you know, avian flu. What portion of that is allocated and directed towards our armed services?

Dr. KILPATRICK. Toward the armed services, again, we have worked very closely with HHS.

Mr. FRELINGHUYSEN. We are familiar that there has been a stockpile. So let us be selfish here for a minute. What stockpile is for the military?

Dr. KILPATRICK. Well, the stockpile for the military is really focused at where our people would be most at threat. And we feel, again, that is going to be in a deployed setting in areas where flu may start the pandemic. And that is where our surveillance programs are going on. And so we have prepositioned and forward deployed stockpiles of both vaccine and antivirals that we could use to get to people in that area. The national stockpile is what we would work in coordination with HHS if that were an event nationally.

Mr. FRELINGHUYSEN. So it is there, it hasn't been utilized?

Dr. KILPATRICK. No, we have not used the vaccine that is licensed.

Mr. FRELINGHUYSEN. And how about the award of the next generation of modified, you know the smallpox virus, what could potentially be something which is not the normal situation? Where do we stand relative to that in our military?

Dr. KILPATRICK. Are you talking about the ACAM vaccine?

Mr. FRELINGHUYSEN. Yes, the smallpox virus.

Dr. KILPATRICK. Right. And I think, again, the ACAM vaccine is what DOD is using. And that is——

Mr. FRELINGHUYSEN. So all soldiers have that?

Dr. KILPATRICK. That is, again, for people going to theater, is where it is required.

Mr. FRELINGHUYSEN. It is required?

Dr. KILPATRICK. Yes.

Mr. FRELINGHUYSEN. And what relative to radiological and nuclear, what exists out there for our soldiers?

Dr. KILPATRICK. Again, from the radiological standpoint there are programs out there to monitor, to surveil for essentially laser or other radiological type exposures the troops may get. All of the equipment that we would use, has been evaluated and tested to make sure that the people operating it, the operators, are safe. And so, again, there is a surveillance program looking at that.

From a nuclear standpoint, it is going to be looking at where are we with detection capability, and that is where those detectors are present.

PHARMACEUTICAL INDUSTRIAL BASE

Mr. FRELINGHUYSEN. And lastly, maybe a general question to you both. The whole issue of the industrial base, I mean I sort of get the feeling that DARPA is sort of setting up or perhaps has always had its own shop. But, I mean, we have a pretty good industrial pharmaceutical base. Where is HHS in terms of some of these requests for proposals? Could you clarify a little more?

Mr. ROBINSON. The industrial——

Mr. FRELINGHUYSEN. Every Member of Congress is obviously approached by large and small companies in their district, all with some new something which they view as an imperative. And then there is a huge amount of frustration that your operation over there is sort of going into sort of a state of semi-paralysis. That may be an understatement.

Mr. ROBINSON. I would believe it is, sir.

Mr. FRELINGHUYSEN. How would you characterize it?

Mr. ROBINSON. I would characterize it—I will take the two sides of the house, the pandemic influenza and then our CBRN. First, the pandemic influenza, where I have served for over 3 years as the head of that program. Where with NIH looking at the discovery in the early development and where we have been responsible for the advanced development where we see things that are going into the clinic, that they have been shown to be safe, then to move those forward toward licensure of the products so that we then can acquire those products and put them into a national stockpile. We have done very well with that, in fact. For our pre-pandemic vaccine stockpiles we are two-thirds of the way with that 40 million goal. However, we have been able to, with our programs for advanced development, be able to have a technological breakthrough. Not only the H5N1 vaccine was actually licensed last year, but we have new adjuvant. These are immunostimulatory molecules that when combined with the vaccine can actually make the vaccine go 20, 25-fold more people than normally. And so that is a real breakthrough so that we can have sustained facilities here that cannot overbuild. And that is really important for the influenza industry because there is a market already for seasonal vaccine and that with these adjuvants and other types of molecules we actually can be prepared for a pandemic so that 300 million people then can get the vaccine in a matter of months, not years.

Mr. FRELINGHUYSEN. I just think some members of the committee, maybe all members of the committee, there has not been sort of a sense of urgency.

Mr. ROBINSON. No. I am sorry that perception is there. But on the pandemic influenza we have awarded 27 contracts to grants for advanced development for over $3.7 billion. And we have increased the manufacturing base of this country, not foreign country, but this country, over two and a half-fold of what it was 2 years ago when Dr. Gerberding testified. And where we will be in 2012 is that we will be able to not only supply the United States with what it needs for a pandemic, all 300 million plus, but also the United States to be an exporting hub. And that is one of our driving forces for the U.S.

Mr. MURTHA. What year is that?

Mr. ROBINSON. 2012, sir. Right now if we had a pandemic this year we would be able to immunize upwards of about 200 million with our adjuvants which will be going toward licensure application next year.

Mr. DICKS. Mr. Chairman, on this point, does this cover bird flu, too? Do you have a vaccine for bird flu?

Mr. ROBINSON. Yes. The H5N1 vaccine, that is for the avian influenza that we know is our biggest threat at this point of becoming a pandemic virus. Yes, sir.

Mr. MURTHA. Mr. Visclosky. Ms. Kaptur.

AGRICULTURE RESEARCH

Ms. KAPTUR. Thank you, Mr. Chairman. Welcome, gentlemen. From the previous panel I just wanted to place two questions on the record and maybe they could get back to me.

I am very interested in the tobacco research that was referenced in the written testimony, and I am very curious about what you are doing to genetically manipulate the tobacco leaf or the tobacco for the production of proteins and nutraceuticals perhaps. This is something that as a member of the Agriculture Committee I have a longstanding interest in, even though I don't represent any tobacco growers. I just think it is a magnificent plan and its potential is unmet. So I would be very interested to know what you are doing along those lines.

And then secondly in terms of ricin, I don't know enough about the sources of ricin, but I know the castor bean is one of them. And I don't know if it is the only one globally. But if it is, I would like to know the research that is going on to isolate the ricin from the castor bean, and if you are doing research on that, and to what extent one could make that particular seed, to phase it out in its current form globally, since there are so few seed companies that exist anymore, and what the potential is to completely take the dangerous part of the germ plasm out and to make it available as an extraordinary oilseed for the sake of the world.

So I am just very interested in those two areas. Anything you could get to me on that would be greatly appreciated. Not this panel, but the one sitting in back of you. They are looking. Am I clear?

Dr. GALLOWAY. Indeed. I will take your questions as an action right away if I can answer them.

[The information follows:]

Ms. KAPTUR. I am very interested in the tobacco research that was referenced in the written testimony, and I am very curious about what you are doing to genetically manipulate the tobacco leaf or the tobacco for the production of proteins and nutraceuticals perhaps. This is something that as a member of the Agriculture Committee I have a longstanding interest in, even though I don't represent any tobacco growers. I just think it is a magnificent plan and its potential is unmet. So I would be very interested to know what you are doing along those lines.

And then secondly in terms of ricin, I don't know enough about the sources of ricin, but I know the castor bean is one of them. And, I don't know if it is the only one globally. But if it is, I would like to know the research that is going on to isolate the ricin from the castor bean, and if you are doing research on that, and to what extent one could make that particular seed, to phase it out in its current form globally, since there are so few seed companies that exist anymore, and what the potential is to completely take the dangerous part of the germ plasm out and to make it available as an extraordinary oilseed for the sake of the world.

So I am just very interested in those two areas. Anything you could get to me on that would be greatly appreciated. Not this panel, but the one sitting in back of you. They are looking. Am I clear?

Dr. GALLOWAY. Indeed. I will take your questions as an action right away if I can answer them.

The Defense Threat Reduction Agency (DTRA) is managing research, under the Accelerated Manufacture of Pharmaceuticals (AMP) program, to develop large scale protein expression platforms. The program's aim is to develop a system for large scale production of U.S. Food and Drug Administration (FDA) approved prophylactic (e.g., vaccines) or therapeutic proteins. One such platform is the tobacco plant.

The AMP program was originated by DARPA and has been structured as a 3-phase progressive demonstration of capability. Phases I and II are funded by DARPA, and managed by DTRA, in conjunction with the Science and Technology component of the DoD Chemical and Biological Defense Program (CBDP). It is planned that AMP Phase III will be both managed and funded by the CBDP's Transformational Medical Technologies Initiative (TMTI) program. Under the AMP program, tobacco was one of five manufacturing "platforms" that are being evaluated and considered.

The tobacco platform employs non-genetically modified tobacco plants grown in a climatically controlled environment. After the plants have matured, they are subjected to a process that includes submerging them in a solution containing bacteria that has been modified to contain the protein of pharmaceutical interest. After the process, the plants are grown for approximately one week, to permit expression of the relevant proteins and then are harvested. The relevant proteins are then extracted. Under this program different species of tobacco plants are being evaluated for suitability. Evaluation of the plants includes optimization of protein production, as well as the cost of producing relevant protein.

Ricin, considered an important biological threat agent, is found only in castor beans (Ricinus communis). The castor bean is dangerous as a biological agent due to its extreme toxicity, the worldwide availability of the castor bean and the toxin is relatively simple to purify from castor-oil manufacturing waste. The seed pulp left over from pressing the castor oil contains, on average, about 5% by weight of ricin. However, despite ricin's importance as a biological weapon, it also may have medical use. These include the treatment of cancer and as an adjuvant for mucosal vaccines.

Although ricin is only found in castor beans, a similar toxin to ricin, abrin, is found in seeds of a plant called the rosary pea or jequirity (Abrus precatorius). Abrin, however, is not known to have been used as a biological weapon.

Under the CBDP, DTRA currently has on-going research programs to develop prophylactic agents (i.e., vaccines) against ricin. A ricin vaccine candidate is presently planned to undergo early safety (phase I) trials. Additionally, we are managing research aimed at identifying small molecule inhibitors for use as anti-ricin therapeutic agents. However, our effort is focused on the conduct of medical countermeasures to important biological and chemical threat agents. It is not directed toward modification of castor bean plants or other agriculturally related projects. Therefore, we are unable to definitively comment whether efforts are underway to produce seeds not containing ricin.

LONG-TERM CONSEQUENCES OF VACCINES

Ms. KAPTUR. Thank you. Thank you very much.

I have two major questions. One is I am very interested in long-term consequences of immunization on several levels. The rising autism in this country is one of my concerns, and no one seems to be able to understand why this is happening. I am wondering from the immunization of our soldiers and the numbers of immunizations that you have been responsible for, what are the long-term consequences of those? Do you have any time series studies regarding the types of immunizations, and then do you do profiles down the road, do you study what happens to these soldiers, to their families, to their children?

Dr. KILPATRICK. There aren't any epidemiological studies that are designed to look at that in specific as far as long-term outcome of vaccines. We do have a Millennium Cohort Study going on that is a 22-year study looking at service members' health, and it would

include what kind of vaccines they have received. All of that is part of their medical record. It would look at their health outcome over, as I said, the 20-year period.

Ms. KAPTUR. Doctor, do you study their children?

Dr. KILPATRICK. That study is really focused on the service members that ask questions about their children, but it doesn't have studies on their children, no.

Ms. KAPTUR. So you are telling me that of the immunization of our Armed Forces that there are no long-term studies done of the consequences across generations?

Dr. KILPATRICK. To design a study to answer specifically the vaccine effect is a part of multiple other issues that may be part of that exposure of that person. And then subsequently to children would be a study that would be extremely difficult to design. I don't think we have ever done that with any vaccine long-term. We have safety studies and we certainly have studies looking at vaccines in a shorter term, but I think when you take a look at a 20-year effect, those are obviously complex studies that would take tremendous power and design to be able to sort out multiple factors that may contribute to either spouse or children medical health outcomes.

VACCINATIONS OF SERVICE MEMBERS

Ms. KAPTUR. All right. Well, we have spent since 2001 $40 billion on biodefense, and it would seem to me that—what immunizations are our soldiers getting on a regular basis now?

Dr. KILPATRICK. On a regular basis, they are getting much as the American public gets: diphtheria, tetanus, making sure that they are up to date with polio, making sure their measles and mumps are up to date. And then the seasonal flu vaccine is given to people on a regular basis. So that is the compilation. In some threat areas, a meningococcal vaccine could be used much as we are doing at college campuses when there is an outbreak of meningitis.

Ms. KAPTUR. What about those deployed to Iraq, initially and now, are they getting different vaccines?

Dr. KILPATRICK. It is really the same vaccines; smallpox and the anthrax are the two vaccines that are theater specific.

Ms. KAPTUR. So they are continuing to get those, the anthrax even now?

Dr. KILPATRICK. Yes, going to theater, yes.

Ms. KAPTUR. And back in the 1990s our soldiers never got anthrax, did they? Did they get them back in the first Persian Gulf War?

Dr. KILPATRICK. In the Gulf War, Persian Gulf War, there were some individuals, and I think the number is around 5,000, who did receive anthrax vaccines, yes.

Ms. KAPTUR. Okay. Have we ever done any studies on long-term consequences on those soldiers?

Dr. KILPATRICK. Not those specific soldiers. We did not have the accurate recordkeeping you would like to see in place. Some people's records indicated they got vaccine A and others there was no such indication done.

VACCINE STOCKPILE

Ms. KAPTUR. Finally, could you answer this question? If you were with Katie Couric on Evening News and you were asked, the American people have spent $400 billion on biodefense since 2001, tell the American people what they have gotten for their money, what would you say?

Mr. ROBINSON. From the biodefense area I think that we have enough smallpox vaccine for all of us and twice over in fact. For anthrax vaccine we are reaching our goals of 75. We are working toward that. We are about a third of the way through that. For other red nuke agents——

Ms. KAPTUR. Seventy-five million people?

Mr. ROBINSON. That is correct. For the red nuclear threats we have in our stockpiles at the strategic national stockpile agents for a number of different things; Prussian blue, potassium iodide, DTPA. That would be the amount that would be required for that kind of threat. There are other things that we are moving as we go forward toward reaching our goals over the next several years.

Mr. BISHOP. Will the gentlelady yield?

Ms. KAPTUR. I would be pleased to yield to the gentleman.

Mr. BISHOP. Did I understand you to say that you are one-third of the goal of 75 million?

Mr. ROBINSON. We have about 28.5 million doses.

Mr. BISHOP. So you don't have 75 million, you have one-third?

Mr. ROBINSON. That is correct. The key there is that 25 million people is what we want to protect.

Ms. KAPTUR. And in your opinion what do you think are the most serious current threats facing our Nation from a biodefense standpoint?

Mr. ROBINSON. From our observations and also with our threat determinations the ones that I have already listed are still on the table that we have to be very concerned about.

Ms. KAPTUR. Smallpox, anthrax?

Mr. ROBINSON. Smallpox and anthrax are at the top of the list. Botulinum.

Ms. KAPTUR. What about ricin?

Mr. ROBINSON. Ricin is one of the threats that is on the top and that there are antitoxins available for that.

Ms. KAPTUR. Thank you very much. Thank you, Mr. Chairman.

Mr. MURTHA. Mr. Rothman.

FUTURE THREATS

Mr. ROTHMAN. Thank you, Mr. Chairman. I am wondering if you gentlemen from both panels could walk me through, please, the detection and prevention aspects of this whole business. I think General Reeves said that we have taken off the table anthrax and smallpox, and that is quite a big statement. But how are we surveying the battlefields or the other places around the world where we might anticipate these things emanating from? So if you could give me that scenario, gentlemen, that would be great.

Dr. KILPATRICK. I think General Reeves is the best to answer.

Mr. ROTHMAN. And obviously it is related to, and I know this is an open hearing, but related to where we are guessing or our

knowledge base as to where these threats are coming from. What countries are producing the scientists, where are they going and where is this information going?

General REEVES. I understand, sir. The direct answer is twofold. We do it through both medical surveillance, as well as through active detection on the battlefield, and I am speaking now to the Department of Defense forces. Medical surveillance obviously is going to look for infection in our troop populations. In terms of our biodetectors we actually physically put detectors on the battlefield to try to identify what the specific threats are. The larger issue of those areas that we might be going into, but yet we have no access to, is going to be based on intelligence. And either what we have been able to derive through intelligence and identify what we know they may be working on in terms of a potential capability, or it may be what we know are diseases that are already endemic in that particular part of the world.

The particular challenge to our intelligence community for the biological threat is that the same facilities that can be used for good to make vaccines, those same large fermenters that you need to make vaccines, can be used for evil. They can be used to make a biological threat. So it is a very challenging area to be able to identify exactly what is going on, which is unlike the chemical or the nuclear threat, which has a good series of indicators associated with it.

Mr. ROTHMAN. I am assuming then that you can vouch for a robust, active and conscientious program on the part of our intelligence folks to be aggressively looking out for these things?

General REEVES. Absolutely, sir. And I will tell you that my office and Dr. Galloway's office works very closely with the intelligence community.

Mr. ROTHMAN. And are we working with the Department of Homeland Security on discovering these various biological and chemical—I'm sorry?

Mr. DICKS. Threat assessments.

Mr. ROTHMAN. Outside of the U.S. borders and at the U.S. borders?

General REEVES. Yes, sir, we are.

Mr. ROTHMAN. With Homeland Security?

General REEVES. Yes, sir, we are. We work very closely with the Department of Homeland Security. They identify a prioritized list of threat agents, both chemical and biological. We develop our list based on guidance from the Joint Chiefs of Staff and our intelligence community. And we actually compare those lists to see where there is commonality in what we need to do to develop countermeasures or identification techniques.

Mr. ROTHMAN. And why are anthrax and smallpox off the table? In what sense did you mean that?

General REEVES. In the military we have the advantage of being able to anticipate the threat and therefore vaccinate our soldiers, sailors, airmen, and marines. And so in the sense of saying that it helps take the aces off the table, what I was trying to convey was the idea that since we have the luxury, and I put that in quotes, of being able to prepare our Armed Forces, unlike a civilian popu-

lation, that we can anticipate that and therefore reduce those specific threats.

Mr. ROTHMAN. And a question if I may for Dr. Tether, who I believe said something on the order now we can discover a vaccine for new bugs quickly, you said that with some great pride and almost as eureka, we discovered this and we can do it now in a matter of weeks. In this open hearing what can you tell us to give us confidence as to the nature of this breakthrough that should give us confidence?

Dr. TETHER. Well, it is not just one breakthrough. It is a bunch of many things that have gone on over the last 10 years we have been working on the problem. What I would rather do is why don't I take it for the record. And I could actually be more precise to you as to exactly what are the things that we have done and why that statement is true.

[The information follows:]

I appreciate the opportunity to clarify my remarks to the Committee regarding the development of new vaccines and how DARPA is working to change the entire paradigm of defense against biological threats.

We face a daunting problem in developing defenses against biological attack. Strategies that attempt to use today's technologies and methods to meet future, potential biological warfare threats are seriously and inherently flawed technically, and would be prohibitively expensive. First, it is nearly impossible to predict what threats might emerge two decades into the future, particularly with the emergency of "synthetic biology," which has now demonstrated the synthesis of an entire bacterial genome from raw chemicals alone. Second, from the moment a new pathogen is first identified—either a weapons agent or a naturally emerging pathogen—today's technology and methods require at least 15 years to discover, develop, and manufacture large quantities of an effective therapy. It would be untenable and exorbitantly costly to attempt to "cover the bases" by performing the extensive research and development required to deal with a wide range of potential threats, and then stockpile, maintain, and indefinitely renew population-significant quantities of vaccines or other therapeutics just in case one or more of those specific threats might emerge.

Over the past 10 years, DARPA has supported research to change this paradigm by creating technologies to shrink the time from first pathogen emergence to the production of millions of doses of effective vaccines/therapeutics to sixteen weeks or less—in sharp contrast to the 15 years or more that it takes today. To achieve this goal, DARPA has divided the required research into the technical areas depicted in the development timeline in Figure 1:

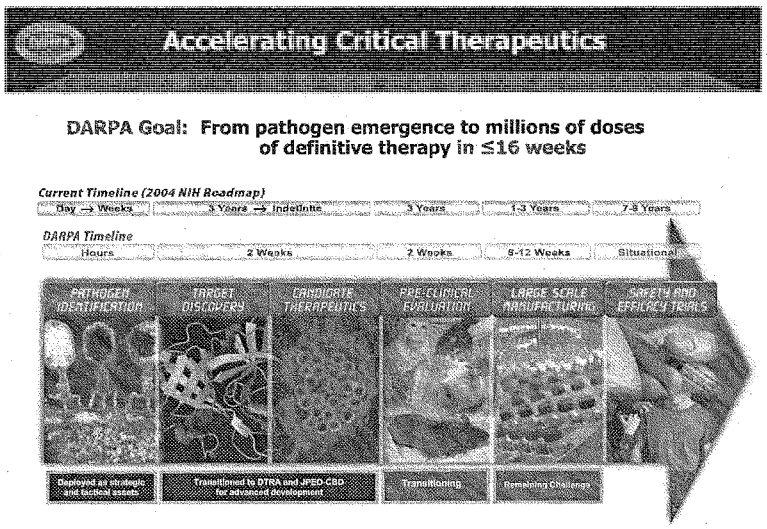

Figure 1: DARPA's timeline for accelerating development of critical therapeutics.

Before we can develop a countermeasure to a new attack or a new epidemic agent, the bug must be identified and characterized ("Pathogen Identification" in Figure 1).

Early on, DARPA supported the development of a new, portable, pathogen identification technique that allowed even a battlefield technician to identify the DNA sequence of biowarfare agents. This technology is now in widespread use – in the Nation's post offices, for example – with millions of tests being performed every year to identify contaminated mail before it causes harm. More importantly, DARPA developed a major strategic asset called the TIGER system, which pioneered an entirely new way to identify the DNA of a pathogen. This system is now fully operational and is in use today at several facilities, including the Centers for Disease Control and Prevention, the National Institutes of Health, and the United States Army Medical Research Institute for infectious Diseases.

The next steps in the development timeline are "Target Discovery" and "Candidate Therapeutics" (Figure 1), which were the primary focus areas of DARPA's biological warfare defense research from approximately 2000-2005. Target Discovery means finding the "weak spot" in the pathogen against which a therapy can be directed; Candidate Therapeutics is actually finding the drug that can attack that weak spot.

The first thing that DARPA did was change the basic rules of the game: instead of trying to find one target for every new pathogen and then developing a therapy for each one of them, the DARPA program aimed to identify common targets among many different pathogens, and then identify common therapies that could take out *whole classes* of pathogens. Similarly, DARPA developed therapies that would increase an individual's natural resistance to infection, so that

fewer drugs would be needed in the first place.

Let me be very clear: there is NO silver bullet that takes out all pathogens, but there has been substantial progress. For example, DARPA researchers at Stanford University developed a technique that could rapidly find common targets among diverse pathogens within weeks. This technique identified a single target weakness common to Ebola, cowpox, influenza, and even Human Immunodeficiency Virus (HIV). A candidate therapy was identified, and has been transitioned to the Defense Threat Reduction Agency (DTRA) for advanced research and clinical trials within the next year.

Another DARPA effort found a common target that would yield an entirely new class of antibiotics effective against bacteria that are naturally or engineered to be ciprofloxacin-resistant. This effort has also transitioned to DTRA for advanced pre-clinical research.

Finally, DARPA did, indeed, develop an entirely new class of immune enhancer. While this class, known generally as "CpG," enhances natural immunity, more importantly it significantly increases a person's response to a vaccine. With CpG, DARPA demonstrated a nearly nine-fold improvement in response to the anthrax vaccine, and a significantly shortened time period until full protection was achieved for the warfighter. CpG has now transitioned widely and is in advanced clinical trials for infectious diseases, as well as for many types of cancer. In fact, this entire area of "Broad Spectrum Therapeutics" has been transitioned to the Office of Secretary of Defense Joint Office in Chemical and Biological Defense.

DARPA does still have some ongoing efforts to discover new therapies. For example, the goal of our Protein Design Process program is to demonstrate, within the next two years, a computer-based system that can identify new targets and therapies within 24 hours – in sharp contrast to the weeks or months currently required on a biological "wet bench."

The next step in DARPA's timeline is Pre-Clinical Evaluation, which, as Figure 1 depicts, is highly dependent on years of animal testing in a variety of species. Minimizing the requirements for animal testing for all therapeutics is truly a daunting task, even by DARPA's standards. But we have taken the first step in the area of vaccine development.

DARPA's Rapid Vaccine Assessment Program has developed a system that could partially substitute for the years of animal testing currently used to try to establish whether a vaccine can elicit an immune response. To shorten this testing time, and yield more reliable results, DARPA developed a chip-scale mimic of the human immune system, so that candidate vaccines can be screened in a rapid, high-throughput fashion, *decreasing the time to find promising ones from years to weeks*. DARPA researchers demonstrated that this technology can predict when a vaccine will elicit a strong immune response in humans, and, more importantly, when it will not. This chip-scale technology has just now transitioned to DTRA for advanced research, and to the Joint Program Executive Office for Chemical and Biological Defense for actual screening and evaluation of potential vaccines. It has also been transitioned to several non-governmental and commercial organizations to work on screening vaccines for disease such as HIV, and even to test the immunologic safety of consumer products.

But given all of this, how do we produce *enough* vaccine or therapeutic *in time* to help a large

population at-risk? It is, indeed, a sad and frustrating fact that today, even if all the previous steps in Figure 1 are accomplished perfectly, it could take years or even decades to manufacture enough of the vaccine to provide to our citizens. The limitation arises from the fact that most vaccines are still made in archaic platforms that are slow and difficult and expensive to scale. Why do we still use these platforms? Because, despite being slow and inflexible, they generally work.

For example, we have made flu vaccine in eggs for decades. And, although this is generally a great success story, unless billions of dollars are invested to expand this "traditional" capability, we would not be able to provide enough vaccine for everyone if a pandemic should strike. A more substantial concern is the fact that the billions invested in this platform would do nothing to help manufacture vaccines or therapeutics in the event of an Ebola outbreak, or a widespread anthrax attack, or an attack with a new designer organism. These therapeutics require fundamentally different approaches and different technology than that used to make flu vaccine in eggs.

To remedy this vulnerability and "bottleneck," DARPA's current thrust is on the "Large Scale Manufacturing" phase of the timeline in Figure 1. Specifically, our focus is the manufacture of vaccines and other therapeutics that are biologics, that is, generally made of complex proteins.

DARPA's Accelerated Manufacture of Pharmaceuticals program is supporting research in new, flexible, scalable platforms that have the potential, if successful, to supply any purified protein vaccine in a fraction of the time of current platforms. For example, we are supporting research that will enable production of any vaccine in simple bacteria or fungi – both of which are in widespread use for production of proteins for consumer products such as laundry detergent. Combining these platforms with new flexible fermentation technology could provide the answer to our manufacturing problems.

We are also supporting exciting vaccine production work in plants, specifically tobacco. Fraunhofer Corporation has recently proven that they can manufacture two different types of crude flu vaccine in tobacco – and these are the kinds of flu vaccines that cannot be made in eggs because the flu kills the eggs.

I want to emphasize that no vaccines from these new platforms are ready to be given to humans – there are still several years' of research and development, and Food and Drug Administration approval required before that happens. But we do believe the future of vaccine manufacture will be drastically changed by DARPA's investments.

There remain many challenges for discovering effective vaccines rapidly and producing them quickly in large quantities. At DARPA, our programs have begun to define, and now transition to U.S. Government agencies and to commercial industry, the technologies that will enable vaccine discovery to potentially occur orders-of-magnitude faster than we can make happen today, and, eventually, in-time production of vaccines in population-significant quantities. We believe these technologies are critical for the future security of the military and of our citizens.

Mr. ROTHMAN. Okay. And is it appropriate to, or can you talk about the sources of the scientific knowledge? I am assuming it is Russia, North Korea, but you tell me. Where is the knowledge base coming from, or is it so easily disseminated on the Internet that now it is everywhere, to create these sources of threats; biological, chemical or radiological to us?

General REEVES. Well, staying with the biological threat for just a moment, sir. Of course we have the traditional threats of naturally occurring disease. We have certain emerging threats. And you heard a moment ago talking about pandemic flu, SARS, drug resistant tuberculosis. We have enhanced threats where people can do what is referred to as bioprospecting. They go out and look for particularly virulent strains of some particular threat. And then we have what you heard Dr. Galloway speaking of earlier, which are the so-called advance threats. And these are the genetically engineered or genetically modified threats. And what I would simply use as a matter of illustration is that the kinds of things that were done in genetic engineering only a few years ago by postgraduate doctoral students are today being done in colleges and high schools. The rapid advance of biotechnology and the development of genetic, the tools of genetic engineering, are very widespread through both our university system as well as through the Internet. And that concerns us greatly for the future.

Mr. ROTHMAN. And, again, please assure me, unless you can't honestly, that the Department of Homeland Security is aware of the ubiquitousness, if there is such a word, of the potential threat here in the United States for that kind of bad conduct?

General REEVES. They are, sir. And we do work closely with the Department of Homeland Security across all of our programs, not only pharmaceutical, but also in detection and protection programs to share common technology.

Mr. ROTHMAN. My chairman is smiling.

Mr. MURTHA. Mr. Bishop.

Mr. ROTHMAN. Thank you, Mr. Chairman.

CONTINUITY OF VACCINE STOCKPILE

Mr. BISHOP. Thank you, Mr. Chairman. The committee understands that JAC has recently canceled the future procurements, and back to anthrax, of the FDA approved anthrax vaccine and that you plan to rely solely on HHS for procurement of the vaccine doses that are needed for future vaccinations of our military personnel. Since DoD has successfully managed this contract in the past for assuring a continued supply of vaccine, what assurances do you have from HHS that they will maintain your supply chain, that they will give DoD first priority for vaccine doses in the stockpile and assure that there won't be an interruption in the supply for DoD if HHS were to draw down its vaccine stockpile during an emergency? And what assurances has HHS provided DoD that it will acquire the additional doses of thorax to replace the doses that are provided to DoD, as well as the other doses that have expiring shelflives? And the final part of that is when will HHS have a new contract for increasing the number of FDA-licensed vaccine doses to reach that 75 million goal?

Dr. KILPATRICK. Well, I can start, and I will let Dr. Robinson finish the answer, because it really was a joint agreement as we went into this saying that this just logically makes sense instead of trying to run two different contracts and being in competition. We asked how do we work this together and how do we do it concurrently. I think all the issues that you raised were parts of that agreement that was clearly spelled out. I think that as we look at how we manage that, we are both very confident that DoD's needs will always be met, that there won't be any issue on that. And I think it comes from the production of—

Mr. BISHOP. Let me interrupt you just a second. Mr. Frelinghuysen suggested, with probably good reason, that HHS is a little bit slow in its performance.

Dr. KILPATRICK. Well, again, I think this is an agreement where the two organizations have really spelled out all the details so that DoD is very confident that our supply will continue to be met. I know HHS has continued to work on what they are looking at in the stockpile. But the efficiencies of scale and the contracting and I think moving this forward as we are looking at the potential for even new vaccines being developed in the future, I think that is really where this agreement is headed, not just for today, but looking into production capabilities in the future.

Mr. ROBINSON. Thank you, Dr. Kilpatrick. I want to echo what he said, and what he said is absolutely true in that the different elements that you presented to us were in that agreement, and that HHS is moving forward with the next one this year to procure more of the vaccine. And as head of the pan flu program we moved it expeditiously and we will move forward with BARDA expeditiously on all our threats, not just pan flu.

Mr. BISHOP. When is the 75 million going to be reached?

Mr. ROBINSON. We see that as not only—we are buying what capacity is there right now.

Mr. BISHOP. I am sorry?

Mr. ROBINSON. We are buying what capacity that they can make right now, and will continue to do that. We have the advanced development of new products coming on. We will be awarding contracts for the RPA.

Mr. BISHOP. Let me repeat myself. When will the 75 million be reached? That is as in the date or an expected date?

Mr. ROBINSON. We would like for the record to give you the timelines on that in specific numbers over the next several years, how much we would actually get for each year, if we could do that, sir.

Mr. BISHOP. Thank you.

Mr. MURTHA. Mr. Lewis, do you have anything additional?

Mr. LEWIS. No.

UNFUNDED PRIORITIES

Mr. MURTHA. Let me make a couple comments here, that having the staff from HHS is so important. I understand last year it was $870 million which got lost in between the supplemental domestic spending, and so forth. I think you need to tell both our staffs what that $870 million would have done. I think it looks to me like the cell research is the key to moving this thing forward faster, be-

cause if you can produce the research using cells rather than eggs you reduce the time it takes in the research.

And third, the manufacturing, which is the customer. So I think we need to hear from you how we solve these problems or what we can do to help in defense. I don't know that we can do anything, but I think you can see the concern of the committee about us trying to help. But the key thing is what will the $870 million, and my staff says $1.2 billion may have been needed to stabilize this thing. We don't want to wait until there is a damn epidemic and then rush around and spend a lot of money and not solve the problem. A lot of people die in the meantime. As some people say, the valley of death means between research and manufacturing. So we need you to tell the staff so we get some conception of if we can help. We may not be able to help, but we need to have an idea of what we can do.

Mr. LEWIS. Mr. Chairman, if you would yield on that. I talk with my colleague to my right from New Jersey about a lot of things. He doesn't discuss his big pharmaceutical companies with me too often. But I do understand from both of my colleagues from New Jersey there is not a heck of a lot of profit made by these companies by way of vaccine production, but nonetheless they do have capacity. Further, it is suggested that if we do have a challenge relative to being able to produce huge volumes in X and Y, it is likely a relatively minor investment relative to an existing capacity, wherever it might exist, but it would be much more logical as long as the government had access, much more logical than creating a huge facility somewhere where we might have part-time employees turn on the lights once in a while and wait for the emergency to occur.

Mr. ROBINSON. Yes, sir. First, I want to thank you, because even though avian influenza and pandemic influenza is not on the airways every moment like it was a year ago, your urgency is shared by us, and I mean me personally. Relative to the $870 million, that money was to go for advanced development of the cell-based vaccines to get those towards licensure of the products over the next 2 years. Also for recombinant vaccines, which would be able to produce the product in about half the time that cell or egg-based would, so that was one of the things. For advanced development of new antiviral drugs that——

Mr. MURTHA. Go over that again. The $870 million would reduce—what would it do?

Mr. ROBINSON. The second element of that would be for recombinant vaccine development where they could actually produce the vaccine in one-half the time that we see with the standard egg-based and the new cell-based vaccine.

In a pandemic—let me just walk you through this, in a pandemic we see that egg and cell-based facilities would be able to provide the vaccine at 20 to 23 weeks after the onset of a pandemic. We have walked through this, we have compressed it as much as we possibly can, and that is really what the manufactures and we know that it can happen. The recombinant vaccines, however, provided an opportunity to break that down to about 12 weeks. And so at HHS we are moving forward with, in fact we awarded contracts this year, to advance development of those types of vaccines,

such as recombinant proteins, recombinant DNA that would be able to have vaccines in half the time that we would expect for egg and cell-based.

Mr. MURTHA. But yet back so we understand. The $870 million would in 2 years reduce the time it takes to do the research towards cell-based versus eggs and consequently reduce the time it takes to produce and get through the system faster?

Mr. ROBINSON. For the cell-based it actually gives us the entire manufacturing capacity that we need to produce the 600 million doses that we would need for a pandemic. In addition to that, we would have recombinant vaccines that would be able to come online much sooner during a pandemic, about half the time.

Mr. MURTHA. What would the shelflife be for the $600 million doses?

Mr. ROBINSON. For the 600 million doses right now what we have seen is influenza vaccines normally have not been allowed to go much longer than a year. And what we are seeing right now is that as we keep our vaccines in bulk form, not in the final vials but in bulk, we are seeing 2 and 3 years and going forward that these vaccines are stable.

Mr. MURTHA. And how long does it take—all right, you do the research. How long does it take to get through the FDA system?

Mr. ROBINSON. That still takes anywhere to go from the time that you file an IND, to go into the clinic and try to demonstrate safety and efficacy until the time that you are licensed, the best that we can do is about 4 to 5 years.

Mr. MURTHA. Well, see, this is why this is urgent. I mean, we cannot afford——

Mr. ROBINSON. And we have a way of ameliorating that timeline, and that is the Department has an authorization called emergency usage authorization. If we see a product that has been shown to be safe and it has some efficacy but it hasn't been licensed yet, the Secretary can make a declaration that that product could be used.

Mr. MURTHA. But it is going to take some time to do that in order to do it safe.

Mr. ROBINSON. No, we have those actually programmed such that for pandemic influenza that the minute that it occurs that that specific product would be mobilized and could be made and then moved out and be given to an individual.

Mr. MURTHA. Give this committee an idea of what we are talking about. Give us an idea. You got the cell-based research. How long does it take to get it to the market, to get it produced, researched and produced into the market?

Mr. ROBINSON. For cell-based 20 to 23 weeks from the time a pandemic occurs.

Mr. DICKS. Thank you, Mr. Chairman.

Mr. LEWIS. Excuse me, could I follow on that?

Mr. MURTHA. Sure.

Mr. LEWIS. I am presuming the timeline you just suggested included approval by the FDA?

Mr. ROBINSON. In the cell and egg-based where we are moving toward is if they are not already a licensed vaccine, because influenza vaccines are licensed, then we would use the emergency use

authorizations which we will already have in place as we go forward, so that part would not be any problem.

Mr. LEWIS. Is there full cooperation with the FDA for a process like this?

Mr. ROBINSON. Yes, sir, they are part of the process, absolutely.

Mr. LEWIS. And did that involve essentially setting aside clinical trials or what?

Mr. ROBINSON. For the pandemic vaccine there would not be clinical trials because the vaccines would be so similar to the ones that are already licensed that we would be able to use those under emergency usage authorization.

Mr. LEWIS. We are talking about threats that are much different than the well-established threats here potentially. And so what we are really trying to do is have you help us with developing processes for responding that will be sensible in terms of review by organizations like the FDA, but at the same time be able to be timely. We don't want this to be a population control program. It is—well, I would be very interested in having DARPA help us and you all help us know where there are major problems in facilitating these timelines. If you are not getting cooperation from the private sector, for example, in a timely and responsive way we would like to know that. If there are hangups with territory in an FDA location, we would like to know that. The interplay between the universities. I would think major universities around the country are doing research in a variety of mix of these areas, and what we don't know about all that and the way we are coordinating those research efforts, I don't know anything about them, but we sure should.

Anyway, I am sorry, Mr. Chairman.

Mr. MURTHA. Let me tell you, we want to help you solve this problem. That is the key. Mr. Dicks, do you have a question?

ANTHRAX VACCINE

Mr. DICKS. Yes. Dr. Robinson, when was BARDA created?

Mr. ROBINSON. In 2006, sir.

Mr. DICKS. Now, as I understand it, I want to correct the record here, the number—how many threat assessments have come over from the Department of Homeland Security to HHS?

Mr. ROBINSON. It is my recollection that there are 13. Yes, 13.

Mr. DICKS. And they have all been, whatever you do, you approve them or agree with them or concur in them, that has all been done, isn't that correct?

Mr. ROBINSON. Yes, sir.

Mr. DICKS. That is good. Now, there was a problem with the first anthrax contract that went out to a company, Vaxgen. It is like $800 million, and we got nothing.

Mr. ROBINSON. That is correct, sir.

Mr. DICKS. Did we spend all the money?

Mr. ROBINSON. No, sir. $1.5 million was all that was spent on that contract.

Mr. DICKS. $1.5 million, that is good. Now, understanding you have developed several different anthrax approaches, is that not correct?

Mr. ROBINSON. That is correct, sir.

Mr. DICKS. Can you tell us about that? These are contracts that have just been let. They are smaller.

Mr. ROBINSON. Yes, sir. One of the ways to go about this is with the advanced development. There are small broad agency announcements where we have awarded these contracts on a number of different types of mixed generation anthrax vaccines. What we see is those going forward, and we know not all of them are going to make it, but by advancing development paradigm we can take those that look really promising and move those toward licensure and then those will become eligible, because we want multiple products there in the stockpile for that threat.

Mr. DICKS. Now, I asked you about the bird flu vaccine. You said that—is there some new strain of bird flu that we don't have a vaccine for?

Mr. ROBINSON. No, sir. What happens is as normal human influenza does is it genetically changes slightly. And what we have seen is that is exactly what happens. In HHS we monitor this through CDC and the World Health Organization. And our stockpiles actually reflect to the year, actually to several months ago, what is actually out there and circulating as the biggest threats. And we will continue that monitoring of different avian influenza virus, not only H5N1 but H7 and H9 viruses also.

Mr. MURTHA. Mr. Rothman has a question.

SECURITY THREATS

Mr. ROTHMAN. Thank you, Mr. Chairman. I wonder if this question is for the Chair or for the panel. I understand and appreciate all the testimony about naturally occurring diseases and things like that. But being this is the Defense Subcommittee I am concerned about and we are concerned about adequate funding to address security threats to the United States. How do we assure ourselves, Mr. Chairman, that the intelligence community, A, has the incentive and, B, have the resources to be looking for these things, these problems and source of problems overseas? That old expression, an ounce of prevention is worth a pound of cure, I think is applicable.

So I don't know whether this panel can testify to that or not.

Mr. MURTHA. I don't think that this is as much intelligence. I think we are really talking about the possibility of a flu epidemic rather than anthrax. Anthrax of course, as we all well know, is not contagious. So it is a different situation.

Mr. ROTHMAN. If the gentleman will yield. The genetically altered threats that the General was talking about and Dr. Galloway apparently are the most frightening because there is so much unknown there and we don't have adequate ways to address the unknown. So it would seem that that would be the biggest threat to our Nation.

Mr. MURTHA. Do you think you are getting adequate intelligence? Are they paying attention to this? Is this something we have any access to?

General REEVES. We do, sir. But clearly given the very nature of being able to genetically modify an organism the potentials are almost endless. And so part of what Dr. Galloway and the chem-biodefense program is doing is looking at those techniques that we can use generically to identify virulence in a threat so that we can very

quickly recognize what that genetic modification is, how do we produce countermeasure and——

Mr. MURTHA. Did you say before the hearing started it takes up to a year sometimes to determine this?

General REEVES. It certainly could, sir.

EMERGENCY USAGE OF VACCINES

Mr. MURTHA. Okay. I have one last question. How many times have we used the emergency usage authorization?

Mr. ROBINSON. To my knowledge, sir, we have used it at least a couple of times already. And we have preset documents that are ready to go on different threats going forward.

Mr. MURTHA. No adverse effect to the public?

Mr. ROBINSON. For those that we know, we only would put those that have a good safety record going forward, that we feel confident that they would not have severe adverse effects.

Mr. DICKS. For the military or is it for the civilians? Is it for military or civilians?

Mr. ROBINSON. We know for civilians we do have that authorization to do that, the EUAs yes, sir.

Mr. DICKS. You can do it for civilians as well as the military?

Mr. ROBINSON. That is correct.

Mr. MURTHA. Mr. Young.

Mr. YOUNG. Mr. Chairman, thank you. During the first panel I mentioned some of the work that was being done at the University of South Florida when the subject of bird flu came up, called to my attention. They did a tremendous amount of research and work, not only nationally but internationally, on the issue of bird flu. And if you haven't talked to them you might want to do that, because I think they might have a lot to offer.

Mr. MURTHA. Thank you very much. The committee is adjourned.

[CLERK'S NOTE.—Questions submitted by Mr. Rothman and the answers thereto follow:]

Question. Dr. Galloway: The Commission on the National Guard and Reserves, which reported out January 31, 2008, emphasized in their findings the need for federal readiness to respond to national emergencies such as use of weapons of mass destruction. What current programs are underway at the Defense Threat Reduction Agency to provide medical response for emergency treatment of victims, in the event of another terrorist attack?

Answer. The Defense Threat Reduction Agency (DTRA) conducts science and technology research directed at improving medical response in treating victims of terrorist threat agents by developing new prophylaxis and therapeutics for chemical, biological and radiological agents. Our research takes these potential medical products to the point of readiness to file for an Investigational New Drug (IND) application with the Food and Drug Administration (FDA). Further development that seeks to result in gaining an FDA license for these products falls within the domain of the Joint Program Executive Office for Chem-Bio Defense. Although the efforts are oriented primarily at capabilities of interest to the war fighter, the products and methods ensuing from this research have applicability to the public sector as well. To this aim, DTRA attempts to coordinate, at multiple levels, with Department of Health and Human Services (DHHS) and the Department of Homeland Security (DHS) offices to avoid duplication and to ensure that appropriate threats are addressed by our research programs.

Countermeasures Against Biological Agents

Research focuses on developing pre- and post-exposure medical countermeasures effective against biological warfare (BW) threat agents. These activities focus on preventing disease, or reducing the lethal and functional incapacitating effects of an agent. The projects managed by DTRA range from basic research to more mature

research efforts. Basic studies are focused on characterizing pathogenic mechanisms, host immune responses to pathogens, and identification of therapeutic and vaccine targets. Applied and advanced studies are aimed at designing and evaluating novel therapeutics and the generation and testing of novel vaccine candidates.

THERAPEUTICS

Therapeutics against bacterial agents

The objective of the task area is to develop therapeutic modalities that reduce the lethal and functional incapacitating effects of bacterial BW threat agents. Specific agents of current interest include Yersinia pestis, Francisella tularensis, Burkholderia mallei, Burkholderia pseudomallei, and Bacillus anthracis. DTRA funded research supports the testing and evaluation of conventional antimicrobials in order to provide actionable information regarding prophylaxis or treatment options to healthcare providers in the event of an attack. Research in this area also includes the development of next generation antimicrobials capable of providing novel treatment options in the event of an attack or outbreak with an antibiotic resistant strain.

Therapeutics against toxin agents

DTRA also conducts efforts aimed at the development of first in class therapeutic modalities against toxins. The anticipated effects of the use of this therapeutics are the amelioration of the lethal and functional incapacitating effects of specific toxin agents. Currently, primary focus is directed toward discovery and therapeutic development efforts directed at botulinum neurotoxins (BoNT) serotypes A–G, ricin, and staphylococcal enterotoxin.

Therapeutics against viral agents

Research is also currently being conducted in the development of therapeutic modalities targeted against aerosolized viral BW threat agents. Resources are currently primarily applied toward development of therapeutics against filovirus (i.e., Marburg and Ebola virus), alphavirus, and orthopox virus infection. DTRA funded research is supporting the development of ST–246, a novel smallpox antiviral, that could be used in the event of a variola (smallpox) attack. ST–246 is safe in humans and is 100% protective in primates that have been infected with the virus. Efforts are also directed at developing novel antiviral therapies against CDC category A and B viral biothreat agents, especially viral encephalitis and hemorrhagic fever viruses. Efforts that support FDA licensure of these products are paramount to deploying timely and effective medical countermeasures.

VACCINES

Vaccines against bacterial agents

The program objective is to develop vaccines that protect individuals against predicted battlefield doses of aerosolized Category A and B bacterial biothreat agents. The program conducts basic research to identify mechanisms of bacterial pathogenesis and host immune responses. Studies are aimed at identifying protective antigenic epitopes against Category A and B bacterial agents that may be incorporated into an effective vaccine candidate. Applied research involves testing vaccine candidates in tissue culture and small animal models for immunogenicity/potency. If results are promising, the candidates are further tested for their ability to protect laboratory animals against challenges with the corresponding bacterial pathogen. Vaccine formulations include recombinant proteins, and the use of novel platforms to express target antigens. Past successes include efficacious vaccines against Bacillus anthracis and *Yersinia pestis* (i.e., anthrax and plague). The program is currently working on vaccines against *Burkholderia* sp., *Brucella* sp. and *Francisella tularensis*. The program also is aimed at identifying protective antigenic epitopes against bacterial biothreat agents that could be incorporated into a multi-agent vaccine platform, and the development of alternative delivery methods. The program's emphasis is the down-selection of identified vaccine candidates for further, advanced development.

Vaccines against viral agents

As for viral agents, the long-term objective is to develop vaccines that protect individuals against predicted battlefield doses of aerosolized Category A and B viral biothreat agents. Basic studies are aimed at understanding mechanisms of viral pathogenesis and host response, in order to identify protective antigens that may be incorporated into vaccine formulations. Currently, the major thrusts in this area are the generation of vaccines that protect against the filoviruses (e.g., Ebola and

Marburg) and alphaviruses [e.g., Venezuelan Equine Encephalitis (VEE), Western Equine Encephalitis virus (WEE) and Eastern Equine Encephalitis virus (EEE)]. The program's goal is to develop a vaccine against each viral agent, either as a single or preferably multi-agent (e.g., VEE/EEE/WEE) formulation. The vaccine platforms currently being tested include inactive viruses, naked DNA, non-replicating viral vectors, and virus-like particles. Again, the focus is the down-selection of vaccine candidates for further advanced development.

Vaccines against toxins

DTRA is also generating vaccines against Category A and B toxin threats. A safe and efficacious vaccine against Botulinum neurotoxin (serotypes A/B) was generated and transitioned to the advanced developer in 1999. Likewise, a vaccine against Staphylococcal enterotoxin B was also developed and is scheduled for an upcoming phase I clinical trial. Currently, the program is evaluating a vaccine against Ricin, which should enter phase I clinical trials in FY09/10.

Countermeasures Against Chemical Agents

An important area of DTRA's research portfolio includes projects aimed at developing medical countermeasures to chemical agents, including non-traditional agents. Some DTRA efforts are directed at elucidating the mechanisms of chemical agent etiology with the anticipation that identify new targets for next-generation therapeutics. However, a priority is given to testing and development of prophylactic, therapeutic and adjuncts to chemical agents. In addition to development of modalities of treatment for chemical agents, projects include developing state-of-the-art laboratory/fieldable methods that detect exposure to chemical agents, such as nerve agents and vesicants, in clinical samples.

Significant efforts are aimed at developing catalytic BioScavenger or other than butyrylcholinesterase BioScavenger prophylactics that provide protection against all organophosphorous nerve agents. Additionally, medical therapeutics are being developed for the protection of the nervous system against nerve agent threats. Some of the medical countermeasures being developed here include neuroprotectants, anticonvulsants, and improved cholinesterase reactivators. DTRA also manages projects aimed at developing therapeutic strategies to prevent or minimize injuries caused by vesicant agents, namely sulfur mustard. Emphasis is placed on all major routes of exposure to include the integument and ocular tissues as well as the respiratory and systemic systems.

Countermeasures Against Radiological and Nuclear Exposure

Currently, no licensed non-toxic pharmaceutical agents or diagnostic capabilities are suitable for use in military operational environments for penetrating ionizing radiation. An aminothiol compound, amifostine, is FDA approved for use in patients receiving chemotherapy or radiation therapy, but amifostine's performance degrading toxic side effects prohibit its use in healthy patients. Other pharmacologic agents are available to physicians off-label, such as hematopoietic cytokines (Neupogen™) for treating bone marrow injury. Additionally, antibiotics are commonly used to treat the infectious sequelae of radiological injuries, but they must be selected appropriately to effectively treat exogenous and endogenous systemic infections while not affecting beneficial intestinal normal microfluora.

DTRA's research efforts in this area are aimed at preventing or mitigating radiation-induced injury. The focus of DTRA's efforts, therefore, is to develop broad-spectrum medical radioprotectants against Acute Radiation Syndrome (ARS) and Delayed Effects of Acute Radiation Exposure (DEARE), leading to chronic radiation damage (e.g., fibrosis and mutagenesis). These radioprotectants are envisioned to be used prophylactically and/or therapeutically (i.e., post-irradiation exposure). The development of radioprotectants (prophylaxis or pretreatment) is unique to DoD strategy, and, as such, DoD is the only governmental agency developing medical countermeasures to prevent against ionizing radiation before exposure.

Specifically, countermeasures under development focus on the effective treatment of respiratory and gastrointestinal systems following radiological exposures. These studies are designed to support FDA requirements for approval. The approaches include medical countermeasures such as anti-oxidants, anti-apoptotic agents, decorporation agents, and lung/GI rescue of cellular components against ARS and DEARE. Although novel approaches are sought, more mature, promising product candidates at later stages of development that clearly demonstrate viability for use in this area are emphasized. Additionally, chromosomal biomarkers aimed at development of biodosimetry technology for diagnosis of patients following radiological exposure is conducted.

Diagnostic Technology

DTRA also manages programs directed at developing new diagnostic technologies. The ultimate goal in this area is to field complete diagnostic systems (e.g., test platform assays and reagents) that will confirm health threats and rapidly diagnose exposure to, or disease caused by, biological warfare agents. The current program provides support for established programs, including the Joint Biological Agent Identification and Diagnostic System, Next Generation Diagnostic System, as well as the Critical Reagents Program. In these regards, guidelines have been established and standardized for assessing nucleic acid assays and immunoassays, de novo clinical sequencing, and host response biomarkers that provide a decision point for transition from the tech-base to advanced development, leading, eventually, to FDA approval.

Transformational Medical Technologies Initiative

The Transformational Medical Technology Initiative (TMTI) is a unique program designed to provide an enterprise capability directly geared to support a coordinated, rapid, and effective medical response to all victims in the event of another terrorist attack. The overarching goal of TMTI is to provide a sustainable capability to rapidly respond to traditional, emerging and genetically modified biological threats. TMTI is aimed at protecting the warfighter from biological threats through three key performance enablers, which provide proof-of-process and include:

- Providing broad spectrum medical countermeasures against intracellular bacterial pathogens and hemorrhagic fever viruses
- Developing platform technologies to identify and counter unknown agents
- Obtaining genetic sequences of threats to enable rapid identification of agents and accelerate the development of essential therapeutics.

The science of countermeasures has long revolved around the notion of prophylaxis or treatment targeting a single organism; TMTI has engaged early research to create platforms that support the enterprise by targeting broad spectrum regions that will result in broad spectrum therapeutics. The knowledge of the prevalence of these regions and the effective blockers will enable rapid response to events and threats in the future. The development of these platforms, including threat identification, drug discovery and development, and accelerated manufacture, will speed the response necessary for effective consequence management. All of these will be done in concert with Health and Human Services, and Homeland Security.

[CLERK'S NOTE.—End of questions submitted by Mr. Rothman. Questions submitted by Mr. Young and the answers thereto follow:]

Question. General Reeves.

Until the development and deployment of the next generation of detectors, the possibility exists of being attacked with an unknown biological agent. The use of broad-spectrum therapeutics may help to counter the uncertainty of the exact virus or strain of virus being used as a weapon. For example, Ribavirin is the preferred treatment for certain hemorrhagic fever viral infections, but it is worthless against Ebola and Marburg infections. A broad-spectrum therapeutic could work against all of them. In fact, in a bioterrorist attack, a broad-spectrum therapeutic could conceivably be used before the actual pathogen had been identified.

How effective are broad-spectrum therapeutics? What are their drawbacks? Can these help alleviate some of the uncertainty?

Answer. Although we would be delighted to find, develop, and field a true broad-spectrum therapeutic that will work against all threat classes, this is highly unlikely, given what we know of pathogenesis and host immune pathways. Our working concept of broad-spectrum therapeutics involves countermeasures that will cross at least two threat classes (e.g., a countermeasure that interferes with viral capsid formation, a mechanism used by many viral classes). The Transformational Medical Technologies Initiative (TMTI) program supports several efforts in this direction. It also addresses rapid identification of unknown, newly emergent, or bioengineered agents. The Chemical Biological Medical Systems (CBMS) program also addresses threats with broad-spectrum agents; for example, our botulinum toxin vaccine will protect against two types of botulinum toxin.

At present, the only truly broad-spectrum therapeutics we have are antibiotics with a wide spectrum of action. We have no specific therapeutics other than supportive therapy against threat classes such as the weaponizable viral hemorrhagic fevers (e.g., Ebola, Marburg, etc.) or certain intracellular bacteria (e.g., Burkholderia, tularaemia, etc.). Clinicians regularly institute broad-spectrum antibiotic therapy before the results of culture and sensitivity are known when patients present with what are believed to be bacterial infections. This has been part of daily

medical practice for decades. This practice has long proven effective. The drawbacks of any therapeutic are the side effects of the medication, as well as the uncertainty that may result if we partly treat an infection before we have clearly classified it. In theory, broad-spectrum therapeutics not yet developed would share the same drawbacks.

It is not quite accurate to say the Ribavirin is the preferred treatment for certain hemorrhagic fever viral infections. Ribavirin is approved by the Food and Drug Administration (FDA) only against hepatitis C. It has indeed been proven effective against several other viruses, such as Lassa, including some human experience. But it is not approved for these indications. Ribavirin is not effective against Marburg and Ebola viruses. Ribavirin is used by the Department of Defense (DoD) as the preferred treatment for Korean hemorrhagic fever. It is used, under an Investigational New Drug protocol, which involves informed consent, at the 121 Army Hospital in Korea to treat the one to five patients attended to every year. In this case, Ribavirin is the preferred DoD treatment.

Question. Similarly, a major disadvantage with vaccine development for specific virus strains is that it could be rendered worthless by a single genetic modification to the virus. Because of that fact, there exists the possibility that the military could stockpile large amounts of vaccines and therapeutics that could be rendered useless.

Does the enemy have the sophistication to genetically alter a virus? Is this something we should be more worried about?

Answer. Let me say first that there is no indication that any terrorist organization has the capability to, or is attempting to, genetically alter viruses. However, any nation with an advanced biotechnology industry or capability could conceivably genetically alter a virus, potentially rendering vaccines and countermeasures useless. While no nation publicly acknowledges having either an offensive biological weapons (BW) program or stockpile, a number of countries, some of which have advanced biotechnology capabilities, are assessed to have some BW capability. This is why development of broad-spectrum therapeutics is important to the overall chemical and biological defense program.

Question. Your recent Senate testimony refers to the use of smallpox vaccine as a real achievement in additional readiness for the warfighter. It is my understanding that currently some 20% of our men and women in uniform cannot be vaccinated for a variety of reasons, including contraindications such as eczema, autoimmune diseases, or heart disease. Is there a gap in coverage, in your view? Is the Department looking at ways to deal with this? Could options include procurement of a therapeutic drug for those who are not vaccinated and become exposed to smallpox?

Answer. Actually, about 9% of those screened for smallpox vaccination have been found medically ineligible. The 9% that were not vaccinated were due to medical exemptions based upon our stringent screening guidelines to identify individuals who may be at a higher risk of incurring smallpox vaccine related adverse events. The Department of Defense (DoD) leadership balances the benefit of protection against a biological attack using smallpox with careful consideration of the potential risks of vaccination. If the risk of attack increases, DoD can identify the individuals that were exempted from vaccination and reconsider administering the vaccine or remove those people from the high threat area. There are no absolute exemptions to smallpox vaccination in a postexposure event. If the smallpox threat materializes, these people would be protected by individual or collective protection capabilities that we have fielded.

Additionally, the DoD continues to explore postexposure treatment options, including procurement of therapeutic drugs and the use of a smallpox vaccine that utilizes a weakened form of the viral strain used in the vaccine. If there was a smallpox therapeutic licensed by the Food and Drug Administration for that indication, procurement of such a drug would indeed be an option. There are no such drugs today, but the government technology base includes researchers who have participated in studies involving two possible candidates, ST–246 and Cidofovir. These technology base efforts may mature into advanced development programs, if the results of research efforts attain appropriate technological readiness levels.

Question. Dr. Kilpatrick. Last year, we heard about a toddler suffering from complications of a smallpox vaccination given to his soldier father. I'm told the child is alive and well today after a near fatal experience. Has the Department conducted an analysis of this situation, and if so what lessons learned have been gained as a result? How does the Department plan to prevent similar situations in the future?

Answer. The Department of Defense (DoD) investigated the circumstances leading to the case and has made changes to the program. The Service member received a smallpox vaccine training brief and the smallpox and anthrax tri-fold brochures. In addition, he completed the standardized screening form before vaccination, as re-

quired. The screening health care provider cleared the individual for vaccination after reviewing his personal medical history. Although the Service member annotated the screening form to indicate a prior history of eczema and/or atopic dermatitis, the provider cleared him after the consultation with senior physicians at the mobilization site.

The Service member initially reported the adverse event while consulting the Vaccine Healthcare Center, as directed in the pre-vaccination training brief. He reported that his scab separated naturally around day 21, but he continued to take the added precaution of keeping the vaccination site covered while in contact with family. He reported extensive contact with the child, including sleeping in the same bed, wrestling, and bathing.

The actions taken by DoD to reduce the possibility of a similar case included:

- Redoubling efforts to ensure quality health care provider training at all vaccine administration sites.
- Updating educational products, including online videos, live Web casts, and in-person or downloadable presentations.
- Holding training sessions at various DoD installations on a rotating basis while interacting with as many health care providers as possible.

Since May 2007, DoD has trained over 500 health care providers involved with the DoD smallpox vaccination program. The message that is consistently relayed to health care providers is that individuals with contraindicating conditions should be excluded from the smallpox vaccination programs.

In addition, DoD has released an updated clinical policy that includes a change in its recommended vaccination site care instructions. Because of this case and the potential for micro-shedding of the vaccinia virus following scab separation, the updated policy now directs Service members to continue active site care for 30 days after vaccination and until the site is entirely healed. This exceeds the Centers for Disease Control and Prevention's recommendation of maintaining the precaution until the scab "falls off on its own (2 to 3 weeks)."

The DoD vaccinated over 180,000 Service members in the year following this incident with no additional serious cases of contact transmission. Since the program began in 2002, DoD has screened over 1.7 million people and vaccinated over 1.5 million people.

[CLERK'S NOTE.—End of questions submitted by Mr. Young. Questions submitted by Mr. Hobson and the answers thereto follow.]

INDUSTRIAL BASE/DARPA–UPMC STUDY

Question. General Reeves. What is the current status of our national industrial base for developing and manufacturing medical countermeasures and for providing surge capacity during crises? Should the DARPA-UPMC (University of Pittsburgh Medical Center) study be continued and expanded to find solutions to these issues?

Answer. Department of Defense (DoD) production strategies address requirements for surge capability and industrial base concerns through the use of rated contracts with Contract Manufacturing Organizations. Typically, Contract Manufacturing Organizations have multiple manufacturing suites that could be used in the event of an emergency to support surge capacity. To address the need for surge capability and to ensure availability of product, we have issued Defense Priorities and Allocations System Delivery Order rated contracts for biological countermeasures. This rating affords DoD products production priority over unrated orders, including commercial orders. In the event of an emergency, the Defense Production Act would also mandate industry to use its resources to fulfill the needs of national defense on a priority basis. This Act could be used to require pharmaceutical manufacturers to produce biodefense medical countermeasures rather than products normally manufactured in their facilities. There are other production options to prepare for an emergency situation that would negate the requirement for surge capacity such as producing and storing frozen bulk material that could subsequently be put into smaller packages for distribution in the event of an emergency.

If the Defense Advanced Research Projects Agency–University of Pittsburgh Medical Center (DARPA–UPMC) study is continued, it is important that the Government maintain the long-term financial commitment required to sustain the production facility. It is also critical that the assumptions supporting that study be validated, particularly the projection of the number of new advanced development programs starting for both DoD and the Department of Health and Human Services, since the number of countermeasures in production in that facility impacts sustainment of the facility.

DRUGS TO TREAT RADIATION EXPOSURE

Question. I am concerned about the military's commitment to research and development of drugs necessary to treat radiation exposure for our troops. While Homeland Security has a responsibility to address this threat domestically, I believe there is a very real threat of the use of a dirty bomb or other crude nuclear device against our deployed troops in a tactical situation. What programs are currently underway to utilize near-market mature drugs that may provide lifesaving treatment for varying levels of radiation exposure? If the DOD is researching such drugs, what are their plans to bring them quickly into service as part of a standard deployment kit?

Answer. The Department of Defense (DoD) is fully committed to the development of life-saving medical radiation countermeasures that will enable warfighters to survive otherwise-lethal radiation injuries. Exposure to radiation results in a complex disease state, termed acute radiation syndrome. The DoD and the Department of Health and Human Services (HHS) are working together closely to develop a suite of medical radiation countermeasures to treat acute radiation syndrome. To minimize the cost, schedule, and program risks of these development efforts, both the DoD and the HHS have preferentially selected candidate countermeasures which have already completed substantial development. For example, the DoD's lead medical radiation countermeasure, Prochymal™, had successfully completed six Phase 1 or Phase 2 safety studies and initiated a Phase 3 clinical study for a separate indication before being selected by the DoD as a candidate medical radiation countermeasure. Due to the previously completed developmental work performed by the contractor, Osiris Therapeutics, Inc., the DoD will be able to field a product years sooner than originally estimated.

Similarly, HHS solicitation for a medical radiation countermeasure considers only those candidates for which an Investigational New Drug application has been accepted by the Food and Drug Administration. Acceptance of an Investigational New Drug application is a substantial milestone in the drug development pathway and is the prerequisite for commencing clinical studies. In coordination with contractor efforts to develop and obtain Food and Drug Administration approval for medical radiation countermeasures, the Joint Program executive Officer for Chemical and Biological Defense coordinates with the Military Services and medical logistics organizations to develop fielding and sustainment plans for medical countermeasures. The DoD is leveraging near-market candidate medical radiation countermeasures, collaborating closely with HHS parallel efforts, and incorporating fielding and sustainment planning early in the development lifecycle to deliver medical radiation countermeasures to warfighters as soon as possible.

[CLERK'S NOTE.—End of questions submitted by Mr. Hobson.]

No public hearings were held, but statements are provided for the record:

STATEMENT OF

GOLD STAR WIVES OF AMERICA, INC.

Testimony for the Record

For the

Committee on Appropriations

Subcommittee on Defense

U. S. House of Representatives

April 2008

Presented by
Ms. Rose Elizabeth Lee
Gold Star Wives of America, Inc.
Chair, Government Relations Committee

"With malice toward none; with charity for all; with firmness in the right, as God gives us to see right, let us strive to finish the work we are in; to bind up the nation's wounds, to care for him who has borne the battle, his widow and his orphan."
.... President Abraham Lincoln, Second Inaugural Address, March 4, 1865

Not for Publication

Until Released

Thank you for the opportunity to submit testimony on behalf of the members of Gold Star Wives of America, Inc.

Gold Star Wives of America, Inc. was founded in 1945 and is a Congressionally chartered veterans service organization comprised of surviving spouses of military service members who died while on active duty or as a result of a service-connected disability. We began with no better advocate than Mrs. Eleanor Roosevelt, newly widowed, who helped make Gold Star Wives a truly national organization. Mrs. Roosevelt was a member of our Board of Directors and an original signer of our Certificate of Incorporation. Many of our current membership of approximately 10,000 are the surviving spouses of service members who were killed in combat during World War II, the Korean War, the Vietnam War and the current wars in Afghanistan and Iraq.

Dependency and Indemnity Compensation (DIC) Offset
To the Survivor Benefit Plan (SBP)

GSW would like to request that the DIC offset to SBP be eliminated. This can be accomplished by passing S. 935 sponsored by Senator Bill Nelson (FL) and either the H.R. 1927 sponsored by Representative Solomon Ortiz (TX) or H.R. 1589 sponsored by Representative Henry Brown (SC).

The cost of removing the DIC offset to SBP has been estimated at $6.2 billion over 10 years.

The funding to accomplish this should already be in the Military Retirement Trust Fund (MRTF). Each of the military services makes annual contributions to the MRTF to fund the retirement of service members on active duty. Retired service members voluntarily elect SBP and pay premiums into the MRTF from the time they retire until they die to cover the cost of paying SBP to their surviving spouses. The accrued interest paid on these deposits is also in the MRTF. There should be adequate funds in the MRTF to cover the cost of removing the DIC offset to SBP.

The retired disabled service members purchased this annuity with hefty premiums to ensure that their surviving spouses had a continuing income from the military retired pay after their death. Most of them were unaware that the annuity they provided for the surviving spouses would be offset by DIC.

In the 1980s Congress awarded SBP to the surviving spouses of military personnel who died on active duty and were retirement eligible apparently based on the fact that the military services had deposited funds in the MRTF to fund the retirement of the deceased military spouse and the deceased service member would never use the retirement funds.

In 2001 Congress awarded eligibility for SBP to the surviving spouses of the service members who died on active duty. Congress was able to do this in 2001 without considering the costs because they were aware that with the DIC offset there were

perhaps ten surviving spouses of more senior military personnel who would receive SBP over and above the SBP which was offset by the DIC. In most cases the DIC offset wiped out the SBP benefit completely. In 2004 Congress later passed legislation to allow the surviving spouses to assign their benefit to the children without offset. Due to financial necessity most of the surviving spouses reassigned their SBP benefit to their children, and by doing so they forfeited a benefit intended as life long support for the surviving spouse.

Funds were deposited in the MRTF by the military services to fund the service members retirement while those service members were on active duty.

- As most disabled retired service members do not live a normal life span a portion of the funds provided for their retirement pay remains in the MRTF.
- In most cases the disabled retired service members had their retirement pay offset by VA Compensation and drew very little or no retirement pay from the MRTF.
- Additionally, disabled retired service members paid hefty premiums to ensure that their surviving spouses had adequate income after their death. Although a portion of those premiums have been returned to the surviving spouse, they were returned without the accrued interest and the surviving spouse was required to pay income tax on premiums that were paid over many years all in one tax year, so a substantial portion of the partial refund of premiums was returned to the Government coffers.

Many of the surviving spouses who reassigned their SBP to their children did so because they were advised to do so by the Casualty Officer during a time of profound grief and confusion. In most instances the Casualty Officer was unaware of the complete financial circumstances of the surviving spouse when he or she advised the surviving spouse to reassign the benefits to the children. In many cases this was a mistake and the surviving spouse would have been better off financially over the long term not to have reassigned the SBP to the children. Furthermore, they were never advised of the complex tax consequences of reassigning the SBP to the children.

Due to the fact that the service members died on active duty and never received retirement pay, the funds that were deposited to pay for the service members' retirement remain in the MRTF. These funds should be used to pay SBP to the surviving spouses of those who died on active duty. If these funds had been in an IRA or a 401K, the surviving spouse would have inherited the full amount of the IRA or 401K, not 55 percent of it.

The DIC offset to SBP is both a moral and an equity issue and needs to be eliminated. This offset unfairly punishes the surviving spouses of those who gave the most for their country.

If the United States of America is short of money, then Congress needs to find a place to cut funding that does not impact the widows and children of those who gave their lives for this country.

Tricare and Medicare Part B

Tricare requires *disabled* surviving spouses under the age of 65 to purchase Medicare Part B at a cost of approximately $100 per month. This Tricare requirement needs to be revoked. This Tricare requirement to purchase Medicare Part B is blatant discrimination against the disabled.

Only those under age 65 who receive Social Security Disability payments are required to purchase Medicare Part B to receive Tricare benefits. Enabled persons under the age of 65 entitled to Tricare are not required to purchase other health insurance to receive Tricare benefits. This Tricare requirement not only discriminates against the disabled, but it is levied against those least able to pay.

Basically the Tricare requirement for surviving spouses under 65 who receive Social Security Disability to purchase Medicare Part B shifts the cost of the disabled surviving spouses' medical care to the disabled person and Medicare.

The Federal Employees Health Benefits Plan (FEHBP) does not require those under 65 receiving Social Security Disability to purchase additional health insurance to receive benefits from FEHBP. All Government employees and their survivors should be entitled to equitable benefits.

GSW strongly recommends that all those entitled to Medicare Part B purchase it, however we believe that the **Tricare requirement** to purchase it is discriminatory and just plain wrong.

BIO-SKETCH

Rose Elizabeth Lee

Rose Lee was born in Pittsburg, California and is the widow of Colonel C. M. Lee, US Army, who served as an Infantry Officer in Korea, where he was awarded the second highest award, the Distinguished Service Cross. He also served in Vietnam and died on active duty overseas in 1972. Rose has two children and three grandchildren. Rose's six brothers all served in the US military service, one US Navy, two USAF career pilots, one whose first mission was on D-Day, June 6, 1944 over Germany and three in the US Army.

In 1978, Rose was appointed Gold Star Wives (GSW) Washington Representative and has been active through most of the time since then. Currently, she is Chair, Government Relations Committee. She was GSW National President 1991-1993 and Board Chair 1998-2002. She has served as President, Potomac Chapter and President, Middle Atlantic Region. All of her GSW work is voluntary. Her mission is to "train" new younger widows to become involved with legislative work.

She was awarded GSW first "Shining Star" award in 2007, having previously received two appreciation plaques for loyal and devoted service in July 1994 and a second plaque for outstanding work in the area of Legislation in 1999. She received a re-appointment by the VA Secretary as a current member of the VA Advisory Committee on Cemeteries and Memorials. Other appointments include: member of the Board of Directors, American Legion's Citizen Flag Alliance to protect the US flag from physical desecration; member of the Board of Trustees, Virginia War Memorial Foundation for three years in July 1992 by the Governor of Virginia; and member of Arlington County Commission on the Status of Women.

Rose worked in personnel management, Veterans' Employment, and retired from Federal service in 1992. Rose appreciates her VA education benefits as she used them to return to school to complete a BA in Political Science and a Master of Public Administration in 1977 from the American University, Washington, DC.

DISCLOSURE STATEMENT:
Neither Ms. Lee nor the Gold Star Wives of America, Inc. have received any Federal grant or contract, relevant to the subject matter of this testimony during the current or previous two fiscal years.

Signature: Rose E. Lee Date:

Written Testimony Submitted to the House of Representatives
Defense Appropriations Subcommittee
Regarding FY 2009 Funding for Malaria Related Programs
Claire Panosian, MD, DTM&H
President, American Society of Tropical Medicine and Hygiene
April 15, 2008

Overview: The American Society of Tropical Medicine and Hygiene (ASTMH) appreciates the opportunity to submit written testimony to the House Defense Appropriations Subcommittee. With nearly 3,500 members, ASTMH is the world's largest professional membership organization dedicated to the prevention and control of tropical diseases. We represent, educate, and support tropical medicine scientists, physicians, clinicians, researchers, epidemiologists, and other health professionals in this field.

As part of our efforts, we advocate implementation and funding of federal programs that address the prevention and control infectious diseases that are leading causes of death and disability in the developing world, and which pose threat to US citizens. Priority diseases include malaria, Dengue fever, Ebola, cholera, and tuberculosis. Because the military operates in and deploys to so many tropical regions, reducing the risk that tropical diseases present to servicemen and women is often critical to mission success.

For this reason, we respectfully request that the Subcommittee expand funding for military malaria research and control initiatives, providing the following allocations in the fiscal year (FY) 2009 Defense Appropriations bill to support the military's readiness for tropical disease threats.

- $30 million to support efforts to develop a vaccine against malaria and to develop new anti-malaria drugs to replace older drugs that are losing their effectiveness as a result of parasite resistance

ASTMH also requests that there are consistent increases in overall funding level for Department of Defense malaria research programs that, along with subsequent annual increases, results in $76.6 million in funding by FY 2015.

We very much appreciate the Subcommittee's consideration of our views, and we stand ready to work with Subcommittee members and staff on these and other important tropical disease matters.

ASTMH: ASTMH plays an integral and unique role in the advancement of the field of tropical medicine. Its mission is to promote global health by preventing and controlling tropical diseases through research and education. As such, the Society is the principal membership organization representing, educating, and supporting tropical medicine scientists, physicians, researchers, and other health professionals dedicated to the prevention and control of tropical diseases. Our members reside in 46 states and the District of Columbia and work in a myriad of public, private, and non-profit environments, including academia, the U.S. military, public institutions, federal agencies, private practice, and industry.

The Society's long and distinguished history goes back to the early 20th century. The current organization was formed in 1951 with the amalgamation of the National Malaria Society and the

American Society of Tropical Medicine. Over the years, the Society has counted many distinguished scientists among its members, including Nobel laureates. ASTMH and its members continue to have a major impact on the tropical diseases and parasitology research carried out around the world.

Tropical Medicine and Tropical Diseases: The term "tropical medicine" refers to the wide-ranging clinical work, research, and educational efforts of clinicians, scientists, and public health officials with a focus on the diagnosis, mitigation, prevention, and treatment of diseases prevalent in the areas of the world with a tropical climate. Most tropical diseases are located in either sub-Saharan Africa, parts of Asia (including the Indian subcontinent), or Central and South America. Many of the world's developing nations are located in these areas; thus tropical medicine tends to focus on diseases that impact the world's most impoverished individuals.

The field of tropical medicine encompasses clinical work treating tropical diseases, work in public health and public policy to prevent and control tropical diseases, basic and applied research related to tropical diseases, and education of health professionals and the public regarding tropical diseases.

Tropical diseases are illnesses that are caused by pathogens that are prevalent in areas of the world with a tropical climate. These diseases are caused by viruses, bacteria, and parasites which are spread through various mechanisms, including airborne routes, sexual contact, contaminated water and food, or an intermediary or "vector" – frequently an insect (e.g. a mosquito) – that transmits a disease between humans in the process of feeding.

Malaria: Malaria is highly treatable and preventable. The tragedy is that despite this, malaria is one of the leading causes of death and disease worldwide. According to the CDC, as many as 2.7 million individuals die from malaria each year, with 75 percent of those deaths occurring in African children. In 2002, malaria was the fourth leading cause of death in children in developing countries, causing 10.7 percent of all such deaths. Malaria-related illness and mortality extract a significant human toll as well as cost Africa's economy $12 billion per year perpetuating a cycle of poverty and illness. Nearly 40 percent of the world's population lives in an area that is at high risk for the transmission of malaria.

Tropical Disease Control and Prevention: A Key Component of Military Preparedness

Servicemen and women constitute a significant proportion of the healthy adults traveling each year to malarial regions on behalf of the U.S. government. For this reason, the U.S. military has long taken a primary role in the development of anti-malarial drugs, and many of the most effective and widely used anti-malarials were developed by U.S. military researchers. Drugs that have saved countless lives throughout the world were originally developed by the U.S. military to protect troops serving in tropical regions during World War II, the Vietnam War and the Korean War.

Fortunately, in recent years the broader international community has stepped up its efforts to reduce the impact of malaria in the developing world, particularly by reducing childhood malaria mortality, and the U.S. military is playing an important role in this broad partnership. The U.S.

military also makes significant contributions to the global effort to develop a malaria vaccine. But military malaria researchers are working practically alone in the area most directly related to U.S. national security: drugs designed to protect or treat healthy adults who travel to regions endemic to malaria. These drugs benefit everyone living or traveling in the tropics but are particularly essential to the U.S. for the protection of forces from disease during deployments.

Unfortunately, the prophylaxis and treatments currently given to U.S. servicemen and women are losing their effectiveness, and increased federal support is required to develop their replacements. Drugs such as Chloroquine-Primaquine and Mefloquine that are used to prevent or treat malaria in healthy adults are declining in efficacy. The reasons vary, but the result is the same: the U.S. government is increasingly unable to send personnel to regions endemic to malaria without a significant risk that many of them will become seriously ill. Similarly, the residents of regions endemic to malaria are finding that existing drugs are no longer as effective at preventing or treating malaria.

> "Malaria has affected almost all military deployments since the American Civil War and remains a severe and ongoing threat."
>
> From *Battling Malaria: Strengthening the U.S. Military Malaria Vaccine Program*
> Institute of Medicine Report (IOM), 2006

As the IOM notes in the 2006 report quoted above, current malaria prevention strategies are inadequate. The most recent and dramatic example of this as it relates to military readiness was in 2003 when a small U.S. peacekeeping force was deployed to Liberia. Of the 157 Marines who spent at least one night ashore during this operation, 80 developed malaria, despite being supplied with anti-malarials. Half of the infected troops had to be evacuated by air to Germany. The 1993 operation "Restore Hope" in Somalia was also impacted by high malaria incidence among U.S. troops. If new drugs are not developed soon, U.S. operations in sub-Saharan Africa and some parts of Southeast Asia will increasingly be at-risk for significant disease casualties.

To ensure that as many American soldiers as possible are protected from tropical and other diseases, Congress provides funding each year to support DoD programs focused on the development of vaccines and drugs for priority infectious disease. To that end, the Walter Reed Army Institute of Research and Naval Medical Research Center – which are co-located in the Inouye Building in Silver Spring, Maryland – coordinates one of the world's premier tropical disease research programs. These entities contributed to the development of the gold standard for experimental malaria immunization of humans, and the most advanced and successful vaccine and drugs current being deployed around the world.

The need to develop new and improved malaria prophylaxis and treatment for U.S. service members is not yet a crisis, but it would quickly become one if the U.S. were to become involved in a large deployment to a country or region where malaria is endemic, especially sub-Saharan Africa. Fortunately, a relatively tiny amount of increased support for this program would restore the levels of research and development investment required to produce the drugs that will

safeguard U.S. troops from malaria. In terms of the overall DOD budget, that malaria research program's funding is small – approximately $27.8 million in FY 2006 – but very important. Cutting funding for this program would deal a major blow to the military's work to reduce the impact of malaria on soldiers and civilians alike, thereby undercutting both the safety of troops deployed to tropical climates, and the health of civilians in those regions.

Requested Malaria-Related Activities and Funding Levels

ASTMH maintains that the battle against malaria requires funding for a comprehensive approach to disease control including public health infrastructure improvements, mosquito abatement initiatives, and increased availability of existing anti-malarial drugs. In addition, research must continue to develop new anti-malarial drugs and better diagnostics, and to identify an effective malaria vaccine. Much of this important research currently is underway at the DoD. Additional funds and a greater commitment from the federal government are necessary to make progress in malaria prevention, treatment, and control.

In FY 2006, the DoD spent only $27.8 million annually for malaria vaccine research, this despite the fact that malaria historically has been a leading cause of troop impairment and continues to be a leading cause of death worldwide. A more substantial investment will help to protect American soldiers and potentially save the lives of millions of individuals around the world. As noted previously, we respectfully request that the Subcommittee support the following funding levels:

- $30 million to support efforts to develop a vaccine against malaria and to develop new anti-malaria drugs to replace older drugs that are losing their effectiveness as a result of parasite resistance

ASTMH also requests that there are consistent increases in overall funding level for Department of Defense malaria research programs that, along with subsequent annual increases, results in $76.6 million in funding by FY 2015.

Conclusion: Thank you for your attention to these important but often overlooked military readiness matters. We know that you face many challenges in choosing funding priorities and we hope that you will provide the requested FY 2009 resources to those programs identified above. ASTMH appreciates the opportunity to share its views, and we thank you for your consideration of our requests.

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Testimony of the
American Museum of Natural History
presented to the
House Appropriations Subcommittee on Defense

April 18, 2008

Overview

Recognizing its potential to aid the Department of Defense in its goal to support research to prepare for and respond to the full range of terrorist threats, including bioterrorism, the American Museum of Natural History seeks $3.5 million in FY09 to progress to the next phase of this critical study and to contribute its unique resources to the advancement of molecular and computational biology in support of national security. The Museum looks forward to continuing to contributing its singular capacity to the nation's defense research enterprises.

About the American Museum of Natural History

The American Museum of Natural History (AMNH) is one of the nation's preeminent institutions for scientific research and public education. Since its founding in 1869, the Museum has pursued its mission to "discover, interpret, and disseminate—through scientific research and education—knowledge about human cultures, the natural world, and the universe." The AMNH research staff numbers over 200, with tenure and track faculty carrying out cutting-edge research in fields ranging from molecular biology and genome science to earth and space science, anthropology, and astrophysics. Museum scientists publish nearly 450 scientific articles each year and enjoy a success rate in competitive (peer reviewed) scientific grants that is approximately double the national average. The work of its scientists forms the basis for all the Museum's activities that seek to explain complex issues and help people to understand the events and processes that created and continue to shape the Earth, life and civilization on this planet, and the universe beyond.

Advancing Research Aligned With National Security Goals

The Department of Defense (DOD) ensures the nation's security and its capacity to understand and respond to threats in this new era of complex defense challenges. DOD is committed to the research, tools, and technology that will achieve these goals. The American Museum of Natural History (AMNH), in turn, is a preeminent research museum, home to leading research programs in molecular and systematic biology and bio-computation that are uniquely positioned to advance the Nation's capacity to prepare for and respond to the full range of terrorist threats, including bioterrorism.

The AMNH is an internationally recognized research and education institution with unique research capacity, a superbly qualified scientific staff, and unparalleled facilities, including a 700 CPU parallel computing cluster, high throughput sequencing capacity, an ultra-cold tissue collection that stores specimens with preserved DNA, and one of the world's largest and most important natural history collections, as well as expertise in using remote sensing and Geographical Information System (GIS) technologies to applied research questions.

In FY05, the Museum and DOD launched a multi-faceted research partnership via DARPA that leverages the Museum's unique expertise and capacity. Since that time, the AMNH has been carrying out research that directly relates to the Defense Research Sciences' goals by increasing our capacity to predict where disease outbreaks might occur and to effectively monitor disease-causing agents and their global spread—which is vital for national security.

DARPA program managers have supported AMNH's work, have sought to make it known to DOD-supported scientists working on related problems, and have invited AMNH scientists to participate in DARPA conferences. In addition, AMNH's Ohio State University collaborator, Dr. Daniel Janies, was invited to testify in front of the Subcommittee on Oversight of Government Management, the Federal Workforce and the District of Columbia in October 2007; subcommittee staff followed up with a visit to AMNH learn more about the project.

This research project is developing a computational system to rapidly compare genetic sequences of pathogens, then generate a global map showing over time and place the spread of disease-causing viruses that may develop drug resistance and spread from animals to humans. With DARPA support to date, the project has expanded the reach of its analytical tools to complex viral pathogens and viral mutation in systems such as avian flu.

With FY09 support, we seek to advance this research on the evolution of pathogenicity to study viral systems of even greater complexity (that is, eubacterial pathogens such as *E. coli*) that present even more difficult analytical scenarios. Studying these larger, more complex pathogens will enable us to make significant steps towards understanding the evolution of pathogenicity and to constructing a general model for studying emergent infectious diseases.

The Museum requests in FY09 $3.5 million from the Department of Defense so as to progress to the next phase of this critical study of the evolution of pathogenicity. The Museum will leverage its participatory share with funds from nonfederal and federal sources, and looks forward to continuing to contribute the singular capacity of the Institute of Comparative Genomics to the nation's defense research enterprise.

Testimony Submitted

by

Dr. Raymond Bye, Jr.

Director of Federal Relations

The Florida State University

Before the Subcommittee on Defense

Committee on Appropriations

US House of Representatives

April 14, 2008

Summary: Florida State University is requesting $4,000,000 from the Army University and Industry Research Centers Program (PE61104) for the **Nanotubes Optimized for Lightweight Exceptional Strength (NOLES)/Composite Material Program**; $4,500,000 from the Defense RDT&E, Navy, Force Protection Applied Research Account (PE 0602123N) for the **Integration of Electo-kinetic Weapons into the Next Generation Navy Ships Program**; and $4,000,000 from the DARPA Governmental/Industry Co-sponsorship of Research Account (PE 0601111D8Z, Line 3) for the **Integrated Cryo-cooled High Power Density Systems Multi-University Project**.

Mr. Chairman, I would like to thank you and the Members of the Subcommittee for this opportunity to present testimony before this Committee. I would like to take a moment to briefly acquaint you with Florida State University.

Located in Tallahassee, Florida's capitol, FSU is a comprehensive Research I university with a rapidly growing research base. The University serves as a center for advanced graduate and professional studies, exemplary research, and top-quality undergraduate programs. Faculty members at FSU maintain a strong commitment to quality in teaching, to performance of research and creative activities, and have a strong commitment to public service. Among the current or former faculty are numerous recipients of national and international honors including Nobel laureates, Pulitzer Prize winners, and several members of the National Academy of Sciences. Our scientists and engineers do excellent research, have strong interdisciplinary interests, and often work closely with industrial partners in the commercialization of the results of their research. Florida State University had over $190 million this past year in research awards.

Florida State University attracts students from every state in the nation and more than 100 foreign countries. The University is committed to high admission standards that ensure quality in its student body, which currently includes National Merit and National Achievement Scholars, as well as students with superior creative talent. Since 2005, FSU students have won more than 30 nationally competitive scholarships and fellowships including 2 Rhodes Scholarships, 2 Truman Scholarships, Goldwater, Jack Kent Cooke and 18 Fulbright Fellowships.

At Florida State University, we are proud of our successes as well as our emerging reputation as one of the nation's top public research universities.

Mr. Chairman, let me summarize three projects of great interest. The first project involves improving our nation's fighting capabilities and is called the Nanotubes Optimized for Lightweight Exceptional Strength (NOLES)/Composite Materials Project.

The U.S. Army's objective of developing effective personnel protection and a lighter, stronger fleet of fighting vehicles may be achieved through the diminutive nanotubes that 1) are the strongest fiber known, 2) have a thermal conductivity two times higher than pure diamond, and 3) have unique electrical conductivity properties and an ultra-high current carrying capacity [1996 Nobel Laureate Richard Smalley]. For producing lightweight multifunctional composites, resins impregnated with nanotubes hold the promise of creating structures, which, pound for pound, will be the strongest ever known, and hence offer maximum personnel and vehicle protection. Benefits are apparent not only to defense, but also throughout the commercial world.

Partnered with the Army Research Laboratory and the top five U.S. defense companies – Boeing, General Dynamics, Lockheed Martin, Northrop Grumman and Raytheon – as well as Armor Holdings, one of the nation's largest armor manufacturers, Florida State University's team of multi-disciplinary faculty and students has developed unique design, characterization and rapid prototyping capabilities in the field of nano-composite research, leading to vital defense applications. For instance, in a partnership with Lockheed Martin Missiles and Fire Control-Orlando, FSU researchers delivered more than 150 square feet of nanotube/polycarbonate (CNT/PC) composites for armor evaluation. The NOLES research team is working with the technical staff of General Dynamics in developing high performance thermal management materials utilizing nanotubes. The NOLES team is collaborating with Boeing and Northrop Grumman to use nanotube composites for shielding against electromagnetic interference (EMI). In addition, FSU's nanotube composites are being tested for missile wings, UAVs and missile guidance systems by several defense contractors.

Two core programs are envisioned for FY09: 1) develop nanotubes as a material platform for a new generation of devices, structures and systems, giving special attention to the design and demonstration for defense applications; and 2) utilize nanotube buckypapers and vertically grown nanotube arrays initially for liquid crystal display backlighting and eventually for flexible displays. We are requesting $4,000,000 for this important program.

Our second project is also important to our nation's defense and involves our capabilities at sea and is called the Integration of Electro-kinetic Weapons into the Next Generation Navy Ships program.

The U.S. Navy is developing the next-generation integrated power system (NGIPS) for the future war ships that will have an all-electric platform of propulsion and weapon loads and an electric power systems with rapid reconfigurable distribution systems for integrated fight-through power (IFTPS).

On-demand delivery of the large amounts of energy needed to operate these types of weapons raises challenging technical issues that must be addressed before implementing a combat ready system. These include the appropriate topology for the ship electric distribution system for rapid reconfiguration to battle readiness and the energy supply technology for the weapon systems.

The goal of this initiative is to investigate the energy delivery technologies for electro-kinetic weapons systems and investigate the integration and interface issues of these weapons as loads on the ship NGIPS through system simulations and prototype tests. The results will provide the Navy's ship-builders with vital information to design and de-risk deployable ship NGIPS and weapon power supplies.

With significant support from the Office of Naval Research (ONR), FSU has established the Center for Advanced Power Systems (CAPS). CAPS has integrated a real time digital power system simulation and modeling capability and hardware test-bed, capable of testing IPS power system components at ratings up to 5MW, offering unique hardware-in-the-loop simulation capabilities unavailable anywhere in the world. To support this initiative, FSU will partner with the University of Texas-Austin and General Atomics. This team combines the best talents for modeling and simulation of ship power systems, hardware-in-the -loop testing, power supplies for present and future electro-kinetic systems, and interfacing the weapon to a power system. UT-Austin will work with FSU to provided validated models of system performance and in subscale testing to provide more complete model validation where needed. General Atomics will provide the power requirements on each side of the weapons interface to the shipboard power distribution system to better define the interface effort.

The National High Magnetic Field Laboratory (NHMFL) will utilize its research expertise and infrastructure for the proposed development. FSU's partnership with University of Florida and Los Alamos National Laboratory is a key part of the NHMFL.

General Atomics is currently involved in the design and development of the pulse forming network for the Electromagnetic Rail Gun program for the US Navy and the design and development of power distribution architectures (i.e., NGIPS and IFTP) for future US Navy all-electric combatants. We are seeking $4,500,000 for this important work.

Finally, the objective of our final project, Integrated Cryo-Cooled High Power Density Systems, is to approach the goal of achieving cryo-cooled high power densities through systems integration, management of heat generation and removal in the electrical system. The systems approach begins with identifying type of power system and the enabling technologies needed and then pursuing research programs to advance the enabling technologies.

The research activities will be directed in several areas:

1. **Systems Analysis:** Extensive system modeling and simulation of the integrated electrical and thermal systems to understand dynamic performance under normal and adverse conditions is necessary to achieve a useful system. Develop prototypes of key technologies and test in hardware-in-the-loop simulations at levels of several megawatts (MW) to demonstrate the technologies.
2. **Materials – Conductors, Semi-conductors and Insulation:** Characterization of conductor materials (both normal and superconducting), semi-conductors (for use in power electronic components) and insulating materials (both thermal and electrical) at cryogenic temperatures to obtain the data needed to predict system performance and design components. Full understanding of the materials and their characteristics is important.
3. **Cryo-thermal Systems:** Optimize thermal system options such as conductive heat transfer systems, fluid heat transfer systems, insulation, packaging and cooling equipment for performance, reliability, and failure modes. Because heat leaks from the ambient to the low temperature environment are critical to successful performance and quite sensitive to quality

of construction, the issue of constructability at reasonable cost is a major issue for investigation.

4. **System Components:** Consider new concepts for design of system components and interfaces to achieve optimum system integration, such as conductors, motors, transformers, actuators, fault current limiters, and power electronics operating at cryogenic temperatures. High power density cryo-cooled systems require the use of new families of materials.

The National High Magnetic Field Laboratory (NHMFL) will be involved in the proposed development. Also University of Florida and University of Central Florida will provide research on integration, efficiency, and capability of pulse tube cryo-coolers. We are seeking $4,000,000 for this project.

Mr. Chairman, we believe this research is vitally important to our country and would appreciate your support.

Testimony Submitted to the House Appropriations Subcommittee on Defense
Karen Peluso, Executive Director, Neurofibromatosis, Inc., Northeast
Susan Johnson, President, Texas Neurofibromatosis Foundation

March 26, 2008

Thank you, Mr. Chairman, for the opportunity to submit 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 diseases widespread among the American population.

On behalf of Neurofibromatosis, Inc., Northeast and the Texas Neurofibromatosis Foundation, both participants in a national coalition of NF advocacy groups, we speak on behalf of the 100,000 Americans who suffer from NF as well as approximately 175 million Americans who suffer from diseases linked to NF such as cancer, brain tumors, heart disease, memory loss and learning disabilities.

Mr. Chairman, I am requesting increased support, in the amount of **$20 million, to continue the Army's highly successful NF Research Program (NFRP),** which is now conducting clinical trials at nation-wide clinical trials centers created by NFRP funding. Administrators of the Army program have stated that the number of high-quality scientific applications justify a much larger program.

What is Neurofibromatosis (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. 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 because NF is a highly variable and progressive disease.

NF is not rare. It is three times more common than Multiple Sclerosis (MS) and Cystic Fibrosis combined, but is not widely known because it has been poorly diagnosed for many years. Approximately 100,000 Americans have NF, and it appears in approximately one in every 3,000 births. It strikes worldwide, without regard to gender, race or ethnicity. Approximately 50 percent of new NF 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 tumors causing deafness and balance problems. In addition, advances in NF research stand to benefit over 175 million Americans in this generation alone because NF, the most common neurological disorder caused by a single gene, is directly linked to many of the most common diseases affecting the general population.

NF's Connection to the Military
Research on NF stands to benefit the military because this disorder is closely linked to cancer, brain tumors, learning disabilities, brain tissue degeneration, nervous system degeneration, deafness, memory loss, and balance. Because NF manifests itself in the nervous system, findings

generated by the Army-supported research on NF address peripheral nerve regeneration after injury from such things as missile wounds and chemical toxins, and is important to gaining a better understanding of wound healing and war-related illnesses. In addition, NF research now includes important investigations into genetic mechanisms which involve not just the nervous system but also other cancers.

Link to Other Illnesses

Researchers have determined that NF is closely linked to cancer, heart disease, learning disabilities, memory loss, brain tumors, and other disorders including deafness, blindness and orthopedic disorders, primarily because NF regulates important pathways common to these other disorders such as the RAS, cAMP and PAK pathways. Research on NF therefore stands to benefit millions of Americans:

Cancer – Research has demonstrated that NF's tumor suppressor protein, neurofibromin, inhibits RAS, one of the major malignancy causing growth proteins involved in 30 percent of all cancer. Accordingly, advances in NF research may well lead to treatments and cures not only for NF patients but for all those who suffer from cancer and tumor-related disorders. Similar studies have also linked epidermal growth factor receptor (EGF-R) to malignant peripheral nerve sheath tumors (MPNSTs), a form of cancer which disproportionately strikes NF patients.

Heart disease – Researchers have demonstrated that mice completely lacking in NF1 have congenital heart disease that involves the endocardial cushions which form in the valves of the heart. This is because the same *ras* involved in cancer also causes heart valves to close. Neurofibromin, the protein produced by a normal NF1 gene, suppresses *ras*, thus opening up the heart valve. Promising new research has also connected NF1 to cells lining the blood vessels of the heart, with implications for other vascular disorders including hypertension, which affects approximately 50 million Americans. Researchers believe that further understanding of how an NF1 deficiency leads to heart disease may help to unravel molecular pathways involved in genetic and environmental causes of heart disease.

Learning disabilities – Learning disabilities are the most common neurological complication in children with NF1. Research aimed at rescuing learning deficits in children with NF could open the door to treatments affecting 35 million Americans and 5 percent of the world's population who also suffer from learning disabilities. Leading researchers have already rescued learning deficits in both mice and fruit flies with NF1 with a number of drugs, and clinical trials have now been approved by the FDA. This NF research could potentially save federal, state, and local governments, as well as school districts billions of dollars annually in special education costs resulting from a treatment for learning disabilities.

Memory Loss – Researchers have also determined that NF is closely linked to memory loss and are now investigating conducting clinical trials with drugs that may not only cure NF's cognitive disorders but also result in treating memory loss as well with enormous implications for patients who suffer from Alzheimer's disease and other dementias.

Deafness – NF2 accounts for approximately 5 percent of genetic forms of deafness. It is also related to other types of tumors, including schwannomas and meningiomas, as well as being a major cause of balance problems.

Autism – While there is no firm scientific evidence at this point, some published studies have shown, and leading researchers have stated, that there is reason to believe there is an implication between NF and Autism.

The Army's Contribution to NF Research

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 FY96 through FY08, this funding has amounted to $190.3 million, in addition to the original $8 million appropriation in FY92. In addition, between FY96 and FY07, approximately 208 awards have been granted to researchers across the country.

The Army program funds innovative, groundbreaking research which would not otherwise have been pursued, and has produced major advances in NF research, including conducting clinical trials in a nation-wide clinical trials infrastructure created by NFRP funding; development of advanced animal models, and preclinical therapeutic experimentation. In addition, the program has brought new researchers into the field of NF. Unfortunately, despite this progress the number of awards has decreased over the past couple of years due to a decrease in funding levels, resulting in many highly qualified applications going unfunded. Army officials administering this program have indicated that they could easily fund more applications if funding were available because of the high quality of the research applications received.

In order to ensure maximum efficiency, the Army collaborates closely with other federal agencies that are involved in NF research, such as the National Institutes of Health (NIH). Senior program staff from the National Institute of Neurological Disorders and Stroke (NINDS), for example, sits on the Army's NF Research Program's Integration Panel which sets the long-term vision and funding strategies for the program. This assures the highest scientific standard for research funding, efficiency and coordination while avoiding duplication or overlapping of research efforts.

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. Indeed, since the discovery of the NF1 gene in 1990, researchers are now on the threshold of developing a treatment and cure for this terrible disease.

Thanks in large measure to this Subcommittee's support; scientists have made enormous progress since the discovery of the NF1 gene. Major advances in just the past few years have ushered in an exciting era of clinical and translational research in NF with broad implications for the general population. These recent advances have included:

$ Phase II and Phase III clinical trials involving new drug therapies;
$ Creation of a National Clinical Trials Consortia and NF Centers;

- $ Successfully eliminating tumors in NF1 and NF2 mice with the same drug;
- $ Developing advanced mouse models showing human symptoms;
- $ Rescuing learning deficits and eliminating tumors in mice with the same drug;
- $ Linking NF to vascular disorders such as congenital heart disease and hypertension, affecting more than 50 million Americans; and
- $ Conducting natural history studies to analyze the progression of the disease.

Future Directions
NF research has now advanced to the translational and clinical stages which hold 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, future investment in the following areas would continue to advance research on NF:

- $ Clinical trials;
- $ Funding of a clinical trials network to connect patients with experimental therapies;
- $ DNA Analysis of NF tissues;
- $ Development of NF Centers, tissue banks, and patient registries;
- $ Development of new drug and genetic therapies;
- $ Further development of advanced animal models;
- $ Expansion of biochemical research on the functions of the NF gene and discovery of new targets for drug therapy; and
- $ Natural history studies and identification of modifier genes – studies are already underway to provide a baseline for testing potential therapies and differentiate among different phenotypes of NF.

Fiscal Year 2009 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. The program has now advanced to the translational and clinical research stages, which are the most promising, yet the most expensive direction that NF research has taken. The program has succeeded in its mission to bring new researchers and new approaches to research into the field. Therefore, increased funding is now needed to take advantage of promising avenues of investigation, to continue to build on the successes of this program, and to fund this promising research thereby continuing the enormous return on the taxpayers' investment.

I respectfully request an appropriation of $20 million in your FY09 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 who suffer from NF, as well as the 175 million of Americans who suffer from NF's related diseases such as cancer, learning disabilities, memory loss, 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.

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