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DEPARTMENT OF DEFENSE AUTHORIZATION FOR APPROPRIATIONS FOR FISCAL YEAR 2008

HEARINGS

BEFORE THE

COMMITTEE ON ARMED SERVICES
UNITED STATES SENATE

ONE HUNDRED TENTH CONGRESS

FIRST SESSION

ON

S. 1547

TO AUTHORIZE APPROPRIATIONS FOR FISCAL YEAR 2008 FOR MILITARY ACTIVITIES OF THE DEPARTMENT OF DEFENSE, FOR MILITARY CONSTRUCTION, AND FOR DEFENSE ACTIVITIES OF THE DEPARTMENT OF ENERGY, TO PRESCRIBE PERSONNEL STRENGTHS FOR SUCH FISCAL YEAR FOR THE ARMED FORCES, AND FOR OTHER PURPOSES

PART 4
AIRLAND

APRIL 25 AND 26, 2007

Printed for the use of the Committee on Armed Services

DEPARTMENT OF DEFENSE AUTHORIZATION FOR APPROPRIATIONS FOR FISCAL YEAR 2008—Part 4 AIRLAND

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DEPARTMENT OF DEFENSE AUTHORIZATION FOR APPROPRIATIONS FOR FISCAL YEAR 2008

WEDNESDAY, APRIL 25, 2007

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

TESTIMONY ON WHETHER THE ARMY IS PROPERLY SIZED, ORGANIZED, AND EQUIPPED TO RESPOND TO THE MOST LIKELY MISSIONS OVER THE NEXT TWO DECADES WHILE RETAINING ADEQUATE CAPABILITY TO RESPOND TO ALL CONTINGENCIES ALONG THE SPECTRUM OF COMBAT

The subcommittee met, pursuant to notice, at 10:05 a.m. in room SR–222, Russell Senate Office Building, Senator Joseph I. Lieberman (chairman of the subcommittee) presiding.

Committee members present: Senators Lieberman, Webb, Warner, Inhofe, Sessions, and Cornyn.

Majority staff members present: Jonathan D. Clark, counsel; Daniel J. Cox, Jr., professional staff member; Creighton Greene, professional staff member; Michael J. Kuiken, professional staff member; and William K. Sutey, professional staff member.

Minority staff members present: Michael V. Kostiw, Republican staff director; William M. Caniano, professional staff member; and Gregory T. Kiley, professional staff member.

Staff assistants present: Fletcher L. Cork and Micah H. Harris.

Committee members' assistants present: Frederick M. Downey, assistant to Senator Lieberman; Gordon I. Peterson, assistant to Senator Webb; Sandra Luff, assistant to Senator Warner; Jeremy Shull, assistant to Senator Inhofe; and Todd Stiefler, assistant to Senator Sessions.

OPENING STATEMENT OF SENATOR JOSEPH I. LIEBERMAN, CHAIRMAN

Senator LIEBERMAN. Good morning. The hearing will come to order. Thanks very much to all of you for being here, particularly to Secretary Geren and General Casey.

The U.S. Army is the best in the world, but, as the full Senate Armed Services Committee heard at a hearing last week, it is under severe stress because of the demands our country has placed on the Army since the global war on terrorism began on September

11, 2001. That is why this hearing is going to be different from the typical Airland Subcommittee hearing, where we focus primarily on Army acquisition programs and issues related to those programs. I want to talk, today, about Army acquisition programs, but we have to go beyond that and expand our view to raise some of the critical questions that come out of the conclusion I stated in the first sentence. How can we relieve the stress that the Army is under? How large should the Army be? How should it be organized and equipped for the missions it will be called on to carry out over the next two decades? What do we need to do now, as we are involved in the preparation of the fiscal year 2008 budget, to make sure that the Army will be better able to be all we ask it to be in the years ahead?

I'm very grateful that Acting Secretary Geren and Chief of Staff Casey are here with us this morning to help our subcommittee answer these questions, and, in some measure, to respond to the concerns expressed at the full committee hearing last week about the stress on the Army.

This year, one of the most consequential issues confronting Congress is increasing the size of U.S. ground combat forces. While there have been attempts for several years to increase the force size, including a bill that I submitted with several colleagues to increase the Army by 100,000, until recently, the Army has not advocated that course, concluding that a temporary manpower increase of no more than 30,000 to permit conversion to brigade combat teams (BCTs) would suffice, and that, in due course, the Army might actually revert to the permanent end strength authorization of 482,400.

To support this argument, the Army asserted that it could find enough additional manpower for this temporary increase by significantly decreasing uniformed positions in the institutional Army by as much as 60,000, and handing their duties to private contractors. Many people were skeptical that this was possible or desirable. I will say, now, that it seems to me that those questions are moot, because the President has, at the Army's request now, proposed a permanent Active Army end strength increase over a 5-year period to 547,400. This is clearly, in my opinion, a big step in the right direction, but there is really little on record to enable us to decide if that number is the right number or the right schedule. I'd like to explore those questions with the Secretary and the General this morning.

Some people believe that number is not enough. Some are concerned that the Army may not be able to recruit, train, and equip the envisioned force on that schedule and within the budget that is proposed. Some doubt that the Army can attain and maintain the increase without substantially lowering the quality of personnel. Those are important questions that I want to pursue this morning.

As I see it, the Army has four great challenges if we're going to keep it the best in the world that it is and we know it will be.

First, deploying, supporting, and sustaining an increased troop commitment in Iraq. The Army's been asked now to provide five additional brigades in Iraq, perhaps for an extended deployment, and prepare to replace them with an equal number in the future.

That's going to be a challenge. But the challenge is compounded by the fact that none of the brigades in the United States are rated fully combat ready, principally because of shortages in equipment. In addition, troop protection equipment is short, and there may be no way to fix those shortages quickly. That's challenge number one.

Second is to correctly size an Army that is currently too small. Many troops are returning to Iraq for the third time, and a few for the fourth time. That's bound to have an effect on our soldiers, and perhaps even more on their families, on recruiting and retention, potentially. The President has decided to increase the number of soldiers now in the Army, and that surely will relieve some of the stress. Now we have to determine if the proposed increase yields the correct size soon enough.

The third challenge is adequately and appropriately equipping the force we have now and, at the same time, equipping the force of the future that we want to have. Before the end strength increase was announced, General Schoomaker was asking for $138 billion in fiscal year 2008 to keep 19 brigades deployed, reset the force, transition to the new brigade structure, begin to recapitalize equipment, and keep the Future Combat System (FCS) on schedule. That's $20 billion more than Congress appropriated in fiscal year 2007. So, it's a significant increase. But I'm concerned that the Army still will not have enough to keep those 19 brigades deployed, make up attrition losses, raise the readiness rates for next-to-deploy forces, and retain enough in reserve for adequate training of nondeployed brigades.

I'm also concerned that, at this point, the budget for 2008, 2009, and 2010 is not adequate to meet those requirements. In fact, the Army's unfunded priority list (UPL) is of concern to me, because it shows how many programs needed in the irregular wars we are fighting, and will fight, are unfunded in the President's budget, programs not withstanding the $20 billion increase, programs like upgraded protection vehicles, aircraft survivability equipment, counter-improvised explosive device (IED) jammers, weapons, radios, night-vision equipment, and combat training centers. We must give these questions close attention in this subcommittee during the current authorization, and beyond that, appropriations process, to ensure that the procurement accounts are sufficient to equip the current, as well as the projected, force, and that the Army is buying the right equipment.

The fourth and final challenge that I want to note this morning is properly organizing and equipping the Army for the future. We have to determine the correct structure for the Army to deal with the most probable missions we will ask it to take on over the next couple of decades, to determine the correct balance between the operational and institutional Army, and to find the money to adjust the program to equip both a larger and potentially differently-organized force. Again, I'm encouraged that the Army will grow in end strength, but I personally believe that the currently-planned increase is too small, and will take too long to implement.

General Schoomaker, in his last appearance before our committee, said that the 547,000 is actually a conservative number, that a less conservative number would be 565,000. I personally believe we need an Army of at least 600,000, and that we must make

sure we build the right kind of units and capabilities for what the Army must be ready to do over the next 20 years. I know that will cost us a lot of money, but this, to me, is an investment in our security and our freedom.

I'm concerned that if the Army isn't big enough, the institutional Army will continue to be cut in order to increase the number of brigades. As many respected former Army leaders pointed out to us in the hearing we had last week, it is the institutional Army that is the keeper of Army values and skills, and that passes those values and skills on to new recruits.

General Schoomaker testified before our committee in his last appearance, and I quote—because I think it's right on point—he said, "I'm concerned about whether or not we have enough going towards building the institutional part of the Army that's required, because I think that's fundamental to some of the problems we have in things like training, and Walter Reed. The Army, right now, of all the Services, has the smallest percentage of its personnel end strength committed to the institution." That's an important point. He went on to say that, "I worry that we've taken too much risk in the important aspects of the Army, like the medical system, like the education and training system, the kinds of things that support and are so important, because we've taken a lot of efficiencies there, and where we have overreached."

As General Schoomaker pointed out that day, the Army has about 27 percent of its strength in the institutional Army. Compare that to the Navy and Air Force, which have about 50 percent invested in the institutional side. To me, that's an unacceptable balance for the service of our military that we are depending on most in the global war on terrorism, and why I hope this subcommittee can do everything possible to make sure that the end strength that we give you, Secretary Geren and General Casey, is enough to maintain a good institutional Army, as well as a great operational Army.

We are a nation at war with an enemy that is brutal, smart, and despises our way of life. We cannot, in our national interest, put the Army in a position where its leaders are forced to shape our strategy with inadequate resources. The danger is, those resources will determine the strategy, rather than the strategy determining what resources you need.

In my opinion, we have to work together to give our Army everything it needs to achieve victory for us and our country in the war on terrorism.

I'm delighted and honored to be working with my friend and colleague, Senator Cornyn, as ranking member of this committee. We've worked on many matters together on the floor of the Senate, and he becomes, now, the ranking member of this subcommittee, replacing Senator McCain, who apparently has gone on to better things.

So, Senator Cornyn, I call on you now for your opening statement.

STATEMENT OF SENATOR JOHN CORNYN

Senator CORNYN. Senator Lieberman, Mr. Chairman, thank you very much. It's a pleasure to serve with somebody who I admire

and respect a great deal. I'm confident this subcommittee will be a hardworking one, and from your opening statement, I can tell you that you and I see things much the same way. Thank you.

I want to thank our witnesses for being here today, and also for their service to our Nation, and congratulate General Casey upon assuming his new responsibilities as the 36th Army Chief of Staff.

I'd like to convey to you my personal word of commendation and my deep admiration for the dedicated men and women who serve in our Army. Soldiers in our Army, which certainly includes all members of the Army Reserve and National Guard, have performed magnificently and with the highest degree of courage and professionalism that reflects on the very best traditions of the Army's heritage.

No one would disagree that the Army's increased operational tempo and multiple combat tours in Iraq and Afghanistan have put the Army under heightened burden. The announcement last week that combat tours would be lengthened to 15 months reflects the complexity of the current circumstances.

In recent months, there have been reports that warn of costs on the troops and the readiness of the Army as a result of multiple deployments. The subcommittee will look forward to your response to issues in this ongoing public debate, which include the declining readiness of nondeployed units, the extremely high equipment usage rates, the departure of mid-grade officers and noncommissioned officers (NCOs) leaving the service at higher rates, the overreliance on the National Guard and Reserves as Active Force augmentees, and the impact of the high operational tempo on Army families.

In addition, you should be prepared to respond to concerns that the planned expansion of the Army cannot be accomplished soon enough to mitigate the impact of the current pace of the force, subsequently averting the hollow Army that some suggest may be looming.

Turning to Army modernization, the subcommittee will want to examine whether the Army's modernization and transformation programs will provide the country with the capability to provide relevant land power to full-spectrum combat missions, stability and support missions, and be prepared for other uncertain and complex threats to our homeland defense and national interests.

With regard to specific modernization programs, the subcommittee will want to better understand the progress being attained in the development of the FCS and the status of project technology spinouts.

Further, the subcommittee will want to know if you expect the Army can concurrently modernize, transform, and restation the force under the demands of ongoing operations and rotation cycles.

In closing, we should not forget that our ground forces are more than a collection of battalions and brigades. It is, at its core, about the people who wear the uniform and their families. Our military forces, volunteers, all, are America's sons and daughters, who each and every day put themselves in harm's way, away from those they love, and often on multiple, and now extended, combat tours. We'd also like to recognize, with our most sincere gratitude, the military families who sacrifice so much, especially those who have lost loved

ones, and those who are caring for those wounded in service to our Nation.

I look forward to hearing today's important testimony.

Thank you very much, Senator Lieberman.

Senator LIEBERMAN. Senator Cornyn, thank you. Thank you for your kind words. We have a lot of good work I know we can do together.

Again, Secretary Geren and General Casey, thanks for being here.

General Casey, a particular thanks to you. You're just a couple of weeks into this latest assignment, in an extraordinary career of service to your country. I know you've just come back from an aggressive, energetic tour of Army installations around the country, and talked to a lot of our personnel out there. So, you have a very fresh perspective on some of the questions that we're going to ask.

So, I appreciate that you both have come in here this morning.

Secretary Geren, do you want to begin?

STATEMENT OF HON. PRESTON M. "PETE" GEREN III, ACTING SECRETARY, UNITED STATES ARMY

Mr. GEREN. Thank you, Mr. Chairman and Senator Cornyn, Senator Inhofe, Senator Webb. Thank you for holding this hearing.

In your letter of invitation, you asked us whether the Army is properly sized, organized, and equipped to respond to the most likely missions over the next 2 decades while retaining adequate capability to respond to all contingencies along the spectrum of combat. That question, and our answers, in a variety of forms, should drive everything we do, as your Army's leadership. It should drive our budget decisions, our acquisition and personnel decisions, and our policy decisions. I welcome the opportunity to work with this committee and with the new Chief of Staff of the Army and the full Congress to provide answers to that question, recognizing that the future we face is not static, nor can the answers be.

As we reflect on the question, I'm humbled by my personal experience in seeing the future, looking over the horizon. I was in the House of Representatives from 1989 to 1997, and served on the House Armed Services Committee for much of that time. I shared in the euphoria when the Berlin Wall fell, and in the great triumph of our coalition forces in the first Gulf War. I served in the House, under Republican and Democratic majorities, with Armed Services Committee chairmen as philosophically diverse as Ron Dellums and Floyd Spence, and served with Republican and Democratic administrations.

As a committee, as a Congress, and as a Nation, we made some decisions during that decade that do not hold up well when judged with 20–20 hindsight. Smart, hardworking, and dedicated people did their best to predict the future, but the future surprised us, nonetheless. I voted with the overwhelming majority of my colleagues to cash the peace dividend, participated in drawing the Active Army down from 781,000 to 482,000. I supported policies that made the Army Reserve and National Guard together 55 percent of our total Army force; by necessity, changing the Reserve component from a strategic reserve into an integral part of the operational force. We built an Army that could not go to war without

the Reserve component, yet we failed to develop policies or make the investments in the Reserve component commensurate with the new and expanded role we are asking of it.

I'm reminded that Don Rumsfeld, in his confirmation hearing as Secretary of Defense, neither offered testimony, nor was asked, about Afghanistan. The same with Dick Cheney in Iraq, and Secretary McNamara in Vietnam. We were caught flatfooted by the North Korean attack of the South.

In spite of our limitations, we must look into the future. It takes years to shape a 1.3-million-person organization of soldiers and civilians. It takes decades to design, build, and deploy new weapons systems. Whatever we plan and do now, we're going to live with for a long time. Our Abrams tanks, Bradley fighting vehicles, and our Black Hawk and Apache helicopters are the progeny of the 1970s, older than most of the soldiers who are operating them in combat today.

What are the challenges of the next two decades? Certainly, counterinsurgency warfare, for which we organize the majority of our combat forces today. But the list of other threats is long: near-peer competitors muscling their way onto the world stage; a loose-nuke scenario; the proliferation of nuclear weaponry; chemical, biological, and nuclear attacks on the homeland; and increasing radicalism in regions of the world with a history of antagonism to the United States, just to name a few.

How do we best plan for that uncertain future? A foundational principle for your current Army leadership is that the years ahead will be years of persistent conflict—years of persistent conflict—and we must organize our programs and policies to reflect that reality. We must prepare the total force, Active, Guard, and Reserve, as well as our Army families for that reality. For your Army to be prepared for whatever is out there, we must enhance our strategic depth and build full-spectrum readiness. We will continue to work with Congress to accomplish that goal.

You asked, can we transform and modernize our Army and fight a war at the same time? Yes, we can, and we are. The demands of the war and the threats over the horizon give us no choice in the matter. We fight an adaptive and a smart enemy. The demands of the war also give us opportunities to make hard decisions about the future we could never make in peacetime. We must grow the Army. We're working to do that, adding 65,000 to the Active-Duty Force, 8,000 to the Guard, and 1,000 to the Reserve over the next 5 years. But we must remain flexible to adjust the numbers and the rate of growth as circumstances in our vision of the future changes.

We cannot allow the demands of the present to rob the future. We must modernize the Army. The FCS is spinning into the force now and over the next two decades, and you're going to see some examples of those incredible transformational concepts in just a moment. It will provide our soldiers the training, technology, and tools to remain the world's preeminent land power. The future is now. The soldier is the centerpiece of the FCS. We must not use the FCS as a billpayer for today's undeniably critical needs. We do not ever want to find ourselves, in the future, in a fair fight.

We also must build the capacity of our international partners and allies. We cannot face the challenges of the future alone. Just as President Roosevelt invested in the arsenal of democracy to defeat the axis powers during World War II, enabling our partners to share the burdens of the global war on terrorism can produce the same results in the future we face. We must invest in partner nations who know the culture, language, and geography of our enemies. The President's budget includes vital funds for that effort.

There is much about the next two decades we cannot predict, but let me close with a few facts and undeniable certainties.

First, as Senator Warner reminded us a couple of weeks ago, our All-Volunteer Force is a national treasure. It is a treasure that must be protected. As Senator Warner cautioned us, we must be careful: it also can be squandered. Half of our soldiers today are married, and the health of the All-Volunteer Force depends on the health of those families. We must provide those Army families a quality of life commensurate with the quality of their service and reflective of their sacrifice. It is the right thing to do. Furthermore, our ability to recruit and retain soldiers depends on the health of those families, and our readiness requires it. The health of the All-Volunteer Force requires it. We are asking much of the Army family, and we must do more for them.

Second, the Reserve component—the Guard and Reserve together—are no longer a strategic reserve, they are part of the operational force. We are one Army. We cannot go to war without the Reserve component. We must organize, train, and equip the Guard and Reserve so that we can train and fight as one Army. We must complete the transformation that has begun. The Reserve component must be ready to meet both the needs of our Governors and the needs of our combatant commanders. That's a high challenge. Policies and budgets must reflect that reality. That's a fact.

Third, we have 134,000 soldiers in combat today in Afghanistan and Iraq. We must plan for the future, but we can never take our eye off of that ball. We owe those soldiers and those families everything we can do to help them succeed in the mission they're shouldering for our Nation. They are the best. They deserve our best.

Secretary Harvey and Chief Schoomaker have led our Army well, modernizing business practices, transforming the Army from a division-based to a modular brigade-based organization, building a campaign quality expeditionary Army, and making needed investments in present and future readiness. Under their leadership, working with Congress, we built the best-trained, best-led, best-equipped Army our Nation has ever fielded. As the Acting Secretary of the Army, and with George Casey as our Chief of Staff, our job is to sustain the momentum that they created. As were they, we are part of a great Army team, and a strong Army team, and we look forward to working with this committee and this Congress to plan for the future.

Thank you, Mr. Chairman.

[The joint prepared statement of Mr. Geren and General Casey follows:]

JOINT PREPARED STATEMENT BY HON. PETE GEREN AND GEN GEORGE W. CASEY, JR., USA

Mr. Chairman and distinguished members of the subcommittee, on behalf of more than 1 million soldiers that comprise our Army—Active, Guard, and Reserve—their families and nearly 300,000 Army civilians, thank you for the opportunity to discuss the Army's plan to ensure it remains the world's preeminent land power.

Our Nation is locked in a long war—potentially a multi-generational conflict—against a global extremist network that is committed to destroying the United States and our way of life. The next decade likely will be one of persistent conflict against an enemy that is not bound by the concept of nation states, geography or laws of war. We must counter that threat and remain prepared to conduct major combat operations to deter and, if necessary, defeat the threats posed by traditional nation states who would challenge our interests and those of our allies and partners.

As we increase our commitments in Iraq and Afghanistan, we also must face the challenges of meeting the requirements of our national defense strategy and demands of the Quadrennial Defense Review (QDR). Today, over 258,000 soldiers are deployed fighting the war on terror and forward-stationed deterring our Nation's adversaries. Our Army is approaching its sixth year of sustained combat. For the last 4 years we have maintained 15 to 21 Brigade Combat Teams (BCTs) deployed in Afghanistan and Iraq, which is above the 18 BCT commitment rate anticipated in the QDR. While engaged in this long war, we must maintain the health and quality of the All-Volunteer Force. We must also provide soldiers and their families a quality of life commensurate with the quality of their service.

It is essential that we grow and transform the force in order to build an Army to sustain protracted campaigns and defeat adversaries in the 21st century, and we are doing so. To meet future challenges, continue to sustain the high demand for Army forces and to improve readiness and strategic depth, we must receive timely and sufficient resources in order to transform, reset, grow, and modernize the force.

Over the last 4 years, we have made considerable progress transforming the Army from a Cold War structured organization into one best prepared to operate across the full spectrum of conflict—from full-scale combat to stability and reconstruction operations, including the irregular war that we face today. Converting all components of the Army—Active, Guard, and Reserve—from a division-based organization to brigade-centric modular formations is producing more units and increasing their expeditionary capabilities. This is enhancing our ability to execute protracted campaigns and support the demands of the combatant commanders around the globe.

Concurrent with our modular conversion, we continue implementing the Army Force Generation model to ensure we deploy only fully manned, equipped, and trained forces into combat. This model provides improved predictability for soldiers, families, communities, and employers. Just as important, it synchronizes deployments with the preparations of our next-to-deploy forces and the reset of recently deployed forces.

Last year we projected that our fiscal year 2008 reset requirements would be approximately $13.6 billion. Our reset requirements are increasing as we increase our commitments in Iraq and Afghanistan. Equipment is being used up at rates much faster than previously programmed. Resetting and recapitalizing this equipment and improving our strategic depth will require significant levels of funding for a minimum of 2 to 3 years beyond the duration of the current conflict.

Recent decisions to grow the Army by 65,000 in the Active Force, 8,200 in the Army National Guard, and 1,000 in the Army Reserve are clear recognition of the need to increase ground forces in light of the high level of demand and future strategic requirements. We are growing six new BCTs in the Active Force and the associated enabling organizations across all components. This will expand our rotational pool to 76 BCTs and more than 225 support organizations in the operational force of the Total Army. Through this growth, we will be able to provide a continuous supply of 20 to 21 BCTs to meet global commitments by 2013. Whether the Army will be properly sized cannot be answered with certainty as the future demand on the force is unknown—although we believe it is unlikely to decrease for the foreseeable future.

In the near-term, to field forces for victory in the long war, sustain the full range of our global commitments and defend our homeland, we must have all components of the Army ready and able to deploy together. With 55 percent of the Army's capabilities in the Reserve components, the recent changes in Reserve component mobilization policies are essential as we continue the transition of the Reserve component to an operational force. These new policies will improve predictability and facilitate the deployment of trained, ready, and cohesive units, while decreasing the overall

burden on our soldiers and their families. We are working to implement these changes rapidly and will require continued congressional support to do so.

In the decade prior to 2001, our investment accounts were under funded, resulting in $56 billion in equipment shortages across the force. To meet combatant commanders' immediate wartime needs, we are continuing to pool equipment from across the force to equip soldiers deploying into harm's way. This practice increases risk for our next-to-deploy units, and limits our ability to respond to emerging strategic contingencies.

With Congress' help, we have made great progress increasing soldier and unit effectiveness over the last 4 years. However, we still require considerable assistance to overcome the significant equipment shortages with which we entered this war and to ensure our soldiers—Active, Guard, and Reserve—are armed with the best equipment our Nation can provide. The pending fiscal year 2007 Supplemental request contains $16 billion to increase critical force protection capabilities in our deployed forces and to fill critical equipment shortages that are degrading readiness in our next-to-deploy forces. For example, the supplemental includes funding for Mine Resistant Ambush Protected vehicles and procurement of medium tactical trucks to fill existing unit shortfalls and to replace obsolete trucks in Reserve component units.

Modernizing our equipment is critical to ensure we build an Army ready to defend the Nation in the 21st century. Operations in Iraq and Afghanistan underscore the importance of investing in superior technologies and equipment that enable our most important asset—the soldier—to remain dominant against adversaries who continually adapt their methods, tactics, and tools of warfare. Investing in our future readiness through modernization is a strategic necessity that must be considered a top national priority, not as an issue of affordability.

The Future Combat Systems (FCS) is the centerpiece of the Army's broader modernization strategy, our first major modernization program in decades and our most critical investment priority. FCS is designed to counter threats of the 21st century; it will enable us to keep soldiers mounted longer, increasing their survivability, while providing an ability to see and engage the enemy from greater distances using an assortment of aerial and ground sensors.

Procuring FCS is the most effective and efficient means of providing full-spectrum, networked capabilities required now and for the future, and to ensure our soldiers get these essential capabilities as quickly as possible. By building a common chassis, we greatly simplify the fleet acquisition and sustainment costs for the Army. For example, the cost of building individual platforms is reduced by 50 percent (from $12 billion to $6 billion). Over time, all current force and FCS vehicles will be using the same components and software, thereby reducing the overall maintenance and support costs of the ground force, and greatly simplifying the training and logistical burden for tactical commanders as well as the institutional Army.

Our ability to simultaneously transform, reset, grow, and modernize while meeting the high demand for ground forces and providing a quality of life required to sustain the All-Volunteer Force is dependent on full and timely resourcing. As a result of the significant support we have received from this committee and Congress, the units we have deployed are the best trained, best equipped, and best led we have ever sent into combat. While we are meeting the readiness needs of deployed forces, our challenge remains to meet the needs of our non-deployed forces and our ability to respond to future threats. If received in a timely manner, the fiscal year 2008 President's budget request, combined with requested fiscal year 2007 supplemental and fiscal year 2008 global war on terrorism funding, sets the Army on a path to filling equipment shortages and posturing to respond to future contingencies.

We are in this Long War to win. We would like to reiterate the strategic necessity of investing in our future readiness through modernization. It is imperative that we not shortchange future investments as a billpayer to improve current readiness. Furthermore, we solicit your support to accelerate improving readiness, building strategic depth and ensuring the Army's ability to prevail against future threats. The young men and women who volunteer to defend our Nation deserve nothing less.

Finally, we ask for your assistance in providing fiscal year 2007 supplemental funding as soon as possible. We already have been forced to curtail spending across our installations to ensure the soldiers in combat have the resources they need. We have had to slow the purchase of repair parts and other supplies, relying instead on existing inventory to keep equipment operational. Priority will be given to repair and refurbishment of immediately needed warfighting equipment, while training and other non-mission critical equipment repair will be deferred. We have also postponed or canceled non-essential travel and restricted the shipment of equipment and

supplies. In May we will be forced to take more restrictive measures, including a civilian hiring freeze, terminating temporary employees and slowing production lines to support current operational needs. The Army remains determined to do whatever is necessary to execute its mission: defend the Nation and provide forces for victory in the Long War while ensuring uninterrupted support to the families of our deployed soldiers. However, we cannot repeat last year's disruptive cash flow experience and still meet the increased operational demands now facing us.

Thank you for your continued support of our soldiers and their families.

Senator LIEBERMAN. Thanks, Secretary Geren, for that very thoughtful and responsive opening statement.

General Casey?

STATEMENT OF GEN GEORGE W. CASEY, JR., USA, CHIEF OF STAFF, UNITED STATES ARMY; ACCOMPANIED BY LTC PAUL HADDON, DEPUTY DIRECTOR FOR OPERATIONS FOR THE PROGRAM MANAGER FUTURE COMBAT SYSTEM PROGRAM, BRIGADE COMBAT TEAM; SGM THOMAS W. COLEMAN, PEO SOLDIER; AND MSG RICHARD HADDAD, FUTURE FORCE WARRIOR, TECHNOLOGY PROGRAM OFFICE, NATICK SOLDIER RESEARCH DEVELOPMENT, ENGINEERING CENTER, NATICK, MA

General CASEY. Thank you, Senator Lieberman, Senator Cornyn, Senator Warner, Senator Inhofe, and Senator Webb. I do appreciate the opportunity to come here 2 weeks into this. I may not be quite at the subcommittee level of detail yet, but I'll get there, over time.

Senator LIEBERMAN. We know you will. [Laughter.]

General CASEY. I'd like to associate myself with Secretary Geren's comments, and then I'd just like to really add three points, and then we'll show you some of the systems here that have actually come out of our technology development, and are on the ground in Iraq right now, helping our soldiers.

First of all, this does give us the opportunity, 2 weeks in the saddle, probably a month or so in the saddle, to come and tell you that you should look for continuity from us, in terms of the direction that the Army has headed. Speaking for myself, I was the Vice Chief of Staff of the Army when we began this modular transformation of our organizations, and actually helped initiate the Army campaign plan that is driving that. So, I believe, and am committed to, the fundamental direction of transformation that the Army is on. So, I think that's an important message for me to give to the committee here.

Second, I'd just like to say a few words about the transition process that I've been going through since about a week after I got back from Iraq, to try to help me get a sense of what direction we needed to take with the Army. What's striking to me, and I think you commented on it, Senator Lieberman, is how similarly we all see what we have. We all recognize the situation that the Army is in, and, as you suggest, the question is, what's an appropriate way forward, particularly over the next 3 to 4 years? That's what I think is important to talk about, and that's what I asked my transition team to look at.

We had two groups that we formed. One, under a brigadier general, we said, "Go out and talk to people that think about the Army, inside and outside the Army, and tell us what they think

about the Army we have today." A lot of that's spawned some of the data that you talked about. Then we had a second group, under a brigadier, also, and we said, "Go out and talk to people that think about the future, and tell us what they think the future is going to look like in 2020, and what kind of Army we're going to need for that future." They did that.

I also just asked them to go back 13 years in the other direction, since we went out to 2020, and I said, "Tell us what we, as a country, were doing and thinking in 1994." It was instructive, and Secretary Geren alluded to some of this. We were basking in the glow of the victory in Operation Desert Storm, and in the Cold War. We were trying to figure out how to spend the peace dividend. We were in the process of drawing the Army down from 780,000 to 480,000. Candidly, I think we made some decisions over that decade based on a view of the future that looked fairly benign, that put us in the situation that we're in today.

We then took all that, and said, "Okay, if you're here now, in 2007, and you want to be here, in 2020, what are the things you need to do over the next 4 years to meet your current commitments and to put the Army in a position to be the Army it needs to be in 2020?" That transition review spawned six initiatives, and I'll just talk about them briefly. I think you'll see, they get at a lot of the issues that you've raised here.

First of all, we have to accelerate the growth of the Army and the readiness improvements so that we can both meet our current requirements and posture ourselves to be the campaign-quality expeditionary force our country needs in 2020. We had the same reaction when we saw that we weren't going to complete the growth to 547,000 until 2012. The first thing I said was, "We have to be able to do that faster," and the staff is working on that, and will come back to me shortly.

I will tell you that what I have in my mind here is to develop a strategy to get us to 547,000 as quickly as we can, and then to back off and do a more detailed look at whether or not that is enough.

Second, we need to improve the quality of support to our soldiers, civilians, and family members. What we are asking of our soldiers and families is a quantum difference from what I would have expected, in terms of our rotational cycles. We do good things for families, but we're asking more of them, and we need to raise the ante and help them.

One thing I get as I go around to these different installations is that there is a cumulative effect on the soldiers and families because of 5 years of war, and we should expect to be at war for a while longer. One spouse told me, "General, running a family readiness group for the third deployment is a lot harder than it is for the first deployment." So, we have to raise the ante in what we can do for families.

Third, we have to continue the momentum and the continuity of our modernization efforts. As I said, I believe we are on the right track. An integral element of our modernization strategy is to spin out real technologies, that we're going to show you here in a second, to help the force that's fighting, every day. I think we're well-postured to do that.

A fourth initiative is to complete the transition of the Reserve component to an operational force. The Secretary addressed this. We are moving away from the Cold War mobilization policies and procedures that the Reserves operate under, and we just need to complete that transition. I believe that we are headed in the right direction and can accomplish that in the next 3 or 4 years.

The fifth is we need to pay closer attention to how we are training and developing our leaders, not only in terms of how we do it, but what we're teaching them to do. From my personal experience, the complexities of the environments that we're asking these young men and women to operate in requires mentally agile leaders that can cut through that complexity and confusion, and point their organizations in a winning direction.

Lastly, we have some internal work to do, to adapt our institutional processes to truly support an expeditionary Army in an Army that is suffering under the cumulative effects of 5 years at war. I think what you saw at Walter Reed is a good example of how the cumulative buildup of wounded soldiers overwhelmed the system. As I go around, there are other things that we need to look at. This will be a hard internal look at some of our policies and procedures that were designed for another time. We have to streamline our ability to provide effective services for our soldiers and civilians and families.

So, those are the six initiatives. We have teams working on those right now. My timeline is to have them report out with resourced action plans by July. I'd be happy to come back and share the outcome of that with the committee.

So, those are really the three points that I wanted to leave with the committee today.

With your permission, Mr. Chairman, I'd turn it over to Lieutenant Colonel Haddad here, just to show you a few of these systems here that are actually in Iraq today, being used by our soldiers.

Senator LIEBERMAN. Excellent. Thanks, General Casey.

Colonel, it's all yours.

Colonel HADDON. Senator Lieberman, honorable members, my name is Lieutenant Colonel Paul Haddon. I'm the Deputy Director for Operations, for the Program Manager FCS program. What I'd like to do today is to show you some of the current systems that we are developing in conjunction with Program Executive Office (PEO) Soldier that will help the soldier to be more effective and more efficient, and enable them to accomplish their mission on the battlefield.

The bottom line to this is that the future is now. The equipment that I show you here is real. It's operational. It's in the hands of the soldiers. It will save lives, not only for the soldiers associated with the BCTs, but for all the soldiers in the Army.

Gentlemen, with that, I'd like to go ahead and introduce Command Sergeant Major Coleman. He is a veteran of four operations in theater. He is currently serving as the command sergeant major for PEO Soldier. He is currently wearing the armament of the current soldier, with the integrated outer tactical vest. What I'd like to do is have him demonstrate that to you very quickly.

Sergeant COLEMAN. Sir, yes. Senators, Mr. Secretary, General Casey, I am wearing the improved outer tactical vest, and I'd just

like to take a second to give you a real quick rundown, since there seems to always be a discussion of body armor either in the paper or on TV.

Senator LIEBERMAN. Right

Sergeant COLEMAN. We got a lot of feedback from the field that said, "Hey, I need a quick release, and make it lighter." That's what I personally had sent up the chain. This vest does that. It has a quick release, which I'm going to demonstrate in a minute, that will help the soldier egress if he or she finds himself either in water, in a Humvee, any circumstances where you need to get out of the body armor quickly. Currently, we have multiple Velcro flaps we have to get through to get out of it. This will get me out in a hurry. Again, I'll demonstrate it in a second.

The next one was weight, "Make it lighter for me." Which was great, you can always make something lighter, but there's a risk associated. The U.S. Army Training and Doctrine Command (TRADOC) said, "We want to make it lighter, but we are not going to give up any of our protection requirements in doing so." This vest is 3 to 3.8 pounds lighter than the current vest that's in the field. It's starting to be fielded right now. The 3 to 3.8 pounds definitely makes a difference, as an infantry soldier out there on the battlefield of Iraq or in the mountains in Afghanistan.

Senator LIEBERMAN. What's the total weight?

Sergeant COLEMAN. Total weight, with plates, sir, for a size large is about 25 pounds.

Senator LIEBERMAN. Right. For this one?

Sergeant COLEMAN. I'm wearing a large, sir.

Senator LIEBERMAN. Right.

Sergeant COLEMAN. This is about 25 pounds. Then, when I put my gear on it, it can be anywhere from an additional 10 to 20 pounds, depending on what configuration I have. I have a basic rifleman configuration, and you can see that one of the other improvements is I still have plenty of other attachment room for additional devices or equipment that I may need to attach to it.

Not only did we maintain the same level of protection in this vest, but we've increased the protection level. It has an additional 2 inches along the bottom, approximately 100 square inches more of soft armor protection, and the folks up at Natick Labs are still sorting out the exact dimensions.

So, what we've done is, we've made it lighter, we've made it more adjustable, we've integrated. When I crossed the berm, sir, in Operation Iraqi Freedom (OIF)–1, with the 101st, I had a vest on, and, as I progressed through OIF–1, I got upgraded plates, I have my Deltoid and Auxiliary Protectors that some good specialist medic, I think, came up with as a great idea for the groin protector, and moved it up.

When I went back for OIF–4 and –5, I had even better plates, I had side armor. What we were doing is just sort of attaching that to the current vest. This vest integrates it all. So, it's lighter, it's a quick-release, and the equipment's integrated, so it gets me in and out of my 1114/1151 vehicle a little bit quicker.

So, with that being said, I'm going to go ahead and give a quick demonstration of how a soldier can get out of his vest. To simplify this, I'll just stand up and not hurt my battle-buddy over here. It

has a quick-release lanyard right here, that's Velcroed in for airborne operations. Of course, we can tuck it up inside here, and it's out of the way. You have to remove the entire cord; that way, it doesn't accidentally get jerked a couple of inches. Once I'm in a bind, I just simply grab this lanyard right here, and I just pull it, and the vest is off, and I can knock my arm pieces out, and I'm completely cleared of the vest, as you can see.

Senator INHOFE. How long does it take to put it back on?

Sergeant COLEMAN. It takes me about 3 to 5 minutes, sir, it's in two complete pieces. Obviously, the goal is that a soldier will spend his entire 12- to 15-month deployment and never have to tug on that lanyard.

I can quickly put the shoulders together, if I needed additional protection immediately. So, that being said, sir, I'll sit down.

Senator LIEBERMAN. Thank you, that's great.

Colonel HADDON. Sir, I'd now like to introduce Master Sergeant Haddad. Master Sergeant Haddad has two tours in theater, and is currently preparing to deploy with the 10th Mountain in the upcoming months. He is currently wearing the Future Force Warrior ensemble. The key to this, sir, is that no longer is he an individual soldier; he is now a node on the network. All of these systems that I'm showing you are nodes on the network. It increases their operational capabilities, it increases their awareness, and they now have information that, historically, the soldier at the lowest level did not have access to.

Senator LIEBERMAN. So, tell us what you mean by a node on a network.

Colonel HADDON. Sir, with the system that he has, Master Sergeant Haddad has the capability of being tracked using Blue Force Tracker, so he is now being followed as they're going into an environment, whether it's Military Operations on Urban Terrain (MOUT), operational, or desert, et cetera. He also has integrated communications and heads-up displays, so that he can see the current operational environment, the common operating picture, on their screen. So, he has awareness of what's to his left, what's to his right, what's in front of him, and what's to the rear. Historically, the only way the soldier would hear that is if they called on a radio, the radiotelephone operator went to the commander, the commander told them, and it was a whole chain of information that was going from person to person to person; and as it went from one to another, it was getting degraded. If you've ever done the pass-a-message along the row, by the last person it's an orange, and it started out as a wrench.

But what he's doing is, he has situational awareness in the systems, and he can provide information not only to other members in his squad, but, also, it's information on the network. The commander, the company commander, the battalion commander, the brigade commander now have access and awareness at their different levels of what he is doing. As we're finding in theater, the individual soldiers now are affecting strategic-level missions with their actions. So, it enables them to do that.

So, the next thing I wanted to bring up is, we have the class-1 unmanned aerial vehicle (UAV). This is approximately a 35-pound UAV that is controlled at the squad level by the robotics operator.

It now gives them the capability to have eyes over that wall. Historically, if a squad came up to a large wall, they would have to look over it. The enemy strike sniper knew that, and would position his sights where he would see a head popping up. That would put a soldier into harm's way. With this system, you fly it over the wall, you have vision behind that wall and the squad doesn't have to put the soldier in harm's way. You now have a piece of equipment protecting them.

The next piece of equipment that you'll see pulling up is a small unmanned ground vehicle. This system is, again, a squad-level asset that would deploy with the squad. It has the capability of seeing over small obstacles, and can go into a building, and can negotiate stairwells.

All this equipment here was utilized during Experiment 1.1 that was performed by the program as a test and proof of purpose of the equipment.

This has visual capabilities with a sensor and an infrared (IR) camera. The soldier can put this into the vehicle—or into the building, clear the building, and the squad now knows, and has situational awareness of what they're going into.

So, we now are using technology; whereas, historically, a soldier would be put in harm's way, now we can use technology to enable that soldier to survive and continue the mission.

General CASEY. You can imagine the benefit we get putting these things into buildings. We found buildings rigged with explosives and the whole building comes down around the people. So, this is a great advantage.

Senator LIEBERMAN. Yes, it's quite remarkable. It's actually miraculous.

Colonel HADDON. So, the next thing that we have are the squad-level joint tactical radio systems. These are the preproduction prototype models, and they were actually being used during Experiment 1.1. I talk about the network, I talk about the capability of transmitting this information across. This is the transport layer, and it is going to enable us to do that. This is going to enable us to transmit the data from the squad-level soldier to the battery commander to the battalion commander, and also to other elements outside the theater through a network of radio systems. This is just a preproduction prototype demonstration of some of those. They are being tested, and were tested during Experiment 1.1.

The last thing I have to show you, gentlemen, is the tactical and urban unattended ground sensors. These systems, we have right here, are the urban unattended ground sensors. A soldier would go into a building, place these on the wall, and now, instead of having to, historically, leave a soldier behind to maintain the security of that building, this now enables them to move forward and keep their firepower and strength forward, where they need it. So, now you're keeping the fighting capabilities, the lethality of that squad, intact, while still maintaining security for the soldier. So, this is another set of eyes. We're using technology to replace soldiers.

The next thing that we have are the unattended ground sensors-tactical. This, right here, has an IR camera. You place it along a logistics route, along the road, and this gives you vision of what's coming up and going down that road. Now we don't need to leave

that critical military personnel soldier in a Humvee with a weapon. We can deploy that equipment forward and leave technology behind to protect that route.

We also have acoustic and seismic sensors that would cue the IR sensor, or the camera, if something is coming along that route. All of this is enabling the soldier to be more effective and efficient in their mission and maintain their lethality where they need it to engage the enemy. That is what we are bringing. The future—as I said before, the future is here and now. This technology that you see before you is enabling the soldier to be more effective, more efficient, and more survivable on today's battlefield, as well as the future battlefield.

With that, gentlemen, I'm prepared to answer any questions, along with Command Sergeant Major Coleman and Master Sergeant Haddad.

Senator LIEBERMAN. Perhaps we'll just do a few quick ones, if individuals want, because then I want to get to a question.

But, first, though, this is very impressive. I thank you each for your service. I must say, my colleagues, that I think we should feel some pride that this committee, over the years—and I look to Senator Warner, particularly, because of the leadership he's had in this committee—has invested a lot in the kind of research and development (R&D) to take the extraordinary technological advances of our time and convert them to use in our military. Some of this stuff, for soldiers of an earlier generation, it's science fiction, but it's real. It not only will make you all who serve for us more effective, but it also keeps you safer. It's quite remarkable.

The only question that I have, and I know this is the kind of question we'll get from folks back home, and you'll get from families, this new vest, which is more protective, lighter, and easier to get out of, are they out there now? How soon will everyone who needs one get one?

Sergeant COLEMAN. Yes, sir, they are out there. We filled the first unit earlier this month, 4/9 Manchus, up in Fort Lewis. They're in Kuwait, as we speak, and they're ramping up. I'm not the production guru, but I do know that production's being ramped up, and will be in full mode here starting in May, full production by the end of this summer.

So, I'll have to talk to the acquisition guys about numbers, but it's hitting the field, starting May.

Senator LIEBERMAN. Thank you.

General or Secretary, do you have anything to add to that answer about how soon?

General CASEY. No, I couldn't tell you how long it will be until everyone has one, but, as he said, they will be in full production here by the summer, so I'd say it'd take at least another year, 18 months until we get the whole force fielded.

Sergeant COLEMAN. Yes, sir. Hopefully, by this winter, we'll have at least enough to cover down on the entire Iraqi force by this winter.

Senator LIEBERMAN. Thank you.

Any other questions from my colleagues? If not, I thank you, gentlemen, very, very much.

I'm going to go to the question period now. I note that the Senate has one vote at 11:10 a.m., so I'd like not to have to recess the hearing, and maybe we'll take turns going over to vote. I was going to suggest that we have 10-minute rounds of questioning, since we have so few members here, Senator Cornyn. It'll give each of us a chance to build a line of questioning.

I thank you both for your opening statements.

General Casey, I appreciate your opening statement very much. It looks to me, and feels to me, like you're hitting the ground running. You obviously have a lot of experience, not just in Iraq, but, for those with short memories, you were Vice Chief of the Army in an earlier time. I think you're asking exactly the right questions, and I appreciate that you've put your folks on a relatively short timeline to get these answers back to you with action plans by July.

I am particularly encouraged by the question that you've asked both about the end strength we should be aiming for and the pace of that end strength, because, as you and I discussed before the hearing, it is a big step forward to add 65,000 soldiers to the Army, but if you look at the plan right now, we don't get to that 65,000 until 2013, as we're in the midst of a conflict where the shortage of personnel is obviously having an effect on morale, and certainly family attitudes, in addition to the impact it's had on the institutional Army.

So, I'm greatly encouraged that you've asked your transition team to see if you could accelerate the growth. Can you get to the 547,000 earlier than 5 years from now? Do you want to add anything to that part of what you've told us?

General CASEY. Obviously, they've been working on this for a few weeks here.

Senator LIEBERMAN. Right.

General CASEY. But there's a lot more to it than just the people, and that's what makes it complex. As you mentioned yourself, it's the equipment that goes with it, the basing, and then growing the leaders.

Senator LIEBERMAN. Training.

General CASEY. The training and growing of the leaders.

Senator LIEBERMAN. Right.

General CASEY. We made some decisions that impacted the number of officers we assessed back in the 1990s. They're the majors of today.

Senator LIEBERMAN. Right.

General CASEY. So, we're short on them. So, it takes a while to grow leaders and equipment and basing to put all that together. So, it's going to take, I think, 3 or 4 years, but we'll squeeze as much out of it as we can.

Senator LIEBERMAN. Secretary Geren, do you want to add to that?

Mr. GEREN. Really, nothing to add to that, sir.

Senator LIEBERMAN. Okay.

Then, I take it from what you said, General Casey, that once that's completed, in July, you're going to come back and take a look at the question of whether the 65,000 increase is enough to meet the demands that our country is going to put on the Army.

General CASEY. I think that's the prudent thing to do, and we'll have to ask ourselves hard questions within the Department, "enough for what?" I think we need to be careful on two things. One, I don't think we should just size the force to deal with Iraq. I think that may be a shorter-term proposition.

Senator LIEBERMAN. Right.

General CASEY. But, two, and as you suggested, sustaining large formations is expensive. If we're going to grow it, I think we need a commitment from everybody to sustain it at appropriate levels so that we have a force that is well-resourced, and we can take care of our families and our installations and the whole bit. So, I think it's something we all need to think about.

Senator LIEBERMAN. Right. I want to ask you a big question. I'd just ask you to give me a short answer, but I think it's important to build a record on this. What are the impacts of not increasing end strength? Obviously, we're in conflicts in Iraq and Afghanistan, and there's a call for more troops, but am I right that one of the things you're concerned about here is the morale of the troops, because they're deploying so rapidly, and particularly the impact that has on their families?

General CASEY. The current plan will bring us to the point where we will have enough brigades to put the Active Army on a one-increment-out/two-increments-back——

Senator LIEBERMAN. Whereas, we're about one and one now.

General CASEY. We're actually at 15 months out 12 months back. The Reserve is on at one to five. That's what it will give us. We, frankly, with the Active Force, would like to get to the point where we could get to a one-increment-out/three-increments-back, because we think that gives us a better capability of training leaders and resting the force. But somewhere between two and three, I think, is the right answer.

Senator LIEBERMAN. That will put them in a position when you deploy them, to be as effective as possible, but also, presumably, will improve the morale of their families, because they'll be away less.

General CASEY. Right, and it will allow them to meet the leader development opportunities they need to grow, so that we sustain the qualities of leaders in the force, and that's critical.

Senator LIEBERMAN. Again, I appreciate your coming back to the question of the institutional Army, and that when we add personnel, we make sure that we bring them to where we want them to be, and have the leaders we want them to have, we have to invest some more in all that backs them up and prepares them for leadership and for service.

Let me ask you this question. I presume it'll be part of what your transition team is doing. There are people who have expressed concern that the Army is lowering standards to meet the recruitment goals, and, in fact, perhaps lowering demands in basic training, because, though the standards are lower, a larger number of people are making it through. So, the critical question is, at this point, do you think we can meet the 65,000 increase in end strength, not to mention what may be necessary beyond that, without diminishing the quality of the personnel in our Army, which is obviously the heart of what the Army's all about?

Mr. GEREN. Let me speak to that, first, and then General Casey can add to it. We're recruiting, today, Active, Guard, and Reserve, a force that's about the size of the entire United States Marine Corps, about 175,000 men and women a year. I'm proud of every soldier that joins our Army today. It's an All-Volunteer Force, and we have soldiers joining the Army in time of war. That tells you a whole lot about the person that stands up and joins the Army in a time like this, in a time of our national need. There are a lot of qualities that go into making a good soldier, but I'd put at the top of the list that level of commitment, that sense of patriotism, that sense of duty. We are recruiting fine young men and women.

People have said, "Then the Army looks like America." In fact, that's really not right. The Army looks like the top 30 percent of America. If you look at our recruiting pool, the 17- to 25-year-old young man and young woman, only 3 out of 10 of those young men and young women have the qualifications—mentally, physically, morally, and emotionally—to be in our United States Army. So, we're starting with the cream of the crop, the top 30 percent of our young people.

We do have standards. Congress has set statutory standards. The Office of Secretary of Defense (OSD) has set guidelines. We have our own standards. Right now, we are accessing about 4 percent of the recruiting in 2006 in the Cat 4 category. That has increased, but that's the OSD standard; 4 percent. Earlier in the decade, we were in the 2 percent range. But to put this in historical perspective, in 1980 about 50 percent of the Army was in the Cat 4 category.

So, we watch all these metrics very carefully. One-hundred percent of all the soldiers we recruit either have a high-school diploma or a general equivalency degree. We would like to have everyone with a high-school diploma. The last year, it was 81 percent with a high-school diploma, still way above historical norms. Our Army requires people of many different capabilities, everything from the scientist to all types of manual skills. We take these soldiers and put them in the Military Occupational Specialty (MOS) that suits their abilities and their needs. We watch this very carefully. We watch it with metrics that watch it from up above, but, most importantly, we listen to the NCOs and the leaders on the field, that tell us what's going on in the life of those soldiers.

In spite of these changes, and historically speaking, these changes are very minor, as far as the metrics of our force, we continue to recruit well. Extraordinarily well, in my opinion, when you consider that about 1 percent of the country's bearing the burden of this war.

Senator LIEBERMAN. That's right.

Mr. GEREN. If we are going to succeed in recruiting over the coming decade, and meet these needs, there will have to be some changes. We will have to have our country's leadership, all the way down to the level of principals in schools, and teachers, parents, coaches, as well as those of us in public life, communicate to the American people the importance of standing up and defending our country at a time of national need. Right now, we're not doing as good a job there as we can, but we have a top-quality Army, sir,

and it's the best-led, best-trained, best-equipped Army, and we're proud of them.

Senator LIEBERMAN. I appreciate the answer. I know you'll keep your eyes on that. I hope that you'll be very forthcoming with us if you feel you need more support to meet the recruitment goals at the level of quality that you want, including, perhaps, more recruiters or other programs to reach out to authority figures, like principals or clergy-people and others, to encourage people to come into this.

General, did you want to add something to that?

General CASEY. The only thing I'd add, Senator, is that in my travels here in the last 2 weeks I've been to three basic-training sites that produce about two-thirds of the basic trainees. I've talked to recruits, I've talked to drill sergeants, and I've talked to the leaders. I must say, I'm fairly impressed with what I saw, in terms of the recruits. I will tell you that I did talk to drill sergeants who felt they were spending too much time "babysitting," in their words, some of a portion of the recruits. But when I talked to the leaders, and I pressed battalion and brigade commanders whether they felt pressure or they were being tracked on their attrition, to my pleasant surprise, they said they were not called on that. I'd say that's exactly what we want.

This gets to the notion of the attrition rate in initial entry training being about 6 percent, and whether we're making it too easy for them. Actually, the attrition rate started to go down when we put in the warrior tasks and drills, and when we, in fact, raised the level of what we were asking the troops to do. I talked to the TRADOC commander; we don't want pressure on people to meet a specific attrition goal. We want to have the right soldier, prepared to deal with the challenge he's going to have to face. So, as I said, I was fairly comfortable with what I saw at the initial entry training sites that I went to, but we will keep a close eye on it.

Senator LIEBERMAN. Good. Thank you. My time's up.

Senator Cornyn.

Senator CORNYN. Thank you, Mr. Chairman.

My first question goes to funding our troops. One of my concerns is that the current debate over the emergency supplemental has been cast as a political argument between some in Congress and the President. This, I believe, has very serious impact, not only on our readiness and ability to equip and deploy and rotate troops back out of the theater, but also in terms of protecting the lives of our troops. I guess the one symbol of that, which comes home to me the most, is, I recently was down in Sealy, Texas, and looked at some of the new Cougars, the Mine-Resistant Ambush-Protected (MRAP), vehicles which have been deployed, I believe, by the Marine Corps, with great success, and because of their V-shaped hull and design, it actually disperses the explosion, rather than has it channel up into the Humvee or otherwise cause greater risk of harm to our troops. As I recall, the supplemental originally had a significant amount of money that was dedicated to pay for some of these MRAP vehicles. Senator Biden introduced an amendment which upped that amount significantly. I think the figure now is $4.1 billion, which I would like to see get to the troops as soon as possible. But could you comment, Secretary Geren and General

Casey, on the importance of getting this funding to the troops as soon as we can?

Mr. GEREN. I'll speak, but I'll be brief, because General Casey can speak from the perspective of the field.

We currently have about 1,000 MRAP vehicles of one sort or another. All our military police are in MRAP vehicles. We also have some of the route-clearing vehicles, the Buffaloes. We consider this a priority. Our current plan is, and the recommendation to the Chief and me was, for the Army to buy 2,500. That's a subject we're going to look at carefully and decide whether or not that's the right amount. We have a requirement from the field that's a larger number than that, and we are going to take a long, hard look at that. The Marine Corps is the program manager for this, we're partnering with the Marine Corps, and we definitely intend to move out with the program and increase the numbers that we have in the field.

I'd like the Chief to talk about his perspective, the value in the field, of that type of technology.

General CASEY. Were you referring just to the MRAP funding, Senator?

Senator CORNYN. No, sir, I was using that as an example of the kind of equipment that is awaiting this emergency spending.

General CASEY. Sure.

Senator CORNYN. But if you would comment more generally on the importance and the consequences, because I think some are under the mistaken notion that there's no big hurry. There were people that advert to a Congressional Research Service report that says, "Nah, it's okay if we get the money over there to the Pentagon in June or maybe July." But I've seen, from Secretary Gates, General Schoomaker, and others that there's very real impact today on the failure to get that funding there now, some 70-days-plus since the President first requested it.

General CASEY. I think, with everything we have going on in the Army, a predictable flow of resources is critical to sustaining our transformation efforts, our reset, our preparation of the forces for combat, and our modernization efforts. So, anytime you have a perturbation in that, there are second- and third-order effects.

Now, we have taken some actions, already, that have been helped by a $1.6 billion departmental reprogramming, to put ourselves in a position to allow us to continue to prepare our soldiers to go to combat through the end of June without having to take any significant steps that would undermine that. But we, as you suggest, would like to get the supplemental funding as soon as we can, because the longer it goes, the more second- and third-order effects there are.

I would like to thank the committee for their approval of that reprogramming request, because if we don't get that, then we're in a much tighter box.

Senator CORNYN. The last thing I'll say about this is that I know there's been some suggestion that the debate in Congress has actually been helpful to impressing upon the Iraqis the fact that this is not an open-ended commitment of the United States, and I believe it was Secretary Gates that said the clock is ticking. While I appreciate the fact that this debate is important, I don't think the

delay is required for the debate to go on. The debate will continue on. The delay, I think, is harmful, and I hope Congress will act as soon as possible.

I want to touch on the impact of the burdens, the sacrifices of our men and women in uniform, and on military families. Secretary Geren, you and General Casey both alluded to this. The old saying is, "You recruit soldiers, you retain families." With these multiple deployments, with extended deployments beyond what originally was anticipated, from 12 to 15 months, obviously that has a very profound impact on the sacrifices and burdens we're placing on families.

You say that there's other things we want to do for them, or we want to help, and I wonder if you could comment, generally, on that impact on our ability to recruit and retain, as well as other, maybe, specific ideas you have about what we can do to lighten their load as much as we can.

Mr. GEREN. We are asking a great deal of the families. With the recent decision to extend the deployments to 15 months, we're asking more of families who have already given a great deal. A top priority for the Chief and me is to understand better the plight of the families, and what can we do to make sure that they have the quality of life that they deserve.

The health care issue at Walter Reed is a perfect example of how the stresses on the system cause us to lose our focus and drop the ball in an area that is so important to the health of the families and the health of the force. We are focusing on the healthcare needs of the families, and we've taken many of the lessons we've learned from Walter Reed, and we're applying them across the force to do a better job of meeting the healthcare needs of the families, not just for the wounded warriors, but of the families, as well. That's an area where we know the families have great concern, and we're going to do a better job there.

Other programs actually at the facilities; educational programs, quality-of-life programs, everything from childcare centers, General Cody and I spent many, many hours trying to move money around in a constrained budget to make sure that we have the right funding in the childcare centers and other educational programs for kids, so moms and dads have the quality of service they need for their children.

Over the next couple of months, it's an area that we're going to work on very aggressively to understand the needs of the families. In some cases we have good programs. The programs vary from facility to facility. We need to do a better job of making sure that there's uniformity in quality across the system.

Senator CORNYN. General Casey, do you have anything you'd like to add?

General CASEY. Yes, just a couple of things, Senator.

With the transition team, I took it a step further, and asked the question: in an Army that's almost two-thirds married, is not the impact of that family on the soldier's decision to stick with the force so significant that we should treat families as a readiness issue? The answer was, "Well, yes, what took you so long?" For us, calling something a readiness issue means you do what you have to do to get it done. As much as we've done for families, my per-

sonal view is we've always been just a little bit off in following through on our commitments. We need to deliver.

When you talk to the spouses, they say, "Look, we don't necessarily need a whole bunch of new programs. We need you to fund the ones you have, and we need you to standardize them across the installation. When you go to one place or another, they say, 'No, we don't do it like that here.'" There's just so many little irritants out there that, when you're on your third deployment, are the kind of things that can be the straw that breaks the camel's back.

Mental health professionals for the children and for the spouses, as well as for the soldiers, come up every place we go. It's going to be, I think, probably a national question here, because I don't know that we have enough social workers and trained mental health professionals to deal with this, especially in the areas around some military installations.

Another small one, I expect to be able to announce here in a month or so that we're going to fund full-time readiness-group assistance down to battalion level. We're doing it in some places now, but not everywhere. As the spouse said, "It's a heck of a lot harder running a family readiness group for a third deployment than it is for a first one." So, give them a hand.

Also, the Secretary mentioned education. As they look at this, they want to have good educational opportunities for their children, and they want it in an environment that appreciates what the families are going through. So, there's a big push for a lot of folks to stay within the Department of Defense (DOD) school system here, especially as these deployments go forward.

Mr. GEREN. Senator, could I mention one thing, just about the supplemental? The delay in the supplemental causes us to rob from the home front to make sure that the soldiers in theater have absolutely everything they need. We've been able to do that. But it does have an impact on the nondeployed. It has an impact on families. It has an impact on the quality of life.

Last summer, we had to make cutbacks in programs across our facilities in order to make sure that the troops in the field had everything they need. We're in the process of doing the same thing right now. On 15 April, we started cutbacks; 22 April, we did again; and every day this is delayed, we're going to see further and further cutbacks. The families and the quality of life ultimately suffers. The $1.6 billion that General Casey referred to, your committee has approved that reprogramming, but nobody else in Congress has. So, we're awaiting that money. The anticipation of that has allowed us to delay some more draconian measures that will come in the future. But, you're exactly right, the timeliness of that supplemental is key, and ultimately it will affect the quality of life for our families.

Senator CORNYN. I have one short question, and it just requires a short answer.

Could you tell us what the limiting factors are on our ability to grow our end strength faster? Is it money? Is it the ability to recruit? Is it other factors? Is it all of the above?

Mr. GEREN. I'd say, short answer, all of the above, really. The training and the recruiting is a big increase, and there's a lot of work associated with it to make sure that we grow it well and grow

it right. We are going to look and see if there's any way to do it faster.

Senator CORNYN. Any other thoughts, General Casey?

General CASEY. It is all of the above. It is the recruiting, and it is the equipping. All of those have a time lag associated with them. If we get the money this year or 2 years later, the equipment pops out. So, that's what we all have to be cognizant of.

Senator CORNYN [presiding]. Thank you.

Senator Inhofe.

Senator INHOFE. First of all, let me compliment both of you. You did something that no one has done, to my knowledge, since the 1990s. In your opening statement, you talked about the mistake we made in the 1990s on the downsizing, on the budget, and on the modernization programs. The reason that I'm so pleased you're doing that is I've been the only one talking about the mistakes we made in 1990. I was chairman of the Readiness and Management Support Subcommittee during that time, and there wasn't a week I didn't go down to the floor and say, "This euphoric attitude that the Cold War is over and we don't need a military anymore has to stop." Now, we're paying for it. The reason is not to point the finger, not to play the blame game, but if we don't have the military saying the same thing that I'm saying, then I have no credibility. So, both of you talked about that, and I think that's a great thing for the future, because we don't want this to happen again. It happened back in the 1980s, as we all know, and the hollow force and all of this. This, perhaps, can be the end of that.

You said, Pete, that only 3 out of 10 who come in to be recruited actually end up being accepted. Is that correct? I'm not real clear, because I've heard one out of eight, and I was just kind of wondering——

Mr. GEREN. Yes. I'm not familiar with the one out of eight number. We're not talking about the ones that walk through the door, but we look at the pool of young people that fall in the 17- to 25-year-old category. Only 3 out of 10 of those would meet our standards.

Senator INHOFE. So, the figure I'd like to have, and you probably don't have it now, is, of those who come in with the expression of interest, who want to join, how many of those are rejected? What kind of ratio are we looking at?

The reason I want to know that is because I've heard some of the criteria. For example, they said if you are a product of home-schooling, you may not qualify, or something like that. So, I think there are criteria I'd like to look at.

Maybe we don't want to reduce the standards, but we might want to re-evaluate the criteria. That's one of the reasons. In fact, there is a person in this room right now, seated not far behind me, who attempted to join the Army. He was not able to do it because of something that was no longer active, medically speaking. He's one of the top athletes around today, and so, I keep thinking, are we passing up a bunch of people who really want to do this because of the criteria that we're using?

Now, I want to ask you this, also. It was touched upon by someone else. There are a few highly publicized cases where antiwar

groups are keeping schools from having recruiters on campuses. What kind of a problem is this? Can you quantify this?

Mr. GEREN. I can't quantify it for you. I know there are schools that have limited our access. The Solomon amendment, which I believe is in litigation right now, states that if you're going to get Federal funds, you have to provide us access. We have workarounds that we have in certain campuses, where we do Reserve Officer Training Corps (ROTC) programs in partnership with other campuses. But as far as the specific response to your question, I'd need to get back with you.

[The information referred to follows:]

The Army provides opportunities to any individual that wants to serve provided they meet Department of Defense standards. Individuals with the propensity to serve may walk in to any recruiting station and volunteer. While the walk-in market is small, those individuals are afforded the same opportunity as the traditional recruit. Regardless of the source of entry, the Army ensures that every individual enlisting is qualified medically, morally, and administratively (number of dependents, weight standards, etc.). Only 3 out of 10 17–24-year-old youths are fully qualified to join without a waiver, and less than half qualify with a waiver. In coordination with the Office of the Secretary of Defense, entrance standards are continuously reviewed to ensure we are not being overly restrictive in criteria.

By law, both high schools and colleges receiving Federal funding are required to provide a minimum level of support to recruiters. High schools are compliant but are reluctant to provide additional support, if they receive Federal funding, they are required to release their students' contact information to military recruiters, although parents have an option to have their child excluded from these lists. Many high schools have stopped administering the Student Armed Services Vocational Aptitude Battery, which is perceived to be exclusively a recruiting tool.

Most colleges receiving Federal funding are compliant with the law to provide access to military recruiters and are providing the minimum level of support. There are competing demands for students, thus college administrators are reluctant to provide the military full access to campuses. There is a recruiting market on college campuses targeting students that are graduating, have decided not to continue their education, or are in need of money to continue their education. Although college campuses have historically been centers of influence and focal points for anti-war activists, these have been minimal.

Senator INHOFE. That would be good to take that for the record because what we're talking about is trying to get more to come in. If this is a deterrent, if this is happening in a pretty widespread way, we need to know it. Now, we know about the Junior Reserve Officer Training Corps program in California. I'm not talking about that. I'm talking about the active recruiters on our campuses. Okay?

Then, I was going to mention the crisis that we faced last year. I can remember talking to you, Secretary Geren, about that when I was working very closely, at that time, with General Cody. My feeling was, we were getting dangerously close to having to affect widows' benefits and re-enlistment bonuses, the things that would just be really disastrous. I just hope that we do not get in that position this time. I know everybody's trying, and I'm not sure what the answer is, but that is a crisis.

Now, FCS, we haven't said much about that. We have things that are bleeding right now that have to be done. We all recognize that. The problem that we're having is what normally happens, as was happening back in the 1990s. They were taking things that didn't have to be funded on that day. I always use the example of the real property maintenance accounts affecting things like the roofs on the barracks at Fort Bragg, almost like they weren't even

there. But they had to use that money to buy bullets at that time. That's how bad things were. One of the things that is always a prospect for sliding is modernization programs. I think the American people are under the misconception that our kids, when they go out there, have the best of everything, and they don't. Part of the FCS program, one of the lead increments of that, would be the non-line-of-sight cannon. When I tell people that the best thing that we have out there is the Paladin, which is World War II technology, this is just totally unacceptable.

So, now, we have had to slide a little bit in FCS. Where do you see FCS going to right now?

Mr. GEREN. FCS is our top modernization priority, and we have seen significant cuts in the FCS in the last couple of years. It's something, as you alluded to, that's happened with so many of our modernization programs over the years. We end up cutting a little every year. They slide to the right. We do tend to rob the future in order to pay for the needs of the present.

FCS is a good example of where the future really is now. You heard it from the soldiers. We are designing the FCS to respond to the soldiers in the field, their needs are what are driving how we allocate our resources in FCS, how we plan the spinouts. We're trying to take those technologies and get them to the soldiers, fast.

Senator INHOFE. I've been over there in that area 13 times, but when you look at the new technologies that are there, that we're experimenting with; I hope this becomes widespread. We can't overlook the main program we have right now, which is FCS.

General CASEY. If I could take your analogy of the 1990s back. So, we looked at the 1990s, and we looked forward, and we made some decisions based on a rosy view of the future. We looked out to 2020 and talked to people in the Intelligence Community, in academia, in think tanks, in staff around here, and we said, "What do you think it's going to look like in 2020?" They said, "Persistent conflict." So, we're not looking forward to a rosy picture. We're saying, "Hey, we're going to be fighting for the next decade or so."

Senator INHOFE. General, you've heard me saying that we're going to try to guess what's going to happen 10 years from now, and, as smart as all you guys are, we're not going to be right. That's the reason it crosses Service lines, because we had the same situation in our strike vehicles in the Air Force. So, I just think when we recognize that if we really want to meet what I believe are the expectations of the American people, we should have the best in all Services, and we're not quite there right now.

General CASEY. We're not, and that makes the rationale for why this FCS is the centerpiece of our modernization program.

Senator INHOFE. Yes.

General CASEY. We're up against an adaptive, asymmetric enemy that is changing his tactics every day. We need to give our soldiers the decisive advantage, today and tomorrow. We can't scrimp on that.

Senator INHOFE. I appreciate the two of you. You're doing the Lord's work.

Senator LIEBERMAN. In the absence of another Senator, though I've had my 10 minutes on the opening round, I'll ask a few questions. Soon as somebody else comes in, I will yield.

I mentioned earlier that the Army budget has a $20 billion increase over last year. That obviously occurred before the surge began. I want to focus on one part of it, which is, the ongoing conflicts in Iraq and Afghanistan have not only had an effect on personnel, but obviously on equipment. This is tough combat environment. Equipment is affected, it wears down, so there's a need for what we'd call, in layman's terms, maintenance, and also buying some new equipment to replace stuff that's lost.

This goes directly to the jurisdiction of this subcommittee. Is there enough in the budget that the President put before us, which, again, was constructed in an earlier time, to allow you, Secretary Geren and General Casey, to recapitalize, reset, and maintain equipment at the necessary level, or should we be looking at adding some more?

Mr. GEREN. As far as the equipment that we wear out in theater and combat losses, we have made our best estimates, and have those figures in the supplemental. The money that you all provided last year, the $17 billion, is a very important step forward. We've spent, or committed, about 81 percent of that. We're always having to predict the future and anticipate what those losses are. That's the value of these supplementals that are out of the regular budget cycle, they give us an opportunity to have our budgetary needs in those areas reflect our needs on the ground. As each supplemental comes along, we'll do our best to accurately reflect those costs, and you all have always stood with us in funding those costs. So, the supplemental system, as imperfect as it is, and fraught with the delays that it is, does allow us to meet the battle losses and the battle attrition, albeit in a delayed basis.

Senator LIEBERMAN. General Casey?

General CASEY. I'm not in a position to give you specific numbers, Senator, but my inclination is, probably not.

Senator LIEBERMAN. Probably not enough, at this point.

General CASEY. Probably not. As you said, the five additional brigades were outside of that, so we have to deal with that.

Senator LIEBERMAN. Excuse me. Just spell it out a little bit. I think I know what you mean, but in other words, to adequately equip those——

General CASEY. In our projections that were submitted—we weren't counting on having those five extra brigades over there.

Senator LIEBERMAN. So, that would mean additional equipment, obviously, and perhaps additional repair.

General CASEY. That's right, additional requirements for the repair of the equipment that these brigades take over there with them.

Senator LIEBERMAN. Okay.

Mr. GEREN. To those five new brigades, let me speak to that, because I don't want you to think that my answer neglected that piece of it. We do not have the money in the budget, going forward past the end of this year, for those five brigades, and that's something we will have to either reprogram or rebudget for.

Senator LIEBERMAN. Okay.

Mr. GEREN. As far as those five brigades, we do not have the money in the budget beyond the end of this fiscal year.

Senator LIEBERMAN. I appreciate that. So, as we are now working on the fiscal year 2008 budget, to begin October 1, to the best of your ability I ask you to try to come up with a number that you think you'll need, at least for that, which is the additional cost associated with those five additional brigades in battle.

General CASEY. The other thing we're likely to see is, if we want to go faster, it will cost more.

If you want to grow the Army faster, it will cost more.

Senator LIEBERMAN. Right.

General CASEY. It will mean buying equipment sooner than we had thought, for example. It will, maybe, require building bases or military construction sooner than we thought. So, that could cause us to come in with some additional requirements, as we look through this.

Senator LIEBERMAN. Let me ask you about one specific program, because, in some ways, it comes off of the extraordinary display of advances in support for our troops that the soldiers here gave us, and that deals with the Land Warrior Program. The Army has not funded procurement of the Land Warrior Program in the fiscal 2008 budget, or not asked for funding, after years of development and a cost of about $2 billion. Over the years, I'm afraid, the Land Warrior suffered not only from management plus performance and schedule problems, but also with requirements growth in challenges associated with so many information technology and software-based programs. However, the Director, Operational Test and Evaluation (DOT&E) recently did an assessment of Land Warrior during tests with the 4th Battalion, 9th Infantry, a Stryker unit getting ready to deploy to Iraq.

They gave a carefully-worded report, that I thought was encouraging, that said that the program was on track to be operationally effective and suitable, even though it hadn't completed its initial operational test. This adds to all that we've talked about, the extraordinary ability to communicate, to locate, and know where soldiers are. So, I'm troubled that this didn't get funded. I understand that you only had so much money in the budget. Obviously I'm concerned about all the money we've put into it. I think it adds capability. The fact that the Army listed it as an unfunded requirement means, literally, you consider it to be a top requirement, but simply didn't have the money to fund it.

I wanted to ask you just to comment on where we are in Land Warrior, consistent with what we've seen. I think it's part of that whole picture of taking advantage of technology to put our troops in the best position we can. Should this committee, bottom line, look at funding Land Warrior in the fiscal year 2008 budget?

General CASEY. Senator, I'm less than a millimeter deep on this one.

Senator LIEBERMAN. Okay.

General CASEY. I couldn't give you a good answer.

Senator LIEBERMAN. Okay. Understandable. Then we'll come back to Secretary Geren?

Mr. GEREN. I'm not familiar with the details of the decision. I know we did cut it from the budget. We have attempted to take the technologies of the Land Warrior Program and roll them into FCS, so we have the benefit of that research and the technological ad-

vances. I'd like to get back with you, with further details, but we have attempted to take the Land Warrior concept and make it a part of FCS.

[The information referred to follows:]

While the Land Warrior Program was terminated, the Army will not lose the capabilities resulting from the program. We learned a great deal about how to extend the network to the soldier that will guide our future efforts. The 4–9 Manchus (4/2 Stryker Brigade Combat Team), who conducted the Land Warrior limited user test, will deploy with Land Warrior to Iraq. This deployment will serve to inform work on Ground Soldier System and the integration of these capabilities into current and future forces.

Senator LIEBERMAN. Okay. I want to keep in touch with you on it, because, for one, I think it offers extraordinary additional capacity to our troops.

Have you experienced it, Sergeant Major? Have you see the system?

Sergeant COLEMAN. Yes, sir, I have.

Senator LIEBERMAN. What's your impression of it?

Sergeant COLEMAN. The capability that it brings, I think, is impressive, and that's why 4/9 is taking it with them.

Senator LIEBERMAN. Yes, that's what I had understood.

Sergeant COLEMAN. I'm not educated on it enough to sit here and talk in detail, but it does get them a little bit better connected to the network.

Senator LIEBERMAN. Just take a minute and describe it. I'm not asking you to make a judgment, which is not yours to make, about whether we should fund it or not, but just tell us what additional capacities it gives you and your forces?

Sergeant COLEMAN. The biggest thing that I've seen—and, again, I am not extremely familiar with it, just vaguely familiar—what I've seen, though, is that it connects the soldier to the command group significantly quicker.

Senator LIEBERMAN. So, this is a unit that everybody would carry.

Sergeant COLEMAN. It depends on your position, sir.

Senator LIEBERMAN. Yes.

Sergeant COLEMAN. The ground soldier is still a ground soldier. He's focused on his 180 degrees to close with the enemy in his immediate front. But it gives a lot more to the leaders, as far as a link back to the command be that company or battalion.

Senator LIEBERMAN. Gotcha.

Sergeant COLEMAN. It has some better optics, as far as getting on target, not necessarily at that level, but it can reach out there, and the squad leader can look through an eyepiece and identify where his people are at. He can get more accurate, and quicker, information to call for either indirect fire or close-air support from the command group for clearance, like I said, be that company or battalion.

So, it's a big communication piece. A great example was that, at Fort Polk last year they were going after a high-value target (HVT), the target identity had changed, the battalion commander was able to get that down to the ground-pounders in realtime, and they were able to apprehend the HVT right there on the spot.

So, in closing, sir, it's a good communication link to the better C2 levels that we have.

Senator LIEBERMAN. Right.

I'm corrected by staff. I apologize. It is not on the unfunded priority list, it is an unfunded priority, but it didn't make the cut above the line.

Mr. GEREN. Sir, the smart guys behind me have provided me a little additional information.

Senator LIEBERMAN. Yes.

Mr. GEREN. Money for R&D for the system is in our 2008 budget.

Senator LIEBERMAN. Right.

Mr. GEREN. The program was canceled, for budgetary reasons, and also weight/power limitations. But the R&D is staying alive, and we're, again, working to incorporate it in the FCS.

Senator LIEBERMAN. Okay. Thanks very much. We're interested in that.

Senator Warner, I presume you did not have a round of questioning?

Senator WARNER. That's correct.

Senator LIEBERMAN. I would be delighted to call on you now.

Senator WARNER. I thank the usual courtesy of the Chair and my ranking member, and I join you in welcoming this distinguished panel. I would only say to you that, as I reflect back on history, I can think of few times in contemporary history when there's been more turbulence and challenge, and we're fortunate that both of you draw on extensive public service, previous service, and have the knowledge and the courage to tackle the unknown. You're dealing with a lot of unknowns in this situation.

I would just like to start off that, and I'm respectful of the differing views in Congress today as it relates to our Nation's policies in Iraq and Afghanistan, I do find a very united front among the people of the United States in standing foursquare behind the uniformed personnel of all of our Armed Forces. It's quite unlike what some of us experienced when we were in positions that you are now in during the Vietnam war. But today, America has in its hearts, every day, these young people in uniform, most particularly those that are serving in Iraq and Afghanistan and other places of the world where there's a high risk.

I appreciate, Mr. Secretary, your reference to the All-Volunteer Force. It is something that I view is a national treasure. It was conceived at a time when there were a lot of unknowns in the immediate closing days of Vietnam and the years afterwards, but it has worked, and has successfully served this Nation, and served the men and women who have been in uniform. There's a great deal of reliance that one can put on your fellow soldier, sailor, airman, and marine, knowing that he or she is there because they want to be there, and they accept the risk commensurate with what you're accepting. It has worked.

We have to make sure that, in these uncertain times ahead, you can continue to preserve that national treasure. I hope, as I mentioned in a previous hearing, that you will put in place, gentlemen, those guideposts, those benchmarks, maybe not unlike this roadside monitoring system, put all kinds of monitors out there to watch it, because it could turn, very quickly, one direction or the other.

As I look at the next 6 months, they're going to be months of very difficult decisions between the executive and the legislative branches, and I'm hoping for the best. But the challenge is squarely in your lap to not only maintain the Army, but to let it grow, and grow in an orderly way.

I think the record should reflect, certainly, the views of this Senator, that in no way could you look to this population, which is highly supportive of the uniform today, to support any initiatives in Congress to reinstate a compulsory service in the form of a draft or whatever name might be attached to it. I do not see that as an option, and I would urge you never to even think about it as a planning factor for the future.

I then turn to several parts of the program, as I see it today, and I was struck, yesterday—impressed, indeed, if I may say, General Casey, with General Bell. I have dealt with a series of very fine individuals who have served in that command in the Korean Peninsula. He handled himself remarkably well, in my judgment, on a broad range of issues and questions. But the one thing that struck me is that he is considering a plan whereby the current service tour of an Army person in Korea would be 3 years, and that would involve the family. Certainly, for that extended period of time, it's essential that the family be a part of it. Now, that's a major shift in the over-half-century that our forces have been an integral part of the security structure in that Korean Peninsula. Heretofore, we've used the unaccompanied tour, I think, basically, for a year. Now, having had some modest experience, myself, there, a half-century ago, the weather is really extraordinary. That's a challenge to families and young children and the like.

But I want to make certain that this plan has to originate with the Secretary and the Chief of Staff, as opposed, with no disrespect, to a forward-deployed commander. Could you advise me where you are in that thinking process of that 3-year commitment?

Mr. GEREN. I've not been briefed on that, Senator. I was not aware of that plan. I did meet with General Bell a couple of days ago, and covered several issues, but we did not discuss that one.

Senator WARNER. Then, let me say, I think it's a matter of some urgency, for the following reason; not that he would go off on his own without the concurrence of the apparatus, in other words you and headquarters, that have to look over the entire Army and tours. We're already going through the perturbations of the 15 month deployment in Iraq. Then troops, being what they are, they hear, "Well, it's 3 years in Korea, and there's 15 months in Iraq," and this all begins to feed a certain amount of uncertainty, I would think, in the ranks, at what their next posting might involve.

I think you have to look to a certain degree of uniformity, if I may say, and I would work with General Bell. There may be valid reasons for that policy to be adopted. But, if it is, it's strikingly different, is my understanding, than any other overseas deployment. Am I correct in that assumption?

General CASEY. You are, and we talked a little bit about this.

Senator WARNER. Who is the "we"?

General CASEY. We, the former commander there, General LaPorte and I. We offered the opportunity, in fact, bonuses to ex-

tend over there, because the Korean economy has risen such that it can provide a quality of life that is not what it used to be.

Senator WARNER. Oh, yes. Its cost is significant.

General CASEY. I'm actually, Senator, heading there next week.

Senator WARNER. Okay. Then you're on top of it.

General CASEY. Yes.

Senator WARNER. But I think the uniformity, or the extent you have uniformity, has to originate right where these two seats are that you're occupying.

General CASEY. Yes, sir.

Mr. GEREN. That decision certainly would be secretarial and Chief of Staff level.

Senator WARNER. All right, that's fine. Let me move on.

We come to the question of our Army people serving in Iraq, and alongside is a fellow marine. He may not be more than a couple of miles away, in his sector, fighting courageously, yet he's there for 6–7 months versus your 15 months. Now, how do you deal with that issue? From a morale standpoint, primarily.

Mr. GEREN. Right.

Senator WARNER. I realize these tours are driven very carefully by planning doctrines and those back in the various headquarters that look at these issues. But I'm talking about the good old GI up there, day in and day out, plugging along, and he's getting his e-mails from home, and he's hearing about the marines coming home, and he's staying. How do you work through that?

General CASEY. I think the Chairman of the Joint Chiefs talked about that earlier.

Clearly, both Services are on their own deployment cycles for their own Service needs. I'll get this wrong, but basically, the marines have a shorter dwell time on the other end.

Senator WARNER. That's correct.

Anyway, you're getting too complicated. All I'm saying, gentlemen, you have to take a look at those little things and see how they work.

General CASEY. When you look at it over time, Senator, it doesn't come out all that different, maybe a month or two, one way or the other.

Senator WARNER. Can you explain that to the good old American GI that's down there?

General CASEY. I wouldn't want to, probably the GI, not his wife.

Senator WARNER. Well, therein is a challenge.

Now, this 15-month deployment, we've now had it in the public domain and being considered by the units. How successfully is it going down with the troops, in your judgment, General?

General CASEY. I've had direct feedback from groups of spouses and soldiers in the installations that my wife and I have visited, and I've had feedback from the field. I would characterize it as resignation, certainly not happy about the extension, but they understand. I do think it's important that we did it for some very sound reasons, and we actually, as a result, have given the families about as much predictability as we could give them in what's a very uncertain and unpredictable environment. I think the most important thing is the 12 months at home.

Senator WARNER. All of us study a great deal about what's going on in Iraq, but am I correct that the Iraqi units that were brought in to, as the President said, take the lead in the surge operation, are going to be there for a period of maybe only 90 to 120 days, then rotated out and replaced by other units? Now, there again, I'll go to the good old American GI. He's in there, and he's in there for the duration of that surge, and he sees the Iraqi forces, whom presumably he's working with, rotating back to their home base or from whence they came, and another unit coming in. Now, what impact does that have on morale?

General CASEY. I think that would be a good question for General Petraeus, this afternoon.

Senator WARNER. Very well, I will quote you as saying that "therein resides the answer to that question." [Laughter.]

To me, these are matters of great consequence, because, modest though it be, I have some specific recollections of experiences where there was a difference in treatment of people and personnel issues, and it just diverts the attention of a conscientious soldier, sailor, airman, or marine from his or her job, when he hears that some other person is getting a little better deal than perhaps they're getting.

I thank the Chair.

Senator LIEBERMAN. Thank you very much, Senator Warner.

Senator Sessions.

Senator SESSIONS. Secretary Geren and General Casey, the DOD has been very clear that we have a policy that is to ensure the National Guard has unprecedented equipment and support over a period of years, and that we have a firm commitment to bringing them up to readiness in that regard.

Based on the extended tours in Iraq, the movement of equipment to Iraq, the budget challenges that you face, and other things that have occurred, can you tell us, is that plan on track? Can I go back to my State and say, "We have a plan that's going to fix these shortages of equipment" or is it something that's in jeopardy at this point?

Mr. GEREN. The plan that we have described to you in the past is on track. For the Guard, it's $38 billion in new equipment between 2005 and 2013; for the Reserves, it's $10 billion.

Senator SESSIONS. Now, I believe General Schoomaker said that's an unprecedented financial equipment support package. Would you describe it that way?

Mr. GEREN. It is unprecedented, and it's a real break from the past, as far as how we treated the Guard. We're committed to equipping the Guard and the Reserve so that they train the same way the Active-Duty Force trains, and able to deploy with the same kind of training and same kind of equipment. We are examining now whether that $38 billion gets it all done. It probably falls a little short. But, yes, it is unprecedented. It's an investment that is going to do a great deal to bring the Guard up to the standards of the Active Duty, instead of having them be content with out-of-date equipment and out-of-date training.

Senator SESSIONS. So, are there threats to this part of the budget? I guess Congress can fail to fund in the out years the require-

ments to make this a success. Is the Defense Department committed to asking for what it takes to get this done?

Mr. GEREN. Yes, it is. Those figures are actually in our 5-year budget plan. The $38 billion for 2005 to 2013, and the $10 billion for the Reserves, those are in our budget.

Senator SESSIONS. Set aside in your budget, and if it doesn't get there, it's because Congress or the President blocked it or unless you change your mind.

Mr. GEREN. It's in the budget approved by the President.

Senator SESSIONS. General Casey, do you support that concept of fully equipping the Guard and Reserve, and is by 2013 sufficient time, or does it need to be done sooner?

General CASEY. We'd like it done sooner, but I'm not sure we can. But, I think, before you came in, I mentioned that my transition team has spun out six initiatives. One of them is to complete the transition of the Reserve component to the operational force that we need it to be, while still preserving their citizen-soldier status. The equipping is the major part of that. I don't know whether they need to be fully-equipped all the time, but they clearly need to be equipped well enough to meet the Governors' needs, to have some equipment to basically train on, and then they need to have the equipment they're going to fight with, to train with before they go. I think we can be creative enough to work with the Reserve components to figure out how to do that. I'm committed to doing that.

Senator SESSIONS. I think that can allay some of the concerns that we have. Although we do have a window period now, I think that a lot of the units are not rated ready to deploy because of the lack of equipment.

Would you say, and would you care to comment, that the ability of the units to deploy is not impacted with regard to an Iraq deployment, because they will fall in on equipment that's there, as opposed to some other deployment?

General CASEY. Yes, I think, as General Schoomaker has testified in the posture hearings, it is the readiness of the next-to-deploy forces that are the challenges. The ones going to Iraq get the equipment that they need.

Senator SESSIONS. One of the things we heard about from General McCaffrey, Lawrence Korb, and General Scales is a shortage of middle-grade officers, captains, and majors. I've heard that some of that is due to the new brigade concept calling for more captains and majors than we heretofore expected to need; therefore, that could explain some of our shortage.

Would you give us a rundown on where we are with regard to majors and captains, if there's a shortage, and how our retention is going?

General CASEY. Do you want to do that?

Mr. GEREN. Go ahead.

General CASEY. I think there's two reasons we're short those mid-grade officers. One is, we under-assessed in the 1990s. The major today came in the Army in 1997, and there were year groups we didn't recruit enough folks into, so we are starting off short some majors in year groups now. The second reason is exactly what you said. There are more majors in these modular brigade headquarters. I'd go around to meet each of the new brigades as they

came into Iraq. When I was a brigade commander, I had two majors in my brigade headquarters. I'd go down, and I'd say, "Hello, Major So and So, the personnel officer; Major So and So, the intelligence officer; Lieutenant Colonel So and So, the operations officer; Major So and So, the logistics officer." They were all majors. It made a quantum difference in the tasks that these brigades could handle in Iraq. So, it's the right thing to do, but, you're exactly right, it's a major reason for the current shortages.

Mr. GEREN. Let me mention, there is a third contributing factor, as well, though. We do have attrition in those grades that's above our average. It's not greatly above it, but it is above it, and it's a high-demand grade. We recognize that and we're putting incentives in place to try to retain captains and majors. We have a proposed menu of incentives for captains that includes a $20,000 bonus, post of choice, branch of choice, and providing opportunities for graduate school recognizing the professional development needs of these young men and young women and using it to encourage them to stay in the Service. So, the Chief mentioned two reasons, but this third one's also a factor. Again, not a big factor, but it is part of the equation.

Senator SESSIONS. So, you're slightly below your retention goals for majors/captains.

Mr. GEREN. We are.

Senator SESSIONS. You need more majors and captains. You can't snap your fingers to create a major or a captain, because it's how long to be major? How many years, normally?

General CASEY. Eight to 10 years, I think.

Senator SESSIONS. Eight to 10 years. So, it takes that much time to produce a major?

General CASEY. We have to retain more captains to fix our major shortage.

Senator SESSIONS. How serious do you consider that to be? Is it an indicator that we're placing too many demands on the young officers?

General CASEY. I think it is something that we have to continue to take action to mitigate and it's going to take us 3 years to get through this period here, particularly with the majors.

I personally believe that putting the additional majors into the structure is very important for the types of operations that we are going to be conducting in the middle part of the 20th century. So, yes, it stretches us, but I believe it's very important to give our units the capabilities they need to succeed when we deploy them. So, I think it's worth the risk.

Senator SESSIONS. I'm thinking of Korea, having been there a couple of times, and seen the inadequate housing, and know it's mainly unaccompanied tours. This is my thought. Let me just express it to you. I'm not exactly sure what Senator Warner's thoughts were on it, but my thought would be, let's reduce, as much as we can, the number of personnel we commit to Korea. Let's make as much of that accompanied tours as possible so that when we do have to deploy an Army person to a hostile area of the world where it's unaccompanied, that'll be 1 less year they've been away from their family. Is that a goal?

General CASEY. I wouldn't call it a goal, but it's a good idea.

Senator SESSIONS. If we have to spend a little more on housing, I'd say, let's do it, because the housing in Korea is inadequate. I've seen that housing, and I hope that you'll look at the cost and how we do that, but it's a high-cost area. I think it would be a mistake to shortchange that investment, particularly in light of the fact that the Koreans are, themselves, paying about three-fourths of the move. We ought to follow through and create housing for no more people than we really need in Korea, and then make it good, so it's not seen as a hardship tour in a person's career in the Army.

My time is up, so unless you have a comment, we'll leave it at that.

Senator LIEBERMAN. Thanks very much, Senator Sessions.

Senator Cornyn.

Senator CORNYN. General Casey, I want to take the opportunity to get your impressions about how things are going in Baghdad, generally. I know we are here to talk about Airland Subcommittee issues, and we'll do that some more, but, from the benefit of having served in Baghdad in charge of our forces there for a long time, and, with General Petraeus, the new strategy that's being employed there, could you give us a minute or two of your general impressions about how you think things are going?

General CASEY. I think Dave will give you his insights this afternoon, which are much more current than mine would be.

But I think what I said when I was there was, we'll start to see some initial results, but we weren't going to really see if this impacted until late summer. From what I see, they're on track for that. They're seeing some improvements in the numbers of people that are killed in murders, that's falling off. But they're really wrestling with these car bombs, these large-scale car bombs, and that was something that frustrated my folks when we were there.

What I don't have as good a feel for as I did when I was doing it every day is what's happening on the political side. That's where the progress has to continue. I'm actually hearing some less positive news about where the oil agreement is. If that starts splitting, that would be problematic, because they have to have a couple of big pieces to tie this reconciliation initiative together. Oil is one of them.

Senator CORNYN. I appreciate your comments, and we'll ask General Petraeus this afternoon when we get an opportunity. But I personally get a little bit frustrated when I hear people say, "There is no military solution, there's only a political solution." But it strikes me that there is no political solution without a security solution. Obviously, our goal is to hand this security situation off to the Iraqis as soon as we can, as soon as conditions permit. But it seems to me that it's not one or the other. It has to be both.

General CASEY. They have to go forward together.

Senator SESSIONS. Senator Cornyn, can I just follow with one question?

Senator CORNYN. Sure.

Senator SESSIONS. With regard to these large-scale car bombs, to what extent is that the al Qaeda activity in Iraq?

General CASEY. I think it's a combination of al Qaeda and other Sunni extremists.

Senator CORNYN. Thank you. That's an important point.

I've been intrigued, General Casey, there's been some recent reporting in the newspapers. General Abizaid was credited with coining the phrase "the long war." I'm not sure whether that was justified or whether he was just attributed with that phrase. But I saw a report that said that Admiral Fallon, his successor at U.S. Central Command, has said, "We're not going to use that language anymore. We're not going to call it the long war." But then, you were quoted recently, as saying, "The next decade is likely to be one of persistent conflict." As somebody who's interested in words, and believing that words actually have intended meaning, could you comment on that?

General CASEY. Sure. That "persistent conflict" came from the feedback that my transition team got from going around the country talking to people about the future. Whether it's a long war or persistent conflict, the flat fact of the matter is, we are engaged in a long-term struggle with an enemy that has attacked us and who's not going to walk off the field easily. So, as we prepare ourselves and look ahead across the next decade, we should prepare ourselves for a tough slog, I'd say.

Senator CORNYN. Should we read a lot into the word choice between "persistent conflict" and "long war"?

General CASEY. I don't know anything about the dialogue about "long war" or "not long war." I don't know anything about that. I certainly didn't choose "persistent conflict" to get away from saying "long war." That's the way it was presented to me by the group that I sent out there.

Senator CORNYN. That's very helpful.

Following up on Senator Sessions' question, regardless of what's happening with the sectarian violence, the fact remains that al Qaeda has a substantial presence in Iraq. Is it your belief that al Qaeda's primary mission is to maintain maximum chaos by inciting and inflaming that sectarian violence, or could you comment on that, as well?

General CASEY. In their own words, Senator—this is from some papers we captured a few years ago—they want to get us out, they want to establish a caliphate, and export terror to the region, and then get on to Israel. That's the plan. I believe this sectarian violence that they're trying to foment is the way to create so much chaos that they'll ultimately think they can force us out.

Senator CORNYN. I want to ask you about UAVs, since we have one that has been demonstrated here today, or at least shown to us. The Air Force has recently asserted that it should be designated as executive agent for UAVs that fly above 3,500 feet. It's reported, I'm told, that 60 percent of the Army's UAVs fly above that altitude. Since the Air Force isn't here, and the Army is, I wanted to get your views on that, and we'll give them equal opportunity at some other time. In your opinion, how could the Services best deliver joint UAV training, planning, doctrine, and technology? How can we prevent duplicative effort without having an executive agent for UAVs? What alternatives would you suggest to the Air Force's recent assertion that it should be designated as the executive agent for UAVs?

General CASEY. General Moseley and I have already talked and begun a dialogue. It was his initiative that he and I ought to get

together and direct another round of Chief of Staff of the Army, Chief of Staff of the Air Force, initiatives like they did back in the 1980s. This will be one of them. It's almost the same issue as bombers. Can you do more if you keep things centralized, or decentralized? We can work through this. We will work through this, between us and the Air Force, to ensure that all of our forces get the timely intelligence that they need to accomplish their missions.

Senator CORNYN. I certainly appreciate that.

The last subject I want to talk about in this round is military medicine. Of course, I think both of you alluded to Walter Reed, and Walter Reed, Building 18, has become a symbol. Unfortunately, I think it's an erroneous symbol in many respects. In terms of the housing, and the lack of maintenance of that building, clearly there were problems that cannot be excused. I think Senator Lieberman actually used the word "embarrassing." Those revelations were embarrassing to all of us, because I think all of our impression was that we were doing everything humanly possible to provide optimal housing conditions for our troops, and particularly in terms of delivery of military medicine.

The statistics are very impressive. World War II, 30 percent of our troops who were injured, died of their wounds; now it's less than 10 percent. That's very positive. I should report to you that my last two visits to Brooke Army Medical Center in San Antonio, excuse my State pride, perhaps, but——

Mr. GEREN. I'll excuse it, sir. [Laughter.]

Senator CORNYN. I know you will, Secretary Geren, being from Fort Worth. [Laughter.]

If there is a crown jewel of military medicine, I think, if it's not Brooke Army Medical Center, it has to be right there at the top. I was concerned with some of the types of injuries that our troops are receiving. They are surviving wounds that previously would have taken their lives, particularly the soldiers, sailors, marines, and airmen who are suffering from burn wounds. I believe that we need to modify some of our provisions with regard to housing allowances, vehicle enhancements, and the like, when it comes to our burned wounded warriors. Both of these things were brought to my attention by a woman by the name of Rosie Babin, whose son was shot by a sniper in 2003, and happens to now be recovering and living with his family. There are restrictions on housing allowances if you are living with your family, but we're actually benefiting, and he's benefiting, from that arrangement. Then there is a young woman named Christy Patton, whose son, Everett Patton, was seriously burned by an IED, and she brought to my attention there were some limitations on housing and other grants and benefits available to people who are burned. It's not intentional, it simply appears to be something that's fallen through the gap.

I've introduced some legislation, along with Senator Akaka, Senator Craig, and others, to try to address that, and I would just invite your attention to that issue, and ask for any feedback, advice, and support you can give us in trying to address those concerns, and to make sure that there aren't people who fall into gaps that we should fill.

Mr. GEREN. I appreciate that input very much. I'd also like to have an opportunity to follow up with the two individuals whose names you mentioned.

We all were shocked about what happened at Walter Reed, and we know it's an aberration. We know our military medical professionals, all the way from the medic in the field to the nurses and the technicians and the doctors in our hospitals, perform miracles. You alluded to the results, the survival rates. But we let some people down at Walter Reed. We did. As a result of that, we are looking at putting a microscope to the whole system. We're talking with patients, with people, and with medical professionals. We're trying to take lessons learned at different medical centers, and spread them across the system. The Chief talked about how we have some programs for families that are done one way at some facility, and differently somewhere else. We are trying to spread the best practices across the entire medical system, and make sure we do it the best way we can everywhere we do it.

Your input today is very valuable. We have had some others raise concerns about our treatment of burn victims. We'd like to talk with those two individuals that you mentioned. We look forward to working with you on that.

Senator CORNYN. As always, the response of the wounded warriors is an inspiration. I remember one of my recent trips to the burn center there at Brooke Army Medical Center, I encountered a soldier, wearing his uniform, who had obviously suffered serious burns. His first question was, "When can I get back to my unit?" That's the statement I hear most often from people I visit at our military hospitals.

Thank you. My time's expired.

Senator LIEBERMAN. Thanks, Senator Cornyn.

I think we've all had that same experience, and there's no other word for it than inspirational, and, in some sense, humbling.

Senator Sessions, you are entitled, now, to your second round.

Senator SESSIONS. You're very generous.

We don't want to have an interservice fight, but I share the concern about the UAV, and have expressed it at previous hearings. Also at the hearing in which Generals Scales, McCaffrey, Korb, and Krepinevich testified. They suggested that we needed many more C–17s. One witness, I believe, questioned even whether C–130s and C–5As should be kept. Of course, we're doing a refueling tanker now that could have more or less cargo capability, all of which is relevant to the warfighter. One or more of them just flat stated that the Air Force is more interested in their fighter, their primary missions, and suggested there was a lack of attention for the combatant commanders, which you were, and you had to get cargo constantly by air. Will you be reviewing that? Do you feel like the system, General Casey, will allow you sufficient input to make sure that the cargo capacity and the lift capacity needed for the warfighter is there?

General CASEY. We always evaluate transportation requirements, but I just happened to be talking with Nordie Schwartz, the U.S. Transportation Command commander, the other day, and I asked him the same question, "Do we need more C–17s?" He generally said, "To a point, we probably could use some more, particularly

with an aging C–5 fleet." He's working his way through that right now, and I think he's probably the right guy with the Air Force to give you a good recommendation on that.

Senator SESSIONS. To what extent do the combatant commanders' needs sufficiently move through the system to the decisionmaking authority? Do you think we could do better on that?

General CASEY. There's an established process for the combatant commander to submit joint requirements annually, and it's a routine process. I think all the combatant commanders go through their war plans, look at the timelines that forces can deploy on, decide whether or not there's enough transportation assets available, and that generates the requirement. So, there's a process that exists to do that, Senator.

Senator SESSIONS. Sometimes those processes don't always work. I assume it does work. I know that process exists.

I thank both of you for your service. Personally, I am astounded, and so pleased, with the professionalism, the dedication, and the courage of the American soldiers, who are re-enlisting in remarkable numbers, even though they know that re-enlistment means they're likely to go back into a combat area. We've never really done that before; that recruitment seems to be holding up. We must also make sure that we don't go too far, and that we do everything possible to make sure that this fabulous volunteer Army holds together. I think it will. I'll just conclude by saying I urge you to keep us informed. If you see problems that need to be addressed, I hope you'll not hesitate to come to Congress and ask for support.

Mr. GEREN. I can assure you we will, thank you.

Senator LIEBERMAN. Thanks, Senator Sessions.

Mr. Secretary, General, you've been generous with your time. I want to ask you two more questions, if I might.

I know Senator Sessions and I have talked about it. Notwithstanding the substantial increase in the defense budget for fiscal year 2008 that's recommended, the fact is that we still are at a historic low on defense spending as a percentage of gross domestic product at a time of war. We're actually lower than the average, even in peacetime. This forces you to spend the money most effectively, obviously, and to make some tough choices that, in my opinion, you shouldn't have to make. So, let me ask two questions that express both of those concerns that I have.

First, I note that on the UPL we see some critical force protection items such as the MRAP vehicles that Senator Cornyn asked about before, aviation survivability equipment, and counter-IED jammers. Those are immediate needs for force protection in the conflict we're in now. On the other hand, and I'm not opposed to it at all, understandably, upgrades for the Abrams and Bradley vehicles are funded. So, it just seems to me that it's hard to explain why we wouldn't fund those critical force protection items. I'm certainly going to see if we can find a way to do it within our process here. I want to ask you if you could comment, Secretary Geren, about those judgments, and if we can't raise the top line, what would you try to move around to fund those force protection shortfalls?

Mr. GEREN. I can't offer you specific examples right now, but General Casey and I have discussed some of those force protection issues; specifically, the MRAPs.

Senator LIEBERMAN. Yes.

Mr. GEREN. The recommendation that has come to us from the staff is for the Army to buy 2,500 MRAPs; 700 of them are in the supplemental request, the rest of them remain unfunded.

I'm not confident that the 2,500 number is the right number. It perhaps should be more.

Senator LIEBERMAN. We've heard much higher numbers.

Mr. GEREN. The number that came from the field was 17,000, total replacement of the Humvee fleet.

Senator LIEBERMAN. That's the one I heard, yes.

Mr. GEREN. The Marines are proceeding with the plan to replace their entire fleet.

Senator LIEBERMAN. So that the MRAPs are going to take the place of the Humvees for the Marines.

Mr. GEREN. For the Marines in theater.

Senator LIEBERMAN. Right.

Mr. GEREN. Yes, sir. We are going to examine that recommendation closely. We're also going to look within the budget and see if we can move funds around to weigh this priority against the other priorities. In spite of the size of the budget, there are many competing priorities.

Senator LIEBERMAN. Right.

Mr. GEREN. But it's an issue that is at the top of our list to work through.

Senator LIEBERMAN. Okay. So, let's work through that together as we go through our process.

Final question. It's a big one, so you can begin to give me an answer, but this goes back to the FCS. At the hearing, that has been referred to, last week, there was quite a dialogue, which was really a debate, between Dr. Krepinevich and retired General Scales about FCS. Dr. Krepinevich thought that from now to 2020, America's going to be in a persistent state of conflict with this enemy, Islamist extremism and terrorism. Dr. Krepinevich made the argument that too much of the DOD budget overall, and particularly the Army, was still more focused on conventional threats. He referred to Saddam's Republican Guards as opposed to the irregular warfare threats that are represented by al Qaeda and the extremists. He was suggesting, particularly that this is true of the FCS, and that it wasn't worth spending the projected $200 billion on that system for that purpose, but if it was going to go forward, it ought to be reoriented toward the kind of persistent conflict we're most likely to face in the next decade-plus.

So, the full committee having heard that last week, I wanted to give you a chance to respond to that critique of the FCS.

General CASEY. I fundamentally disagree with that.

Senator LIEBERMAN. Okay.

General CASEY. In fact, if you think about what the alternatives to FCS are, it's modernizing the tanks and Bradleys that were designed to fight the Cold War.

Senator LIEBERMAN. Yes.

General CASEY. What you're seeing here today is the application of technology in, for example, a counterinsurgency fight, which has always been a human-intelligence battle. Now, with the type of technologies that we're developing for the FCS, we have much better situational awareness, and we have the ability to find and track individuals. It's happening in Iraq today.

The FCS gives you greater mobility at the tactical, operation, and strategic levels. It has better sustainability, which reduces the footprint. It has actually allowed us to reduce the overall size of the entire brigade, and at the same time, double the number of infantry that are available to make contact with the population, to do the kinds of things that make you successful in the military operations we're going to be facing in the middle of the 21st century. Survivability is greatly improved, not only by the system itself, but by the information systems and the intelligence systems that support it. So, they can avoid being detected and avoid being hit, and when they are hit, the vehicle is designed to prevent a kill.

So, I really disagree with the fact that this is a Cold War system. I think this is exactly the kind of system that we need. I think I saw a preview of what we're going to get out of the FCS with the Stryker Brigades in Iraq. They were the most capable and most effective unit in a counterinsurgency environment, largely because of the way that they were linked together.

So, I disagree with Mr. Krepinevich.

Senator LIEBERMAN. Secretary, do you want to add anything?

Mr. GEREN. I don't know that I could add to that. I agree with General Casey. We are attempting to not only do the spinouts, but build the system responsive to the needs of the soldier in the field. It's an evolving concept. The FCS continues to improve and be more responsive to the soldiers in the field. You heard from soldiers that actually use this. You've talked to the people that are developing it. Every step of the way, we're getting input from soldiers in the field. This is not a system that's being developed out of contact, out of connection with the people that are going to be using it, who are fighting this fight.

Senator LIEBERMAN. Thanks very much.

Senator Sessions, do you have any other questions?

Senator SESSIONS. No, thank you.

Thank you, Mr. Chairman. It's a pleasure to serve with you, and thank you for your leadership.

Senator LIEBERMAN. To you, too, Senator, thank you.

Mr. Secretary, General, thanks very much for your time. General, thanks for coming in early in your tenure as the Chief of Staff. I go back to what I said at the beginning. I think most of us feel that the U.S. Army is the best in the world, maybe the best ever in the world. It's not broken, but it is under stress as a result of the enormous additional demands we are placing on it as part of the global war on terrorism.

We have an obligation to do everything we can, together, you, on your end of the table, and we, on our end, to remove the sources of that stress as much as we possibly can. I know that's a thought that's generally shared in Congress, but I do want you to feel that this subcommittee wants to be as aggressive an advocate as we can be for the Army. We want to work together closely and depend on

you for information as to how to most effectively do that. I'm just thinking, I appreciate, General Casey, what you're looking at, speeding up the increase in end strength, and also, considering what the unexpected, unbudgeted, unasked-for additional costs of the surge will be, going into next fiscal year. I don't know whether it's going to be possible, on your timetable, but if you come to a plan, General, for getting that extra 65,000 earlier, and it, in your considered judgment, requires some additional funding for next fiscal year, it happens not to come out of this subcommittee, it comes out of the Personnel Subcommittee, but please share it with us, and then we want to help you do that as quickly as possible.

General CASEY. I'll do that.

Senator LIEBERMAN. I thank you very much.

Senator Cornyn, do you have any closing remarks you'd like to offer?

Senator CORNYN. None, except to express my gratitude, and I look forward to working with both of you. My appreciation to the Chairman for calling this important hearing. We have a lot of work ahead of us, and I look forward to working with you.

Senator LIEBERMAN. Thanks.

Senator Sessions.

Senator SESSIONS. Mr. Chairman, I'd just like to express my appreciation to General Casey. He's come back from Iraq, and taken over this Chief of Staff position, but one of his first things to do was travel around the country to our military bases, with his wife, to determine the morale, the family situation, and what can be done to improve it. I think that's good leadership, and something we appreciate.

Senator LIEBERMAN. Amen.

General CASEY. Thank you, Senator.

Senator CORNYN. If I can also include these soldiers, over here against the wall as part of our appreciation.

Senator LIEBERMAN. We all join in thanking you. God bless you in your service.

We're going to leave the record of this hearing open for an additional 10 days, if either of you want to submit any additional responses or we have any additional questions for you.

In the meantime, you have our thanks and our prayers.

The hearing is adjourned.

[Questions for the record with answers supplied follow:]

QUESTION SUBMITTED BY SENATOR HILLARY RODHAM CLINTON

CURRENT FIRE SCOUT UTILITY

1. Senator CLINTON. Secretary Geren and General Casey, the Army will have eight Fire Scout air frames available in 2007, however because of fielding delays of the Joint Tactical Radio System (JTRS) Cluster 1 and the Future Combat Systems (FCS), these eight Fire Scout air frames will be placed in storage until the JTRS Cluster 1 and FCS systems come on line. As a result the Fire Scout is not expected to conduct its first flight until 2011. Recent testimony and reports from deployed commanders indicate that increased unmanned aerial vehicle coverage, if available, could be employed to assist in improvised explosive device detection though continuous aerial surveillance. Can the U.S. Army deploy the eight Fire Scouts today as currently configured to meet this critical combat surveillance requirement?

Mr. GEREN and General CASEY. The eight Class IV Unmanned Aircraft System (UAS) you reference are pre-production air frames only. Five of the eight airframes have been delivered to date. When the vehicles are delivered from the contractor,

the air vehicles consist of an airframe, engine, transmission, rotor, and blades. They contain no sensor, communications equipment, avionics or survivability equipment, nor are they cabled to receive this equipment.

The UAS Class IV Preliminary Design Review is July 2008, the Critical Design Review is July 2009, and First Flight is November 2010. These dates are synchronized with the current overall FCS integrated schedule. FCS has been working with Northrop Grumman, developer of the Class IV, to explore earlier flight opportunities, but 3 continuous years of decrements to the FCS budget limit the Army's ability to achieve these opportunities. The FCS Class IV is meeting cost, schedule, and performance objectives. Following System Integration, the Army will assess the technical performance of the Class IV to determine any potential acceleration opportunities.

QUESTIONS SUBMITTED BY SENATOR JOHN WARNER

IMPACT OF ARMY END STRENGTH INCREASES ON GLOBAL BASING

2. Senator WARNER. Secretary Geren and General Casey, recent press accounts have hinted that the Department of the Army is reconsidering the drawdown of Army forces in Europe originally announced by the President in 2004 as part of the Global Basing Realignment process for U.S. military forces. Can you provide the status of whether increases in Army end strength will cause a reconsideration of the overseas base closures and realignments? If so, why?

Mr. GEREN and General CASEY. Army goals and strategy remain consistent with ongoing Department efforts to improve posture and presence to meet the National Security Strategy. The Army continues to evaluate the impacts of current operational demands and of increases to and rebalancing of structure. Adjustments to implementation timelines may be an option. The Army remains cognizant and considerate of the evolving strategic landscape, and continuously assesses basing and mobility options to best posture forces to meet the combatant commander's needs.

3. Senator WARNER. Secretary Geren and General Casey, if the Department of the Army does reconsider overseas base closures and realignments, should they also reconsider base closures and realignments in the United States to accommodate the increase in forces?

Mr. GEREN and General CASEY. The Army will follow BRAC law in its execution of base closures and realignment of installations in the continental United States.

4. Senator WARNER. Secretary Geren and General Casey, what changes in the Department of the Army's global basing strategy would justify a review of overseas base closures and realignments?

Mr. GEREN and General CASEY. Army strategy for global basing remains focused on improving responsiveness, supporting combatant commander's needs without undo presence or vulnerability, and increasing our opportunities to work with new partners in the war on terrorism. Work continues in very real terms to better align assets in Europe and in the Pacific, to include Korea. We have already returned thousands of soldiers and family members and have significantly consolidated overseas facilities. The Army remains cognizant of the changes to the strategic landscape, and its requirement to maintain flexibility in defending against emerging global threats.

5. Senator WARNER. Secretary Geren and General Casey, does the Department of the Army have available land on its military bases in the United States to support the basing, training, and operations of additional combat and support brigades? If not, what plans are underway to satisfy the land requirement?

Mr. GEREN and General CASEY. Analysis being conducted to support upcoming Grow the Army stationing decisions include evaluation of installation facilities and training resources, particularly maneuver land and range sustainability. The Army currently has available space at multiple installations to build facilities for additional Army growth combat and combat support brigades. From a training perspective, the stationing analysis for the six brigade combat teams (BCTs) will include consideration of training land and ranges as a significant factor. However, while the Army's requirement for training land grows, the capacity of, and accessibility to Army lands is decreasing. There are significant challenges that must be actively addressed to sustain Army training readiness. Urbanization and urban sprawl, endangered species, and environmental restrictions are encroaching on military lands at Army installations.

STATUS OF ASYMMETRICAL WARFARE GROUP

6. Senator WARNER. Secretary Geren and General Casey, I have been following with keen interest the Army's establishment of a new mission to develop doctrine, training, and operations for asymmetrical warfare. I understand that the Department of the Army is still in the process of determining an ideal location for a new unit that will combine operations and training in one complex. I believe that such an ideal location exists at Fort A.P. Hill, Virginia. Can you provide me an update of the Department of the Army's deliberations and the way-ahead for the permanent establishment of this important venture?

Mr. GEREN and General CASEY. The Army staff will present several courses of action and make a recommendation to regarding the stationing of the Asymmetric Warfare Group (AWG) in July. We will personally review, and carefully consider, all relevant factors in deciding where to locate the AWG headquarters and the Asymmetric Battle Laboratory (ABL), formerly known as the Operational Demonstration Center.

Our final decision will be based primarily on stationing criteria and cost and operational considerations. Community and economic impact will also be considered. We realize this issue is important, and assure you that we will contact you without delay once there is an official Army position and prior to making a final determination.

QUESTIONS SUBMITTED BY SENATOR JOHN ENSIGN

SMALL ARMS IMPROVEMENTS

7. Senator ENSIGN. Secretary Geren and General Casey, we have been engaged in the war on terror for nearly 6 years. In that time we have seen tremendous improvement in soldier equipment. The body armor, helmets, sights, night vision devices, radios, and uniforms that have been fielded to our soldiers are a generation ahead of what our soldiers had only a few years ago. This is due to significant attention and funding both from Capitol Hill, and from all levels of command within the Army. I applaud the Army's success in these areas, particularly the success of the rapid fielding initiatives of Program Executive Office soldier.

However, what concerns me is that this revolution in soldier equipment has not included any significant improvement in soldier weapons. With minor modifications, and the addition of certain accessories, today's Army has the same M–16s, M4 Carbines, and 9mm Beretta pistols that they had in the late 1980s and early 1990s.

In the last 5 years the Army made a genuine effort to transition to a modular weapon system, the XM–8, which had the ability to replace the M–16, M4 Carbine, Designated Marksman Rifle, and the M–249 Squad Automatic Weapon (SAW) through the use of a modular system with the ability to swap components and barrels.

Without going into the details of why this program was terminated, it appears that in the time since the termination of this program there has been little effort to move ahead in researching new spiral improvements to our small arms or incorporating commercial off-the-shelf (COTS) technologies to improve our weapons reliability, accuracy, or lethality. What is the Army's plan for fielding small arms with improved reliability, functionality, and modularity in the next 5 years and the next 10 years?

Mr. GEREN and General CASEY. You are correct that many of our small arms weapon designs are long-standing, but they are battle proven and have the confidence of the overwhelming majority of our soldiers. Many of the weapons we see throughout the world are based on technology/designs that have been around for many years. Even though the small arms weapons in the field today are the weapons of choice for our soldiers, the designs are by no means perfect and we constantly make assessments of the weapon systems through U.S. Army Infantry Center post-combat surveys, testing, and engineering change proposals as we continuously seek to enhance the effectiveness of our small arms. As an example, the Army has improved the buffer, extractor spring assembly, bolt life, and barrel chamber to increase the reliability of the M4 Carbine. Another example is making improvements to the feed tray retaining pawls and operating rod of the M249 to improve its reliability.

The Army recently completed an extensive test to baseline the existing reliability of the M4, M16, and M249 in a "dirty" environment to simulate, and in most cases, exceed the conditions our soldiers face in Iraq and Afghanistan. The results are on the compact disk included with this response. [Information retained in committee files.]

The Center for Naval Analysis recently completed a comprehensive survey of battle tested soldiers to assess their perspectives on the reliability and durability of their weapon systems in combat. The Army requested this survey to aid in decisions regarding current and future small arms needs of the Army. The survey reinforced the fact that our current weapons exceed the Army's reliability requirements and our soldiers have shown a consistently high confidence in them. In addition to making improvements to the weapons, we also, through the Rapid Fielding Initiative, provide our soldiers numerous weapon accessories such as optics, rail systems, tactical lights, bipods, improved buttstocks, et cetera, to improve their ability to acquire and engage targets at various ranges under all conditions.

The Infantry Center is conducting a capabilities based assessment (CBA) to identify existing small arms capability gaps and to provide the analysis that supports revising or establishing new small arms requirements, as necessary. These new or revised requirements, if necessary, should provide the basis for improved reliability, functionality, and modularity, as well as possible leap-ahead capabilities such as counter defilade target engagement. Results of the CBA are expected to emerge over the next 6–18 months and will be the impetus for revising or creating Joint Capability Integration and Development System (JCIDS) compliant requirement documents. If the revised or new small arms requirement documents are approved by the Joint Requirements Oversight Council (JROC), the Army intends to meet those small arms requirements through full and open performance-based competitions.

M4 REQUIREMENT DOCUMENT

8. Senator ENSIGN. Secretary Geren and General Casey, the M4 requirement document was drafted in 1990. It is 17 years old. The performance requirements in this document have clearly been surpassed by new technologies both from M4 manufacturer Colt, and from other manufacturers. Why hasn't the Army generated a new requirement document that demands better performance?

Mr. GEREN and General CASEY. The Army adopted the U.S. Marine Corps Required Operational Capability (ROC) for a 5.56 mm Carbine in 1990. Although the M4 requirement document has not been revised since adoption, the M4 has matured and been improved via a series of engineering modifications and product improvement initiatives. The M4's effectiveness has also been significantly enhanced through improvements such as the Modular Weapons System (MWS) and the Close Combat Optic (CCO) and through meeting immediate wartime needs via the Rapid Fielding Initiative (RFI). Only MWS and CCO required new requirements documents.

In 1990, the 5.56mm Carbine ROC identified the weapon's Mean Rounds Between Stoppage (MRBS) threshold requirement as 600 rounds and Mean Rounds Between Failure (MRBF) as 3,800 rounds. Current 2006 reliability data for the M4 enumerate MRBS at 3,592 and MBRF at 6,076 and is a testament to subsequent M4 engineering improvements.

The M4 Carbine is a mature, reliable 21st century weapon system with still to be determined potential for improvement. The Army is currently executing a Capability Based Assessment (CBA) to be published in July 2007. The CBA will identify current and future capability gaps and help us define a Small Arms Strategy for future weapons.

9. Senator ENSIGN. Secretary Geren and General Casey, why is the Army planning to spend at least $300 million to procure roughly 400,000 rifles using a 17-year-old requirement document, instead of publishing a new requirement?

Mr. GEREN and General CASEY. The Army is planning to procure additional M4 Carbines because the M4 Required Operational Capability (ROC) is the Army's existing approved carbine requirement and the Army has not yet achieved its goal of pure-fleeting all of its BCTs with carbines nor met the current total Army documented M4 requirement. Additionally, the Army is continuing to review the need for carbines throughout the total force to put more maneuverable 5.56mm caliber weapons in the hands of our combat support and combat service support personnel that work in confined spaces such as in convoy vehicles and armored transports. The existing Army Acquisition Objective is for 406,276 carbines. The Army, as of April 2007, has approximately 253,019 carbines (both M4s and M4A1s) on hand. Regarding a new carbine requirement, the Infantry Center is conducting a CBA to identify potential small arms capability gaps. The CBA will provide the analysis that supports revising or maintaining the current carbine requirement. If the carbine requirement significantly changes, the Army will conduct a performance-based open competition.

M4 COMPETITION

10. Senator ENSIGN. Secretary Geren and General Casey, from the early 1990s the M4 has been a sole-source contract to the original manufacturer, Colt. A number of manufacturers produce weapons based on the over 40-year-old M–16 design that are virtually identical in form and function. Other manufacturers have competed and won contracts with special operations, other Federal agencies, local law enforcement agencies, and foreign countries with similar systems. Why has the Army continued to sole-source this M4 contract to Colt?

Mr. GEREN and General CASEY. The M4 Carbine is contracted to a technical data package (TDP) which provides detailed drawings, specifications, quality assurance, and packaging requirements. The data rights are defined in an addendum to the M16 license between Colt and the government. Pursuant to the terms of the addendum, the M4 Carbine (as defined by the TDP) and M4 Carbine unique parts not common to the M16 must be sole sourced to Colt through June 2009. After that date, the government will have the right to compete the M4 Carbine TDP within the United States and its territories. The Army continues to procure M4 Carbines through sole source procurement because the M4 ROC is the only existing approved requirement that allows the fielding of M4s to meet the Army's requirement for carbines. The Army fully intends to compete the M4 TDP in July 2009, or when a new requirement is approved. The Infantry Center is currently conducting a CBA to determine small arms capability gaps and provide the analysis that supports revising any necessary carbine requirements. Should the analysis show that a materiel solution is necessary because the carbine requirement has changed significantly, the Army will conduct a performance-based competition.

11. Senator ENSIGN. Secretary Geren and General Casey, is the Army in compliance with the Competition in Contracting Act in executing this contract?

Mr. GEREN and General CASEY. Yes. The FAR 6.101(a) states 10 U.S.C. 2304 and 41 U.S.C. 253 require, with certain limited exceptions, that contracting officers shall promote and provide for full and open competition in soliciting offers and awarding Government contracts. The exceptions for other than full and open competition are listed in FAR Subpart 6.3. The exception used in the sole source Justification and Approval (J&A) documents supporting a sole source award to Colt for M4 Carbines was FAR 6.302–1—Only One Responsible Source and No Other Supplies or Services will Satisfy Agency Requirements as authorized by Title 10 U.S.C. 2304(c)(1). A J&A was prepared and approved at the appropriate approval level prior to the award of each sole source contract award. Based on this information, the Army is in compliance with the Competition in Contracting Act.

12. Senator ENSIGN. Secretary Geren and General Casey, can you provide the last 6 years' justifications for sole-source contracting on all of your small arms accounts?

Mr. GEREN and General CASEY. [Information retained in committee files.]

13. Senator ENSIGN. Secretary Geren and General Casey, can you provide the year-by-year unit price of the M4, and the price of the added accessories that the Army has paid each year since inception, as well as the total amount of funds contracted for the M4?

Mr. GEREN and General CASEY. Yes. See spreadsheet for the requested unit prices. The total amount of funds the Army has obligated to date for the M4 is $188 million.

M4 HISTORY

UCC	Year	QTY	CUM	TOTAL COST (UCC x QTY)		UCC	Unit Contract Cost
$435.00	1993	18,597		$8,089,695.00		QTY	Quantity Purchased
$452.81	1994	22,985	41,582	$10,407,837.85		CUM	Cumulative or Running Total
$486.90	1995	15,816	57,398	$7,700,810.40		TM	Technical Manual
$521.00	1996	11,300	68,698	$5,887,300.00		BFA	Blank Firing Adapter
$521.00	1997	10,603	79,301	$5,524,163.00		CVR	Cover
$521.00	1998	7,484	86,785	$3,899,164.00		Muz Cap	Muzzel Cap
$521.00	1999	6,310	93,095	$3,287,510.00		ARS	Auxillary Rail System
$523.84	2000	8,001	101,096	$4,191,243.84		BUIS	Back Up Iron Sight
$570.63	2001*****	16,215	117,311	$9,252,765.45		AUC	Average Unit Cost
$912.02	2002	2,386	119,697	$2,176,079.72			
$919.99	2003	7,809	127,506	$7,184,201.91			
$946.00	2004	17,861	145,367	$16,896,506.00			
$980.00	2005	59,136	204,503	$57,953,280.00			
$814.72	2006	54,408	258,911	$44,327,285.76			
$836.00	2007	1,475	260,386	$1,233,100.00			
		****	**AUC**	**$722.05**	In Basic Configuration Arrmy Only		

Year	Contract	Unit Cost	Co Pack Items TM	Sling	1 mag	7 mag	BFA	Rifle Cvr	Mag CVR	Muz Cap	M4 ARS	BUIS
1993	DAAA09-93-C-0375	$435.00	X	X	X		X					
1994	DAAA09-94-C-0508	$452.81	X	X	X		X					
1995	***	$486.90	X	X	X		X					
1996	DAAE20-96-C-0391	$521.00	X	X	X		X					
1997	DAAE20-97-C-0203	$521.00	X	X	X		X					
1998	DAAE20-98-C-0008	$521.00	X	X	X		X					
	DAAE20-98-C-0082	$521.00	X	X	X		X					
1999		$521.00	X	X	X		X					
2000		$523.84	X	X	X		X					
2001		$590.84	X	X	X		X					
		$650.00	X	X	X		X					
2002	DAAE20-02-C-0115	$912.02	X	X	X		X					
2003	DAAE20-03-R-0216*	$919.99	X	X	X		X	X	X	X		
2004	W52H09-04-D-0086	$946.00	X	X		X	X	X	X	X		
2005		$980.00	X	X		X	X	X	X	X		
2006	($814.72)**	$1,141.65	X	X		X	X	X	X	X	X	X
2007	($836.00)**	$1,169.48	X	X		X	X	X	X	X	X	X

* TURNED INTO W52H09-04-C-0086

** Basic Configuration Price (With Carry Handle and Handguards)

*** Estimated Unit Cost

****Average Unit Cost (AUC) was calculated by adding the total cost (QTY x UCC) for each year divided by the final CUM

	***** See Back Up Sheet for 2001 UCC calculation											

M4 Carbine and Mod Line Accessories																								
Unit Prices																								
Year	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007									
WEAPON																								
M4 Carbine	$ 435.00	$ 449.74	$ 486.90	$ 521.00	$ 521.00	$ 521.00	$ 521.00	$ 523.94	$ 521.80	$ 912.02	$ 919.99	$ 946.00	$ 980.00	$ 1,141.65	$ 1,169.48									
		$ 458.76	estimate		$ 699.00	$ 650.00			$ 521.79					M4 ARS & BUIS included	M4 ARS & BUIS included									
		$ 821.00							$ 648.71															
									$ 650.00															
ACCESSORIES																								
M4 Adapter Rail System					$ 231.00	$ 225.67	$ 231.52	$ 249.03	$ 249.60	$ 260.00	$ 263.76	$ 272.00	$ 261.99	$ 269.95	TBD									
Backup Iron Sight													$ 283.62											
								$ 96.96	$ 57.68	$ 58.98	$ 59.96	$ 69.96	$ 61.05	$ 55.08	$ 57.66									
M68 Close Combat Optic				$ 314.00	$ 599.00	$ 235.00	$ 235.00	$ 315.00	$ 160.00	$ 253.00	$ 281.35	$ 245.00	$ 268.00	$ 268.00	TBD									
											$ 287.00	$ 285.00												
											$ 250.75	$ 298.00												
Reflex Sight												$ 276.25												
Holosight											$ 299.00	$ 294.00												
ACOG Sight											$ 760.00	$ 764.10	$ 745.00	$ 640.00										
											$ 760.20	$ 779.80												
												$ 745.00												
Anti-reflection device f/ACOG												$ 82.24	$ 98.00											
												$ 81.50												
Laser Filter Unit f/ACOG											$ 548.94	$ 281.32	$ 275.25	$ 296.00	$ 148.61									
Variable power optic																								
Flashlight Mount							$ 17.25	$ 18.50																
Top Carry Sling							$ 20.26																	
Improved Buttstock												$ 75.00	$ 73.00	n/a	TBD									
Cleaning Kits (2)												$ 42.00	$ 51.98	$ 54.97	$ 229.89									
													$ 135.88	$ 197.50	$ 213.74	$ 234.80								
Grip Bipod														$ 96.50	$ 98.50									
													$ 193.10											
													$ 178.00											
Bipod										$ 42.55														
										$ 43.00														
Bipod adapter										$ 35.00														
										$ 28.00														
single point sling										$ 9.06														
										$ 9.16														
3 point sling										$ 13.56	$ 13.37	$ 13.37	$ 18.72	$ 18.55										
Tactical Light										$ 304.34	$ 306.15	$ 289.25	$ 287.45											
										$ 329.10	$ 305.14	w/IR filter	w/IR filter											
											$ 289.25													
Infrared Filter f/tactical light											$ 65.65													
Multi-Mag Holder															$ 38.58									
Weapon Light										$ 222.50														
										$ 194.00														

14. Senator ENSIGN. Secretary Geren and General Casey, are there any plans to incorporate COTS improvements into the M4 weapon system?

Mr. GEREN and General CASEY. Yes, improvements have already been incorporated. Specifically, the M4 Adapter Rail System is a COTS procurement that is delivered installed on the M4 Carbine in lieu of traditional handguards. This provides a standardized interface for attachment of additional accessories. The Rapid Fielding Initiative provides other COTS devices directly to soldiers to permit configuration of the system to better meet specific mission requirements. These devices include optical sights, improved buttstocks, tactical lights, slings, bipods, a magazine holder, and an improved cleaning kit, all of which add to the soldiers' combat effectiveness.

M–16 AND 9MM STOPPING POWER

15. Senator ENSIGN. Secretary Geren and General Casey, since the M–16 was introduced in the 1960s there have been complaints concerning the reliability of the weapon system and the stopping power of the 5.56mm round. There have also been complaints related to the stopping power of the 9mm pistol round. Are there draft or pending reports on the reliability and stopping power issues related to small arms? If so, please provide them.

Mr. GEREN and General CASEY. Yes, there are reports on the reliability and stopping power related to these weapons and the 5.56mm cartridge. The M4 Carbine, the M16 Rifle, and the M249 SAW meet or exceed their requirements when adequately maintained (see the attached system assessment and survey on the reliability of the M4, M16, and M249 and the Executive Summary for the Joint Services Wound Ballistics Integrated Process Team on the enclosed compact disk). [Information retained in committee files.]

The stopping power of the standard issue 5.56mm round (M855) has been assessed by the Army. Related assessments and studies indicate that shot placement far outweighs the minor terminal ballistic performance differences among the 5.56mm rounds-both military and commercial. The range of performance is broad largely due to striking yaw angle, muzzle velocity, and other factors (see the Executive Summary for the Joint Services Wound Ballistics Integrated Process Team). [Information retained in committee files.] The stopping power of the 9mm pistol cartridge has not been formally tested but will be examined in a future effort.

16. Senator ENSIGN. Secretary Geren and General Casey, does the Army have any plans to research, test, or procure new ammunition in the same or other calibers as a replacement to the current 5.56, 9mm, and 7.62 ammunition? Please provide any research data and results.

Mr. GEREN and General CASEY. The Army has no current plans to procure new caliber ammunition. We are testing a replacement to the standard issue 5.56mm round (M855) that eliminates the environmentally hazardous material lead, while maintaining or exceeding the current round's performance. A follow-on program in 7.62mm with the same goals is in the planning stages and will be based on the success of the replacement 5.56mm round.

The Army is currently completing a Small Arms CBA to identify current and future small arms needs. In the longer term a future family of more effective and lighter weight weapons may be required. In order to help advance technologies to lead into a future family of weapons, several research and technology programs are planned and underway. Under the Joint Service Small Arms Program, the Army and the other Services are looking at technology to provide a 50 percent reduction in ammunition weight and the potential of more effectiveness. Several technologies are being matured that could offer this potential. Once these technologies are matured and demonstrated in the fiscal year 2010 timeframe, the Army and the other Services will be in a position to determine if they are desired in a future family of small arms systems. As these technologies are matured and demonstrated over the next few years, the impact on production costs and facilities must also be determined. As these technologies require new and different weapon mechanisms, the potential for caliber changes at the same time is feasible. A study is currently underway to quantify and document the trade-offs associated with other calibers. Research is underway to set the base for new rounds of small caliber ammunition in either the same or different calibers. No decisions to move in that direction will be made until the completion of the CBA and the completion of the supporting technology programs in 2010. In any event fielding would not be likely before 2015–2020.

[Whereupon, at 12:25 p.m., the subcommittee adjourned.]

DEPARTMENT OF DEFENSE AUTHORIZATION FOR APPROPRIATIONS FOR FISCAL YEAR 2008

THURSDAY, APRIL 26, 2007

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

AIR FORCE AND NAVY AVIATION PROGRAMS

The subcommittee met, pursuant to notice, at 3:07 p.m. in room SR–232A, Russell Senate Office Building, Senator Joseph I. Lieberman (chairman of the subcommittee) presiding.

Committee members present: Senators Lieberman, Warner, Sessions, and Cornyn.

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

Minority staff members present: Gregory T. Kiley, professional staff member; and Sean G. Stackley, professional staff member.

Staff assistants present: Micah H. Harris and Jessica L. Kingston.

Committee members' assistants present: Frederick M. Downey, assistant to Senator Lieberman; Nadia Naviwala, assistant to Senator Webb; Sandra Luff, assistant to Senator Warner; Todd Stiefler, assistant to Senator Sessions; and Clyde A. Taylor IV, assistant to Senator Chambliss.

OPENING STATEMENT OF SENATOR JOSEPH I. LIEBERMAN, CHAIRMAN

Senator LIEBERMAN. Okay. Good afternoon. The subcommittee will come to order.

I want to extend a welcome to our witnesses, and thank each of you for appearing before the subcommittee today.

I want to take this occasion to note the service, professionalism, and heroism of the coalition Armed Forces presently engaged in Iraq and Afghanistan. All those who are serving our country in the Middle East right now represent, in my opinion, the best, brightest, and bravest that our country has to offer. Our thoughts and prayers are with them and their families, who are also called by our country to serve in this noble effort, and we pray for their success.

It's against this backdrop of the war that was started against us by the Islamist terrorists who attacked us on September 11, and the backdrop of continued bravery and exemplary service by the

members of our Armed Forces, that we convene this session of the Airland Subcommittee to discuss the present status and the future of aviation programs throughout our military.

Every year, we're faced with the challenge of balancing a number of competing demands for resources, including, of course, the demands of current operations, as well as the need to continue to modernize. The decisions we make today are important, because they may result in lives saved—that's our hope, certainly—in the next few months, or many years down the road.

I want to mention, at the beginning here, just a few of those decisions in the jurisdiction of this subcommittee that I hope we will be able to discuss with our witnesses.

First, last year Congress authorized the Air Force to enter into a multiyear procurement contract for the F–22A aircraft program. It would be helpful to the subcommittee to get an update on the Air Force's progress in getting firmer estimates of the savings that will be realized by using this contracting approach.

Second, we'd also like an update on where the Joint Strike Fighter (JSF) stands today. We all know how important JSF is to the aviation modernization for all three services represented here today.

Third, we need to explore the prospects for meeting future force-structure requirements. For example, today we're facing the prospect that the current Department of Navy program will lead to potentially large gaps between the resources that the Chief of Naval Operations has said he needs and the resources that will actually be available to him and his successors, particularly. Under current plans for Navy and Marine Corps tactical aircraft acquisition, we are facing a shortfall of as many as 150 tactical fighters needed to outfit our ten aircraft-carrier air wings. With shortfalls that large, we could be faced with drastically reduced numbers of aircraft available on short notice to the combatant commanders, either because we've deployed under-strength air wings or because we did not deploy the carrier at all, because of those aircraft shortages.

Fourth, I'm concerned about the Air Force's plan this year to cancel the larger version of the Multi-Platform Radar Technology Insertion Program (MP–RTIP). This program would have outfitted a new aircraft with a larger electronically-scanned antenna to conduct battlefield surveillance that would exceed the capability of the Joint Surveillance and Target Attack Radar System (JSTARS) aircraft. I know that the Air Force continues to pursue fielding of a smaller version of the MP–RTIP radar on the Global Hawk unmanned aerial vehicle (UAV), but that version will not provide the full capability that would be available on a larger aircraft.

Fifth, we've been hearing about concerns within the Department of Defense (DOD) about the process for managing UAVs. At the risk of starting what could be an animated conversation among the five gentlemen at the table, we need to hear from our witnesses today about their views on this question.

Finally, sixth, on the tanker modernization program, I appreciate that the Air Force leadership has taken special measures to ensure transparency in the tanker acquisition process. I believe that this level of openness is an excellent model for how the Air Force and

all the components of the DOD should deal with Congress, and I'd like to hear an update on that.

Those are some of the issues I look forward to discussing with our witnesses. I thank you very much for being here. I'm honored now to yield to my distinguished friend and ranking member, Senator John Cornyn of Texas.

STATEMENT OF SENATOR JOHN CORNYN

Senator CORNYN. Chairman Lieberman, thanks. It's a pleasure to be here with you today.

Thanks to all the witnesses for being here.

While many of us focus on the contributions of U.S. ground forces in Iraq and Afghanistan, and rightly so, the efforts of U.S. aviators, on behalf of our Nation, are nothing short of exceptional. Our aviators have been actively engaged in the U.S. Central Command area of operations for 16 years—the first Gulf war, enforcement of the Iraq no-fly zones, and now Operations Enduring Freedom and Iraqi Freedom.

Those deployments, in addition to operations in Bosnia, Kosovo, and elsewhere throughout the world in support of humanitarian efforts, have made maximum use of our Nation's air forces. Allow me to express my gratitude to those men and women, and their families, as they continue their selfless sacrifice.

While we recognize the joint aviation team's invaluable contribution to defense and security of our Nation, the challenges with ongoing programs make it seem like we're fighting the same budget and policy battles we did last year. Given that most of these issues have been analyzed and debated during the course of the past year, it's my hope that this hearing will provide some clarity as we continue this year's budget deliberations.

Last year, during an Airland Subcommittee hearing, Navy witnesses testified of a potential gap in strike fighters that might develop toward the end of the next decade. While the uncertainties of the service life of the current F–18s and the production schedules of the future F–35 were mentioned, the potential gap now under discussion reaches more than 220 Navy aircraft by the middle of the next decade. I hope our Navy witnesses will address this troubling figure and the rationale behind reducing the number of F–35 JSFs by 590 aircraft across the Future Years Defense Program.

Similarly, I would expect the Air Force witnesses to discuss their long-range strike-fighter requirements in current funding plans. In the fiscal year 2008 President's budget request, the F–35 JSF Program eliminates funding for the development of a second engine production source. I note the presence here of the ranking member of the committee, who I know has a particular interest in that issue.

Last year, we held extensive hearings on the pros and cons of maintaining a competitive environment for the production of military aircraft engines. In the National Defense Authorization Act for Fiscal Year 2007, Congress required that three separate groups—the Government Accountability Office, the Institute for Defense Analysis, and the Pentagon's Cost Analysis Improvement Group—study the cost and benefits of developing a second engine source.

Yet, the fiscal year 2008 budget eliminated funding for a second engine source before the analysis was complete. I hope our witnesses will discuss the decisionmaking process that led to the decision to cancel the second engine, and their thoughts on both of the three studies and the way ahead.

Last year, the Air Force proffered a multiyear procurement proposal for the F–22 aircraft, which the chairman mentioned, in which "substantial savings" as defined in applicable law were questioned by some. In the National Defense Authorization Act for Fiscal Year 2007, Congress reiterated the need for the Department to ensure the applicable requirements were met before certifying the F–22 multiyear. I hope the witnesses will address where we are on this certification.

These are a few of the issues I would expect to cover this afternoon. Again, I thank the witnesses for appearing, and look forward to your testimony.

Senator LIEBERMAN. Thanks very much, Senator Cornyn.

I note the presence of the—I'm going to give you a new title today—the chairman emeritus of the full Armed Services Committee. [Laughter.]

Senator WARNER. Thank you very much.

Senator LIEBERMAN. Senator Warner, would you like to make an opening statement?

Senator WARNER. Let the record say that there's no pay that comes with that title. [Laughter.]

We have before us an array of distinguished public servants, and, notable, those in uniform, which are literally the envy of all of their respective Services.

I know of no more driving excitement in young people than—certainly in my generation, than that who was to succeed to some sort of an aviation billet. My career was very inauspicious. I became a ground officer with aviation units. But I've always admired those that wear the Wings of Gold, or the Air Force wings.

You're here today on a most important mission. I think it was appropriate that you opened the session in honor of the men and women who are flying, sailing, and ground-pounding today.

We just had a historic vote in the United States Senate a short time ago, and I think the world is trying to study what the significance is. But let me say that there's a great phrase that I like—it's on the National Archives—"The Past is Prologue." That vote is behind us, and the three of us, I'm sure, are going to be quite active in the days and weeks to come to see what we can do to reconcile the differences between honest, conscientious viewpoints on both sides of the aisle, and promptly get out a bill to fund the very programs that you're seeking to support here today. Most important, to get a good, steady funding profile for the men and women of the Armed Forces, wherever they are in the world, most notably Iraq and Afghanistan.

So, with that, thank you for the courtesy of letting me make a few remarks here, Mr. Chairman. Let's hear from our witnesses.

Senator LIEBERMAN. Thanks very much, Senator Warner.

Mr. Balderson, I'd be honored to have you speak first.

STATEMENT OF WILLIAM BALDERSON, DEPUTY ASSISTANT SECRETARY, AIR PROGRAMS, OFFICE OF THE ASSISTANT SECRETARY OF THE NAVY FOR RESEARCH, DEVELOPMENT, AND ACQUISITION, DEPARTMENT OF THE NAVY

Mr. BALDERSON. Thank you, sir.

Mr. Chairman, Senator Cornyn, Senator Warner, and distinguished members of the subcommittee, thank you for the opportunity to appear before you today to discuss Navy/Marine Corps aviation programs.

I do have a written statement that I will submit for the record. Out of respect for the committee's time, I intend to limit my opening remarks to just the following two points:

First, we believe the Navy's fiscal year 2008 budget submission meets our Navy/Marine Corps warfighting requirements for both near-term readiness and long-term recapitalization.

Second, the Department of the Navy's acquisition team continues to work aggressively to identify efficiencies in the development, testing, and procurement of the products and services we provide to the fleet.

The fiscal year 2008 budget request reflects considerable effort in identifying affordable solutions for the Department's aviation programs, and we are striving to address the Navy/Marine Corps warfighting needs in the most cost-effective way possible.

Mr. Chairman, I'll conclude by thanking the members of this subcommittee for your outstanding support. The great efforts of our men and women in theater today will reflect a return on your investment in them and the systems that they fight with.

Once again, thank you, and I look forward to your questions.

[The prepared statement of Mr. Balderson follows:]

PREPARED STATEMENT BY WILLIAM BALDERSON

Mr. Chairman, distinguished members of your subcommittee, thank you for providing us with this opportunity to appear before you to discuss the Department of the Navy's fiscal year 2008 aviation programs.

AVIATION PROGRAMS

The fiscal year 2008 President's budget request balances continued recapitalization in obtaining new capabilities and reducing operating costs while simultaneously sustaining the legacy fleet aircraft that are performing magnificently in current operations. We continue to execute numerous multiyear procurements (MYP) to achieve significant savings in procurement accounts. The Department's fiscal year 2008 budget request continues MYP arrangements for the F/A–18 E/F (airframe only), KC–130J, MH–60S (engines and airframe), MH–60R (airframe), and the V–22. Our proposed plan will procure 48 tactical, fixed-wing aircraft (6 F–35Bs, 24 F/A–18 E/Fs, and 18 EA–18Gs), as well as, 21 MV–22s, 4 KC–130Js, 20 UH–1Y/AH–1Z helicopters, 18 MH–60S helicopters, and 27 MH–60R helicopters. This plan also continues the development of the F–35, the E–2D Advanced Hawkeye, the EA–18G, the Presidential Helicopter replacement aircraft (VH–71), the CH–53K Heavy Lift Replacement aircraft and the P–8A Multi-mission Maritime Aircraft (MMA).

F/A–18 E/F

The fiscal year 2008 budget requests $2.1 billion in APN for 24 F/A–18 E/F aircraft for the 4th year of the 5-year MYP contract (fiscal years 2005 to 2009). The F/A–18 E/F continues to transition into the fleet, improving the survivability and strike capability of the carrier air wing. The Super Hornet provides a 40 percent increase in combat radius, 50 percent increase in endurance, and 25 percent increase in weapons payload over our older Hornets. Over 386 F/A–18 E/Fs will be procured through fiscal year 2007, on track to complete procurement of the program of record 490 aircraft in 2012. The Super Hornet has used a spiral development ap-

proach to incorporate new technologies, such as the Joint Helmet Mounted Cueing System, Advanced Targeting Forward-Looking Infrared Radar (FLIR), Shared Reconnaissance Pod System and Multifunctional Information Distribution System data link. The Active Electronically Scanned Array (AESA) radar system has completed operational testing and the full rate production decision is scheduled for spring 2007. The first tactical AESA equipped F/A–18F squadron has now received all 12 of its allotted aircraft with full ILS support. The FA–18E/F fiscal year 2008 budget request also includes $442 million to implement commonality, maintain capabilities and improve reliability and structural safety.

F–35 Joint Strike Fighter (JSF)

The fiscal year 2008 budget requests $1.7 billion research, development, testing, and evaluation (RDT&E) for continuation of F–35 System Development and Demonstration (SDD) and $1.3 billion APN (including spares) for the DoN Low Rate Initial Production lot two (LRIP 2) for six Short Takeoff and Vertical Landing (STOVL) aircraft with $120 million long-lead funding for eight STOVL aircraft as part of LRIP 3. As a 5th generation weapon system, the JSF will enhance precision strike capability with unprecedented stealth, range, sensor fusion, improved radar performance, combat identification, and electronic attack capabilities compared to legacy platforms. The carrier variant (CV) JSF complements the F/A–18 E/F and EA–18G in providing long-range strike capability and much improved persistence over the battlefield. The STOVL JSF combines the multi-role versatility of the F/A–18 and the basing flexibility of the AV–8B. The commonality designed into the JSF program will reduce acquisition and operating costs of Navy and Marine Corps tactical aircraft, and allow enhanced interoperability with our Allies and sister Services.

The JSF is mid-way through the 6th year of SDD, executing to the approved replan that commenced 3 years ago. The program continues detailed design work for all three variants, with the LRIP 1 contract for two conventional take off and landing (CTOL) aircraft planned for April 2007. The initial CTOL aircraft (AA–1) successfully completed first flight on December 15, 2006; flew six times in January 2007, and resumed flights in March following a planned maintenance period. AA–1 flights will continue over the next 2 years. Manufacture and assembly of other flight test aircraft is well underway, with assembly times much less than planned and exceptional quality demonstrated in fabrication, assembly and mate. Eleven development aircraft are now in various phases of assembly. STOVL first flight is projected in May 2008 reflecting a delay to incorporate lessons learned from the manufacture of the first CTOL aircraft.

The JSF program has aggressively addressed earlier performance issues associated with weight and airframe design. Weight control remains a focus and priority of the program and weight reduction trades continue to be investigated. The first test aircraft was completed with unprecedented assembly fit and quality, problem-free power-on, rapid execution of engine and secondary-power tests and actual weight within 0.1 percent of predicted. While the first test aircraft lacks some design changes, demonstrated manufacturing processes and outcomes justify high confidence in design and weight predictions for all variants due to commonality of design, tools and manufacturing methods. The F135 engine development is on track with performance meeting expectations. Over 7,300 hours on 12 engines have been completed through early April 2007. The JSF acquisition strategy, including software development, continues to reflect a block approach. The CTOL/STOVL Air System Critical Design Review was successfully completed in March 2006. The CV Air System Critical Design Review is scheduled for summer 2007, and will evaluate design maturity and performance against requirements. The STOVL and CV variants are projected to meet their respective Key Performance Parameters.

The DoN supports the President's budget request not to provide funding for JSF alternate engine (F136) development. The DoN maintains there are higher priority needs in the budget and that the risks associated with a single engine supplier are acceptable. The National Defense Authorization Act for Fiscal Year 2007 directed three independent analyses of alternatives propulsion strategies including various cost implications. The studies by the Institute for Defense Analyses, Cost and Analysis Improvement Group, and Government Accountability Office have been completed. The conclusions, while supportive of competition in general, support the Department's initial findings that the expected savings from competition do not outweigh the investment costs. All three studies however, concluded that other benefits might result from competition. The costs to establish an alternative engine, however outweigh those potential benefits.

E–2D Advanced Hawkeye (AHE)

The fiscal year 2008 budget requests $809.0 million in RDT&E for continuation of SDD and three pilot production aircraft. The E–2D Advanced Hawkeye is a critical enabler of transformational intelligence, surveillance and reconnaissance, providing a robust overland capability against current and future cruise missile-type targets. The Advanced Hawkeye program modernizes the E–2 platform by replacing the current radar and other system components to maintain open ocean capability while adding transformational surveillance as well as theater air and missile defense capabilities.

F/A–18 A/B/C/D

The fiscal year 2008 budget requests $442 million for the continuation of the systems upgrade programs for the F/A–18 platform. As the F/A–18 program transitions to the F/A–18 E/F, the existing inventory of over 662 F/A–18 A/B/C/Ds will continue to comprise half of the Carrier Strike Group until 2012. Included in this request is the continued procurement of recently fielded systems such as the Joint Helmet Mounted Cueing System, Advanced Targeting FLIR, Multi-Function Information Distribution System, and Digital Communications System. The Marine Corps continues to upgrade 61 Lot 7–11 F/A–18A models to Lot 17 F/A–18C avionics aircraft capability with digital communications and tactical data link. The Marine Corps anticipates programmed upgrades to enhance the current capabilities of the F/A–18 C/D with digital communications, tactical data link and tactical reconnaissance systems. This upgrade ensures that our F/A–18s remain viable and relevant in support of Tactical Air Integration and Expeditionary Maneuver Warfare. The Marines expect the F/A–18A+ to remain in the active inventory until 2018. The Marines are also employing the Litening targeting pod on the F/A–18 C/D aircraft in expeditionary operations, to include OIF. When combined with data link hardware, the Litening pod provides real time video to ground forces engaged with the enemy through Remotely Operated Video Enhanced Receiver workstations. Continued analysis on tactical air inventories will continue throughout 2007 and beyond to determine the health of the legacy fleet as the F/A–18 A–D is transitioned to the F–35.

EA–6B

The fiscal year 2008 budget requests $30.6 million in APN for procurement of critical Airborne Electronic Attack (AEA) products and continuing EA–6B upgrades and readiness improvements that increase the operational availability and reduce operating cost of this high demand aircraft. Upgrades include procuring 10 Low Band Transmitters to provide a new jamming capability as well as replace aging transmitters and will be employed on EA–6B and EA–18G aircraft. The budget request also provides for Operational Safety Improvement Program procurements for avionics and structural equipment. The EA–6B is in near continuous use in Iraq and Afghanistan today in support of our troops on the ground as DOD's only tactical electronic attack aircraft performing communications jamming and information operations missions. Program priorities are current readiness, successful continued deployment of ICAP III aircraft, and continued procurement of low-band transmitters.

EA–18G

The fiscal year 2008 budget requests $273 million in RDT&E for continuation of SDD and $1.32 billion in APN for 18 LRIP Lot 2 aircraft. The E/A–18G continues development as the Navy's replacement for the EA–6B AEA aircraft. The EA–18G will replace carrier-based Navy EA–6B aircraft by 2012. The Navy is using the F/A–18 E/F MYP contract to buy the Lot 2 aircraft in fiscal year 2008. The SDD continues on schedule with the two development aircraft having flown in 2006 and currently in developmental test at NAWC Patuxent River. A total quantity of 26 aircraft will be procured in LRIP with a planned fiscal year 2009 initial operational capability (IOC) and fiscal year 2012 FOC.

Integrated Defensive Electronic Countermeasures (IDECM)

The fiscal year 2008 budget requests $131.4 million in aircraft procurement for the procurement of 61 ALQ–214 on-board Radio Frequency Countermeasure and $25.0 million in Ammunition Procurement for 581 ALE–55 Fiber Optic Towed Decoys, pending a full-rate production decision. The IDECM Block 3/ALE–55 Operational Test and Evaluation identified and a full-rate production decision are expected to be completed in fiscal year 2008.

Digital Radio Frequency Memory (DRFM) Onboard Jammer

The fiscal year 2008 budget requests $8.2 million in RDT&E for development of an onboard jammer that will employ state-of-the-art Digital Radio Frequency Memory (DRFM) devices to replace the ALQ–126B Jammer that was last produced in 1991. This effort will measurably improve the survivability of naval tactical aircraft

by delaying, denying, and defeating threat air-to-air and surface-to-air missile systems operating in the radio frequency spectrum. The lead platform for the DRFM program is the F/A–18 C/D, followed by the AV–8B. An Analysis of Alternatives has been initiated to investigate alternative solutions, costs, and schedules. This developmental effort is late-to-need and the capability is required to pace rapidly proliferating threat systems.

Tactical Aircraft Directed Infrared Countermeasures (TADIRCM)

The fiscal year 2008 budget requests $27.6 million in RDT&E for development of an improved Missile Warning System (MWS) and Infrared Countermeasure (IRCM) for Navy and Marine Corps helicopters. This system will provide aircrew protection against current and next generation IR guided Manportable Air Defense System. The analysis of alternatives for TADIRCM has been completed, and the program is working towards a Milestone B in fiscal year 2008.

V–22

The fiscal year 2008 budget requests $2.0 billion in APN for procurement of 21 MV–22s and continued development of follow-on block upgrades. Our acquisition strategy calls for commencing a MYP in fiscal year 2008. Our MYP strategy supports a continued cost reduction and affordability trend, provides a stable basis for industry, and best supports the warfighter. The Advance Acquisition Contract funding associated with the first year of the MYP and fiscal year 2007 Economic Ordering Quantity and Cost Reduction Investments is planned for award in spring 2007. The Air Force and Special Operations Command plan is to procure five CV–22 aircraft in fiscal year 2008.

The Navy is the lead service in developing, testing, evaluating, procuring, and fielding a tilt rotor, Vertical/Short Takeoff and Landing (V/STOL) aircraft for Joint Service application. The V–22 Program is designed to provide an aircraft to meet the amphibious/vertical assault needs of the Marine Corps, the strike rescue needs of the Navy, and the special operations needs of the Air Force and Special Operations Command. The MV–22 variant will replace the CH–46E and CH–53D in the Marine Corps and supplement the H–60 in the Navy. The CV–22 variant provides a new capability and will augment the MC–130 in the Air Force/Special Operations Command inventory for special operations infiltration, extraction, and re-supply missions. The existing MH–53 fleet will be drawn down commensurate with the fielding of the CV–22.

V–22 capability is being increased and fielded over time via a block upgrade acquisition strategy. MV–22 Block A provides a "Safe and Operational Test and Training Asset" configuration that is supporting developmental flight test, operational flight test and fleet training. Block B provides for correction of previously identified deficiencies and suitability improvements. Block C provides mission enhancements, primarily in the areas of environmental control systems upgrades and mission systems improvements. CV–22 Block 0/10 is a CV-unique configuration for Special Operations capabilities to include radar and electronic countermeasures upgrades. CV–22 Block 20 provides an enhanced CV-unique configuration with planned communications and aircraft system performance upgrades. Both Osprey variants continue along their prescribed roadmaps for follow-on developmental and operational test.

The V–22 program has successfully completed operational evaluation. Follow-on Test and Evaluation activities continue on MV–22 aircraft in support of envelope expansion and engineering change incorporation. The MV–22 looks forward to an IOC decision in 2007. The CV–22 began Block 0/10 operational testing in the summer of 2006 with an Operational Utility Evaluation to allow release of an initial training capability. IOT&E, scheduled to begin in October 2007, will test the balance of the CV–22 capabilities and support an IOC decision (2009) for worldwide operations.

AH–1Z/UH–1Y

The fiscal year 2008 budget requests $518.5 million in APN for 20 AH–1Z/UH–1Y aircraft and $3.6 million in RDT&E for continuation of H–1 Upgrades Engineering and Manufacturing Development. The H–1 Upgrades Program will replace the Marine Corps' AH–1W and UH–1N helicopters with state-of-the-art AH–1Z and UH–1Y models. The program is a key modernization effort designed to resolve existing safety deficiencies, enhance operational effectiveness, and extend the service life of both aircraft. Additionally, the commonality gained between the AH–1Z and UH–1Y (84 percent) will significantly reduce life-cycle costs and logistical footprint, while increasing the maintainability and deployability of both aircraft. The program will remanufacture 180 AH–1W helicopters into AH–1Zs, remanufacture 10 UH–1N/HH–1N into UH–1Y helicopters, and build 90 new UH–1Y models.

The first low-rate production aircraft was delivered in January 2007, and the final phase of OPEVAL will be completed in the second quarter of fiscal year 2008. The program continues to seek opportunities to reduce unit cost and minimize the negative impact the remanufacture strategy could have on ongoing military operations. We anticipate that some number of AH–1Z airframes will be newly fabricated instead of remanufactured in order to reduce the amount of time aircraft would otherwise be out of service. Funding to establish the capability to build complete AH–1Z aircraft has been requested in the fiscal year 2007 global war on terror supplemental. The optimum mix of remanufactured and newly fabricated aircraft is being evaluated with the results to be reflected in future budget requests.

AV–8B

The fiscal year 2008 budget requests $17.4 million RDT&E funds to support development of the Propulsion System Management Plan (PSMP)/Accelerated Simulated Mission Endurance Testing (ASMET), Tactical Moving Map Display, Litening Pod updates, and Aircraft Handling initiatives (including the Readiness Management Plan). The fiscal year 2008 budget also requests $40.5 million procurement funding for Engine Production Line Transition efforts, Open Systems Core Avionics Requirement (OSCAR) installs, PSMP upgrades, engine accessory obsolescence efforts, Day Attack Upgrade/Attrition Recovery efforts, Trainer aircraft upgrade efforts, Litening Pod upgrades, and Litening Pods on the aircraft centerline.

WEAPONS

In an era of uncertainty and shifting global threats, the Department of the Navy is developing and deploying strike weapons to enhance warfighter capabilities in an evolving threat environment. Our proposed budget would provide resources for weapon system enhancements to directly support troops deployed in the field, as well as continue to plan for potential near-peer competitors. Our plans take into account the lessons-learned from ongoing combat operations as well as the results of our research and development efforts. The fiscal year 2008 weapons budget provides for affordable Strike and Precision Guided Weapons programs to ensure that America is secure at home; sea and air lanes are open for peaceful, productive commerce; and the capability developed and delivered is large enough, agile enough, and lethal enough to deter threats and defeat foes in support of joint and coalition forces.

Tactical Tomahawk Cruise Missiles

The Tactical Tomahawk budget request supports the continued procurement of this combat-proven, deep-attack weapon in order to replenish inventories that were diminished during combat operations. Tomahawk cruise missiles are currently being procured in a 5-year firm fixed price, MYP contract that saves the taxpayers approximately 12 percent over annual procurement contacts. The fiscal year 2008 budget request is $383.1 million for an additional 394 Block IV Tomahawk missiles and associated support.

Hellfire Weapons

While the Department of the Navy awaits Department of Defense direction on the development path for a next-generation forward firing precision-guided munition capable of being launched from fixed-wing, rotary-wing, and unmanned platforms, we are requesting continued support for legacy Hellfire weapons. Hellfire continues to be one of the priority weapons in the global war on terrorism and provides our Navy/Marine Corps warfighters the ability to attack targets in the caves of Afghanistan as well as the urban canyons of Baghdad. Our fiscal year 2008 budget request is for $45.7 million for 439 weapons with a mix of thermobaric blast/fragmentation and anti-armor warheads that provide operational flexibility to the warfighter.

Direct Attack Moving Target Capability (DAMTC)

Based upon feedback from the combatant commanders in Iraq and Afghanistan—and subsequently approved as a capability gap documented by the Joint Chiefs of Staff—the Department of the Navy plans to improve our ability to attack and strike moving targets. Our fiscal year 2008 budget requests $29.1 million in fiscal year 2008 and $214.5 million across the Future Years Defense Program (FYDP) for the DAMTC program. The program seeks to modify the existing inventory of 'Direct Attack' Joint Direct Attack Munition and or Laser Guided Bomb weapons as the foundation for a dual-mode weapon that is capable of prosecuting moving targets. The acquisition will be conducted expeditiously to respond to an urgent warfighter need for a fixed-wing aircraft moving target weapon. Initial Operating Capability is planned to occur in fiscal year 2009.

Joint Standoff Weapon (JSOW)

The combat-proven JSOW family of joint Navy and Air Force air-to-ground weapons continues on cost and schedule to develop a JSOW C–1 variant. JSOW C–1 will provide a moving target capability to this "Standoff Outside Area Defense" weapon with the addition of a datalink and guidance software improvements to the highly successful JSOW–C variant. The fiscal year 2008 budget requests $24.9 million to allow for continued BLK III development and $131.3 million for continued JSOW–C production totaling 421 all-up-rounds to fill inventories that remain below our approved Non-Nuclear Ordnance Requirements. Production of other JSOW variants remains deferred as we continue to work with the Office of the Secretary of Defense and our sister Services to resolve unexploded battlefield ordnance issues that are of a concern to the Department and our Allies.

Advanced Anti-Radiation Guided Missile (AARGM)

The AARGM development program will deliver a multi-spectral targeting capability, with supersonic fly-out, to destroy sophisticated enemy air defenses and time-sensitive strike targets. The program has completed all design reviews and will begin test firings this year. The weapon system will utilize and leverage off of integrated networks, and is scheduled to be deployed in fiscal year 2009 on the F/A–18 Hornet. The fiscal year 2008 budget requests $32.8 million for the development and test program and requests $41.3 million for the first Low-Rate Initial Production of tactical and training weapons.

Harpoon Anti-Ship Cruise Missile

The Department of the Navy is requesting upgrade of our surface-launched and air-launched Harpoon cruise missiles to provide the all-weather, anti-surface warfare capability needed to operate with 'improved selectivity' in the cluttered environment of the littoral battlespace. Under the Harpoon BLK III Program, we plan on upgrading this very capable system to improve selectivity and enhance our standoff operations via integration of a two-way data-link for use under stringent rules of engagement. The fiscal year 2008 budget requests $43.5 million in RDT&E to develop this capability.

Advanced Medium-Range Air-to-Air Missile (AMRAAM) AIM–120

The fiscal year 2008 budget requests $4.58 million in RDT&E to complete development efforts and $87.5 million for production of 79 all-up rounds and associated hardware. AMRAAM is a Joint Navy/Air Force (Air Force-led) advanced, medium-range missile that counters existing aircraft and cruise missile threats with advanced electronic attack capabilities operating at high/low altitudes from both beyond visual range and within visual range. AMRAAM provides an Air-to-Air First Look, First Shot, First Kill capability working within a networked environment in support of Sea Power 21's Theater Air and Missile Defense Mission Area.

Sidewinder AIM–9X Air-to-Air Missile

The fiscal year 2008 budget requests $4.4 million RDT&E and $54.9 million for production of 184 all-up rounds, Captive Air Training Missiles (CATMs), and associated hardware. The Joint Navy/Air Force (Navy-led) Sidewinder missile is the only short-range infrared air-to-air missile integrated on USN/USAF strike-fighter aircraft. The AIM–9X is the newest variant in the Sidewinder family. This 5th Generation 9X weapon incorporates high off-bore sight acquisition capability and thrust vectoring to achieve superior maneuverability and provides increased sensitivity through an imaging infrared focal plane array seeker and advanced processing.

OTHER SIGNFICANT CAPABILITES

Presidential Helicopter Replacement Aircraft (VH–71)

The fiscal year 2008 budget requests $271 million in RDT&E for continuation of SDD for the VH–71 program. The VH–71 program is executing an evolutionary acquisition approach through a two-part incremental development to deliver a safe, survivable and capable Presidential Vertical Lift aircraft while providing uninterrupted communications with all required agencies. The goal of Increment 1 is to satisfy an urgent need to provide a replacement presidential helicopter with capability equivalent to or better than the current inventory of aircraft. Increment 2 will provide enhanced performance and state-of-the-art communications capabilities to satisfy long-term needs. During the last year, the program initiated a phased Critical Design Review process for Increment 1 that will be completed later this year. The program has also begun Increment 1 developmental test using two commercial aircraft, and has five additional test aircraft in various stages of production. Increment 2 development will begin this year, and is currently undergoing a reassessment/

replan to reduce test and production concurrency risk with Increment 1. The Increment 2 replan will increase time allotted to the Systems Engineering Technical Review cycle prior to CDR, procure/utilize an additional test vehicle, and will reduce design/build concurrency by delaying the first LRIP lot, thereby further reducing risks to the program. The Presidential Helicopter Replacement Program continues to receive executive level oversight and review in an effort to fully evaluate program progress while mitigating risks wherever possible.

P–8A Multi-mission Maritime Aircraft (MMA)/P–3C

The future of the Navy's maritime patrol force includes plans for sustainment, modernization, and recapitalization of the force. Results of the P–3 Service Life Assessment Program (SLAP) revealed the need for an aggressive approach to P–3 airframe sustainment. Key elements of the sustainment approach are strict management of requirements and flight hour use, special structural inspections to keep the aircraft safely flying, and increased use of simulators to satisfy training requirements. The fiscal year 2008 budget request includes $156.3 million for Special Structural Inspections-Kits (SSI–K), which will allow for airframe sustainment to support the CNO's P–3 Fleet Response Plan (as well as supporting EP–3E requirements which are executed within the P–3 SSI–K program). As the sustainment plan progresses, the inventory may be reduced to a number approaching 130 aircraft by fiscal year 2010. The fiscal year 2008 budget request also reflects a systems sustainment and modernization budget of $106.3 million to continue to address a multitude of mission essential efforts to replace obsolete components, integrate open architecture technology, and leverage commonality. To recapitalize these critical aircraft, the Navy is developing the P–8A MMA, a 737 commercial-derivative aircraft. This past year, the program began completing major subsystem Critical Design Reviews (CDR) in preparation for the overall system CDR to be conducted this summer. The fiscal year 2008 budget requests $880.1 million in RDT&E for continuation of P–8A System Development and Demonstration (SDD) efforts. Program objectives for 2008 include executing a contract for four Stage II test aircraft, and fabrication of the first ground and flight test aircraft. Our comprehensive and balanced approach has allowed for recapitalization of these critical assets.

MH–60R and MH–60S

The fiscal year 2008 budget requests $997.6 million in APN and $78.2 million in RDT&E for continued replacement of the Special Structural Inspections-Kits (LAMPS) MK III SH–60B and carrier-based SH–60F helicopters with the new configuration designated as the MH–60R. This program reached full-rate production with the first operational squadron standing up in 2006. The fiscal year 2008 budget also requests $503.6 million in APN and $44.0 million in RDT&E funds for the MH–60S, to continue development of the Organic Airborne Mine Countermeasures (Block II) and the Armed Helo (Block III) missions. The MH–60S is the Navy's primary combat support helicopter designed to support Carrier and Expeditionary Strike Groups. It will replace four legacy platforms with a newly manufactured H–60 airframe. The Army and Navy are executing a new platform multiyear contract in 2007 that will include both the MH–60R and MH–60S. A second multiyear contract is also being executed in 2007 for integration of mission systems into the MH–60R.

EP–3 Replacement/Sustainment

The Navy plans to recapitalize its aging EP–3E fleet with a land-based, manned, airborne Intelligence Surveillance Reconnaissance (ISR) platform, called EPX, to meet maritime requirements. The fiscal year 2008 budget requests $16.6 million in RDT&E funds for this effort to support studies focused on capabilities, documentation, and technology development. The fiscal year 2008 budget requests $43.7 million in RDT&E and $46.9 million in APN to address EP–3E SIGINT sensor and communications equipment obsolescence issues that are necessary to keep the EP–3E viable until the replacement platform is fielded. This funding supports LRIP procurement for JMOD Common Configuration (JCC) Spiral 2 data fusion capabilities, and engineering development for JCC Spiral 3.

KC–130J

The fiscal year 2008 budget requests $256.4 million in APN for four KC–130J aircraft. These aircraft will be procured under an existing Air Force MYP. The Marine Corps has taken delivery of 25 KC–130J aircraft to date, with four more deliveries scheduled during 2007. Additionally, two aircraft will be procured through fiscal year 2006 Supplemental funding and one aircraft will be procured using the funds from the FAR 12 to FAR 15 contract conversion savings. (The FAR 12 to 15 procurment of one aircraft is being reviewed by FMB counsel as to whether or not the letters to Congress from the Commandant constitute congressional notification,

recommend removal of statement and adjustment of numbers accordingly) The planned procurement of four aircraft in fiscal year 2008 will bring the total number of KC–130J aircraft to 36. The KC–130J provides major enhancements to the current fleet of KC–130s, extending its range, payload, and refueling capabilities. Additionally, we have continued to ensure the tactical capability of our existing KC–130F, R&T series aircraft by installing night vision kits and upgraded aircraft survivability equipment.

Heavy Lift Replacement Program (HLR, CH–53K)

The fiscal year 2008 budget requests $417.2 million RDT&E to continue SDD of the CH–53K, which will replace the Marine Corps' current heavy-lift helicopter, the CH–53E "Super Stallion." Built for sustained shipboard operations and first flown in 1974, the CH–53E continues to demonstrate its value as an expeditionary heavy-lift platform. This aging but very relevant helicopter is in high demand, making significant contributions to missions in Iraq, Afghanistan, and the Horn of Africa; noncombatant evacuation operations in Lebanon; and disaster relief operations around the world. Expeditionary heavy-lift capabilities will continue to be critical to successful sea-based operations in future anti-access, area-denial environments, enabling sea basing and the joint operating concepts of force application and focused logistics.

As a design evolution of the CH–53E, the new-build CH–53K will fulfill sea-based, heavy-lift requirements not resident in any of today's platforms, and directly contribute to the increased agility, lethality, and persistent presence of Joint Task Forces and Marine Air-Ground Task Forces. The CH–53K will include significant enhancements to extend range and payload performance; expand survivability and force protection capabilities; improve inter-modal cargo handling and turn-around; and meet interoperability requirements while reducing heavy-lift operations and support costs.

The CH–53K will be capable of transporting 27,000 pounds to austere landing sites at distances of 110 nautical miles under challenging environmental conditions. Task Force commanders of 2015 and beyond will then have the option to rapidly insert, to the far sides of the littorals, a force equipped with armored combat vehicles and heavy weapons at a rate equivalent to two up-armored High Mobility Multi-Wheeled Vehicles (HMMWVs) per sortie. To sustain that force, the CH–53K will be the critical air connector to sea-based logistics, transporting up to three independent loads per sortie, with each load tailored to individual receiving units. This efficient, reliable, cost-effective, heavy-lift capability will also address critical challenges in maintainability, reliability, and affordability found in present-day operations.

T–6B Joint Primary Air Training System (JPATS)

The fiscal year 2008 budget requests $295.3 million to procure 44 aircraft under an Air Force MYP contract. The T–6 is the primary flight training aircraft for Navy and Marine Corps pilots, and Naval flight officers. It replaces the T–34C. The current requirement is for 315 aircraft, of which 54 aircraft have been procured to date.

T–45

The fiscal year 2008 budget requests $32.5 million in APN for costs associated with the shutdown of aircraft production. The request also includes funding to continue both the Required Avionics Modernization Program and Synthetic Radar installations for Undergraduate Military Flight Officer training.

UNMANNED AIRCRAFT SYSTEMS (UAS)

The global war on terrorism continues to place emphasis on the importance of UASs. The fiscal year 2008 budget request reflects our commitment to a focused array of UASs that will support and enhance intelligence, reconnaissance, and surveillance missions with persistent, distributed, and netted sensors.

Fire Scout UAS

The fiscal year 2008 budget requests $33.0 million RDT&E to continue development of the Fire Scout UAV and $37.7 million APN for the production of the Fire Scout MQ–8B aircraft. The Fire Scout is a Vertical Takeoff and Landing Tactical UAV (VTUAV) designed to operate from all air-capable ships, carry modular mission payloads, and operate using the Tactical Control System and Tactical Common Data Link. The Fire Scout UAS will provide day/night real time ISR and targeting as well as communication-relay and battlefield management capabilities to support core Littoral Combat Ship mission areas of ASW, MIW, and ASUW for the naval forces. The

Fire Scout MQ–8B capability will achieve initial operational capability in fiscal year 2008.

Broad Area Maritime Surveillance (BAMS) UAS

The fiscal year 2008 budget requests $116.7 million RDT&E for System Development and Demonstration (SDD) of the BAMS UAS. The Milestone B decision for the BAMS UAS program will be in the fourth quarter of fiscal year 2007 followed by a competitive award of the SDD contract for development of the BAMS UAS in the first quarter of fiscal year 2008. The BAMS UAS program will meet the Navy requirement for a persistent ISR capability as well as address the growing ISR gap and the shortfall in maritime surveillance capability. The BAMS UAS will be a force multiplier for the Fleet Commander, enhancing situational awareness of the battlespace and shortening the sensor-to-shooter kill chain. BAMS UAS will work as an adjunct to the new P–8A MMA to provide a more affordable, effective and supportable maritime ISR option than current ISR aircraft provide.

Marine Corps Tactical UAS (MCTUAS)

The fiscal year 2008 budget requests $90.3 million WPN to procure the Army's Shadow RQ–7B UAS as an interim replacement for the currently fielded Pioneer UAS. Pioneer has been in operational service by the Navy and Marine Corps since 1986, and is currently supporting Marine Corps operations as part of the global war on terrorism. Sustainability and obsolescence issues are increasing, making Pioneer both difficult and costly to maintain, which in turn threatens mission readiness. The Shadow UAS provides rapid fielding of a capability that meets urgent Marine Corps operational requirements and brings immediate interoperability and commonality between Army and Marine Corps units operating side by side in Iraq. We are also requesting the congressional committees approve a Prior Approval Reprogramming and New Start to allow procurement of the Shadow UAS with the Pioneer fiscal year 2007 funds.

Small Tactical UAS/Tier II (STUAS/Tier II UAS)

The fiscal year 2008 budget requests $11.9 million in RDT&E ($6.14 million Navy, $5.74 million Marine Corps) for a new STUAS/Tier II UAS program that will address Marine Corps and Navy ISR capability shortfalls identified in the global war on terrorism and currently supported by costly service contracts. The STUAS/Tier II UAS program will provide persistent, ship and land-based ISR support for tactical level maneuver decisions and unit level force defense/force protection. It will provide day/night (electro-optical/infrared) sensor capability in a small UAS that will have a minimal visual/acoustic signature at planned operating ranges. This program is planned to be an ISR asset that will be used to complement other high-demand, low-density manned and unmanned platforms, and be available to operate in scenarios where those assets may not be available to ship or other Navy/Marine Corps unit commanders. IOC is planned in 2010, with the initial system fielding focused on utilization of mature technologies.

Unmanned Combat Air System (UCAS)

The fiscal year 2008 budget requests $161.7 million RDT&E for the Navy unmanned combat aircraft system (N–UCAS) program to conduct a carrier demonstration of a low-observable unmanned combat aircraft planform. The N–UCAS will develop and demonstrate an aircraft carrier suitable, low observable unmanned air vehicle to support carrier-based persistent and penetrating ISR missions, with strike capability, in high threat areas. The N–UCAS program will evolve and demonstrate technologies required for conducting launch, recovery, and carrier-controlled airspace operations of an unmanned low observable planform. By fiscal year 2013, the Navy plans to achieve a CV demonstration and evaluation to identify technologies supporting future naval ISR and strike capability requirements.

SUMMARY

The fiscal year 2008 Presidential budget request reflects considerable effort in identifying affordable solutions for the Department's aviation programs through a balance between sustaining fielded capabilities, as they are employed in the global war on terrorism and continued forward presence worldwide, and a substantive recapitalization effort that will deliver significantly better capabilities to the war fighter. The Department's aviation acquisition team continues to work aggressively to identify efficiencies in the development, testing and subsequent procurement of platforms, components, and weapons systems in order to ensure investments made result in quality products and services provided to the fleet.

In closing, Mr. Chairman, thank you for the opportunity to testify before your subcommittee regarding the Department of the Navy aviation programs.

Senator LIEBERMAN. Thank you, Mr. Balderson. We're not accustomed to that kind of brevity here in the Senate. [Laughter.]

Particularly not by Senators. But I thank you.

Mr. BALDERSON. Oh, that's okay, Mr. Chairman.

Senator LIEBERMAN. General Chandler, welcome. I look forward to your testimony now.

STATEMENT OF LT. GEN. CARROL H. CHANDLER, USAF, DEPUTY CHIEF OF STAFF FOR AIR, SPACE, AND INFORMATION OPERATIONS, PLANS AND REQUIREMENTS, VICE CHIEF OF STAFF, DEPARTMENT OF THE AIR FORCE

General CHANDLER. Thank you, sir.

Mr. Chairman, Senator Cornyn, Senator Warner, it's a pleasure for me to be here, too, as well, representing the some 700,000 Active Duty, Guard, Reserve, and civilians of your United States Air Force.

I would ask, if I could, that my written statement be entered for the record.

Senator LIEBERMAN. Without objection, so ordered.

General CHANDLER. I have a few main points that I would like to make, as well.

As was noted earlier, your Air Force has been at war for 16 years. Our aircraft and its inventory is older than it's been in our 60 years as a service, yet our people continue their exemplary performance to ensure we can fly, fight, and win across air, space, and cyberspace.

America depends on air power more today than ever before, whether in contingencies, humanitarian assistance, strategic deterrence, or strategic defense, global vigilance, reach, and power are America's asymmetrical advantage.

Our first priority is winning the global war on terror. That said, we must continue to ensure our warfighting future. Modernizing and recapitalizing our aging equipment will significantly enhance what we bring to the joint fight. At the same time, fiscal constraints challenge our ability to guarantee that global vigilance, reach, and power for the 21st century without increasing risk.

We appreciate the committee's steadfast support of the Air Force and our airmen, and look forward to partnering with you further to ensure that the Air Force has full ability to manage its inventory.

Around 15 percent of our aircraft inventory is restricted from being retired, by congressional language. Those are aircraft that are generally among the oldest, least reliable, and least useful. We need to retire them and replace them with fewer, but newer, more reliable, easier to maintain, and more effective combat aircraft. Our dominance tomorrow depends on our investment today.

Today, we provide global power, directing and conducting strikes 24 hours a day, 7 days a week, 365 days a year, and we've made continuous improvements in how we rapidly deliver air power and precise effects. The typical global war on terror air mission has evolved from a preplanned, fixed target to a highly flexible on-call asset ready for a rapidly-changing battlefield.

Today, we provide global reach in a number of ways. The C–130 and the C–17 precision air drop and conventional cargo missions are saving lives by taking convoys off Iraqi roads. Air Force C–17s and C–5s are fulfilling vital aeromedical evacuation missions, which dramatically increase the changes of survival for critically-wounded soldiers, sailors, marines, and airmen.

Despite averaging over 40 years old, our tankers continue to extend global reach, not only for Air Force aircraft, but for our joint and coalition partners, as well. Today, we provide global vigilance through manned and unmanned aircraft and space systems. Satellites, Predator, U–2, Global Hawk, JSTARS, and the like, track and survey and identify targets. Many of these Air Force assets also provide vital communications, navigation, and sensor capabilities for the joint team and other users.

Your Air Force is meeting our Armed Forces strategic requirement to fight and win two nearly simultaneous major combat operations. However, wear and tear, and loss of buying power, result in future risk to readiness, capacity, and capability. Emerging threats, particularly through proliferation of advanced technology, threaten our future dominance. Therefore, it's imperative that we adjust and modernize our inventories for the new century.

We have five acquisition priorities that would allow us to step towards future dominance:

KC–X is our top priority. The Air Force is a global business, and, simply put, the single point of failure is the tanker.

Combat search-and-rescue (CSAR–X) is our second priority. We consider it a moral and ethical imperative to provide CSAR–X anywhere, anytime, to any one of our joint or coalition partners. The Air Force is the only service organized, trained, and equipped for the CSAR mission.

Our third priority, space systems, incorporate a number of improvements, including missile warning, space, imagery support requirement (ISR), and communications.

Priority four is the F–35, a multi-role stealth precision-strike fighter. Coupled with our stated requirement of 381 F–22, the F–35 will be the workhorse air-to-ground fighter for your Air Force, the Navy, Marines, and our coalition partners.

Finally, our fifth priority, the next-generation long-range strike, will provide a new bomber by 2018, the critical system to ensure range, payload, and persistent access. We must build a 21st century Air Force that is prepared to succeed tactically, operationally, and strategically. By funding and fielding these priorities, we can assure this future.

Senator LIEBERMAN. Excuse me a second, General.

I want to say to my friends in pink, you're welcome here, but please do not say anything, because, if you do, and that interrupts the hearing, I'm going to have to ask the Capitol Police to remove you.

Go ahead, General.

General CHANDLER. Sir, our Active Duty, Guard, Reserve, and civilian airmen ensure that we are the world's dominant, air, space, and cyberspace force. These incredibly capable individuals, through long hours and ingenuity, are keeping our legacy systems viable for current contingencies. However, we owe these airmen, and future

airmen, to transform into a more agile, capable, and technologically- advanced force.

Again, sirs, I thank you for your time and look forward to your questions.

[The joint prepared statement of General Chandler and General Hoffman follows:]

JOINT PREPARED STATEMENT BY LT. GEN. CARROL H. CHANDLER, USAF, AND LT. GEN. DONALD HOFFMAN, USAF

I. INTRODUCTION

Senator Lieberman, Senator Cornyn, and distinguished members of the subcommittee, thank you for the opportunity to appear before you today to discuss Air Force Tactical Aviation and other matters that are important to our Air Force and the Nation.

Your Air Force is fully engaged around the world, fighting the war against terror while fulfilling our roles as airmen for the joint team. Simultaneously, we stand prepared to rapidly respond to conflicts around the globe. Air forces succeed when they anticipate and shape the future strategic environment and develop capabilities for the next fight. Air forces succeed when they remain focused on their primary mission as an independent force that is part of an interdependent joint team. We fly, fight and dominate in three warfighting domains—air, space, and cyberspace—providing our Nation sovereign options to employ military force like no other nation.

II. WE ARE AT WAR

The missions your Air Force is flying today are the latest in a string of 16 continuous years of Air Force combat in the Central Command (CENTCOM) Area of Responsibility (AOR), beginning with our initial deployments to Operation Desert Shield in August 1990 through ongoing operations in Iraq and Afghanistan.

To date your Air Force has flown over 82 percent of the coalition's 353,373 sorties in Operation Iraqi Freedom (OIF) and 78 percent of the coalition's 211,427 sorties in Operation Enduring Freedom (OEF). On a typical day, the Air Force flies more than 430 sorties in support of OIF and OEF.

In addition to our daily operations, the Air Force has also seen several surge periods over the past 16 years, resulting in higher than projected wear and tear on our people and platforms. The Air Force has responded to or has been prepared to respond across the spectrum of conflict—from rapid humanitarian aid to major combat operations (MCO). We have flown over 47,285 sorties in support of Operation Noble Eagle and over 3,411 counterdrug sorties, while also supporting operations in the Horn of Africa and the Philippine Islands. Currently, your Air Force has over 30,000 Total Force airmen deployed in support of global operations, while over 200,000 are supporting daily combatant command (COCOM) operations from other than deployed locations. We have airmen manning Intercontinental Ballistic Missile facilities, flying strategic bombers and performing special operations as well as search and rescue missions. Airmen continue to stand watch around the clock to protect and defend our national security and respond to any adversary should deterrence fail.

While the global war on terror is the obvious and appropriate priority for the near-term, the United States Air Force (USAF) must prepare for emerging global threats. We expect to be engaged in the CENTCOM AOR for many years; yet at the same time we must continue to be able to detect, deter and dissuade other potential enemies, both traditional and nontraditional. The future security environment will be different from today, and a full range of military capabilities and advanced technologies will be needed to maintain relevance and advantage. We must not fail to anticipate increasingly lethal enemies or how they will conduct war in the future. The last time an American soldier was shot at by enemy aircraft was 1953. The ability to look up in the sky and know there's nothing to fear is priceless, but guaranteeing that precondition is costly. Today, America depends on air power to an unprecedented extent. The Air Force underwrites the national strategy of reassuring allies, while deterring, dissuading and decisively defeating enemies—this is not a luxury.

III. THREAT AND DETERRENCE

We are a Nation at war; however, it would be incorrect to assume that recent combat operations represent the high-bar of what the future may hold. Our ability

to sustain the long-term focus required to ultimately prevail in this global war depends in large part on the decisions of certain other Nations to forgo reckless adventurism—the kind of reckless behavior that could drag the United States and her Allies into a protracted, costly, and large-scale war. For all their costs and successes, operations like Operation Desert Storm, Kosovo, and even the invasion of Iraq in 2003 were at the very low intensity end of MCOs. None of our adversaries had a viable air force, and the air defenses they did have were precisely the systems our F–117 and B–2 aircraft were designed to defeat.

We must not confuse the present lack of large-scale, regional, state-on-state violence with an absence of conflict between nations. Disputed territory and natural resource competition are very real problems throughout the world and so is the risk that they will worsen under future demographic and energy stresses. We must not take comfort in the belief that our Nation will never enter a costly, large-scale war, especially in light of our experience in Iraq. Our interests, alliances, and sense of moral obligation could lead us into war in response to many predictable adversary actions, even if our existence or survival were not seriously threatened. Therefore our strategic requirement to win two, nearly simultaneous, MCOs is better viewed as the bare minimum for America's Armed Forces. It would be far better to deter the types of behavior that could make such costly warfare inevitable.

Perhaps more so than any other capability of the joint force, the ability of U.S. airpower to respond quickly and violently, throughout the depth and breadth of their territory keeps potentially rogue regimes from following their worst instincts. Most importantly, this deterrence works even in the midst of a multiyear commitment of over 100,000 U.S. ground forces in Iraq. If we do not replace our aging combat aircraft with sufficient numbers of advanced, modern platforms, we will surrender a deterrent of immeasurable value.

Our potential adversaries understand that through continued development of anti-access systems, they can deny large-scale military responses. Many of them are developing or acquiring air defenses that would make a replay of the overwhelming success of Operation Desert Storm unlikely, and they seek systems that would make a replay of Kosovo impossible, in large part because they understand and fear U.S. airpower.

We make no claim that our Nation can rely solely on airpower to execute our military strategy. However, as we look to the future and seek to posture ourselves for the evolving challenges of the war on terror, we must not undermine the very force structure and capabilities that have for so long deterred regional, state-on-state warfare. At the same time, if deterrence fails, it is the Air Force that sets the conditions necessary for successful joint operations. Our joint and coalition partners have enjoyed unmatched freedom of operational access due to Air Force capabilities and it is our responsibility to deliver that capability in current and future conflicts as well. From a national perspective, aircraft are some of the best military investments the United States can make for its future security. Both Air Force and independent studies and analysis support this assertion. A decision to seriously curtail essential aircraft procurement programs, especially in response to today's war in Afghanistan and Iraq, would be extremely shortsighted and costly to the Nation in the next 20 years.

Fifth generation fighters like the F–22A and the F–35 are key elements to our Nation's defense and deterrence. As long as hostile Nations recognize the ability of U.S. airpower to strike their vital centers with impunity, all other U.S. Government efforts are enhanced, which reduces the need for military confrontation. This is the timeless paradox of deterrence; the best way to avoid war is to demonstrate to your enemies, and potential enemies, that you have the ability, the will, and the resolve to defeat them.

IV. FLEET MANAGEMENT

The duration and tempo of operations in Iraq and Afghanistan have accelerated service life consumption for numerous USAF platforms. Additionally, our aircraft inventory is the oldest it has ever been, at an average age of more than 24 years. Our 5-year trend in mission capable and aircraft availability rates has declined in certain low-density, high-demand platforms and remained steady only through the incredible efforts of our dedicated personnel. Our recapitalization challenge is meeting the near-term needs of our Nation, while at the same time ensuring that airmen inherit an Air Force that is relevant, capable and sustainable. We must recapitalize our aging fleet to ensure our continued advantage over future adversaries. We must also have the authority to manage our existing fleets including the retirement of our oldest aircraft.

a. Legacy Aircraft

1. F–117—The F–117 was the first aircraft in the DOD inventory to provide critical stealth capability and it has been in service for over 20 years. Advances in technology and demonstrated capabilities of other systems such as the Joint Air-to-Surface Standoff Missile, F–22A, and B–2 have mitigated the need to rely upon this aging and expensive-to-maintain aircraft. As a result, the Air Force intends to retire the F–117. Congress approved retiring 10 aircraft in fiscal year 2007. The fiscal year 2008 President's budget requests authorization to retire the remaining 42 aircraft. Cost savings realized from retiring these outdated aircraft will allow us the flexibility to better sustain our remaining fleets.

2. Joint Surveillance Target Attack Radar System (JSTARS)—The E–8C JSTARS is an airborne battle management, command and control, intelligence, surveillance, and reconnaissance platform. Its primary mission is to provide theater ground and air commanders with surface moving target indications (SMTI) and tailored surveillance in support of operations and targeting. Joint STARS has been a significant contributor to U.S. Air Force fighting effectiveness in Operations Desert Storm, Joint Endeavor, Allied Force, OEF, and OIF. Continuing modifications and enhancements will sustain JSTARS viability beyond 2034.

E–8 JSTARS has been heavily deployed since September 11, maintaining above steady state surge operations tempo. Combined with recently approved crew ratio increases, this has created a significant backlog of students awaiting training. For example, Air Battle Manager training is approximately 1 year behind. To mitigate some of the training backlog, we have maximized the use of simulators and conducted some training while in deployed status. We have also reduced or cancelled major exercise events in order to surge programmed flying training, as well as doubled training aircraft from two to four. The training backlog has now been reduced enough to adjust training aircraft down to three aircraft.

JSTARS' current engines are unable to meet a number of performance requirements. Re-engining the Joint STARS fleet will increase range and time on station, improve fuel efficiency, and reduce dependence on tankers. It will also improve reliability and maintainability, significantly decrease operating and maintenance expenses, increase available power and cooling for aircraft systems, improve take-off performance, increase maximum altitude, and comply with international noise and emission requirements.

3. C–130—Changes in military force structure, including the President's proposed troop strength increase and the Integrated Global Presence and Basing Strategy reset, could increase airlift requirements and subsequently create the need for additional lift capacity. In the case of the aging C–130, the combination of vanishing vendors, obsolete parts, costly structural repairs, non-compliance with air traffic management requirements, Secretary of Defense-directed safety modifications, and decreased access to international airspace limit the overall effectiveness of this workhorse. Although strategic lift is vitally important for moving personnel and equipment, the lynchpin to the warfighter is the ability to go the last tactical mile. A synchronized intra-theater airlift system empowers the combatant commander with the ability to employ the Air Force's unique core competencies in their AOR. The active duty Air Force possesses 75 percent of the oldest C–130 aircraft in the DOD fleet—at an average age of 42 years. The most pressing challenges today are un-programmed repair costs associated with cracks in the center wing box (CWB) and modernizing a portion of the fleet to meet the needs of the Nation in the future.

As of April 2007, 53 Air Force C–130 aircraft are grounded or restricted due to surpassing equivalent baseline hour (EBH) milestones. All but one of those aircraft resides in the active duty. At 38,000 EBHs, restricted aircraft are deemed combat ineffective due to flight maneuver and cargo capacity limitations. At 45,000 EBHs, aircraft are unworthy of safe flight and are grounded. Maintaining these aircraft adds an unnecessary expense while increasing workloads on our maintenance personnel. Only through innovative management and great cooperation with our Reserve and Guard Total Force partners have we been able to meet the needs of the warfighter to fill the airlift shortfall gap produced by the grounding of our oldest C–130s. To mitigate the immediate effects, we have implemented both short-term and long-term strategies to maintain a combat effective intra-theater airlift fleet, which meets warfighter requirements. The Air Force is retiring 24 of its oldest and least capable C–130E aircraft as allowed by Congress, we need to retire more as they reach the end of their useful service life.

The Center Wing Box (CWB) inspect-and-repair program provided the short-term fix to keep C–130 aircraft operational while awaiting CWB replacement. Aircraft inspected and repaired can operate up to 7,000 EBHs beyond the unrestricted limit. We have had near-term success in repairing 27 of the CWBs and plan to repair up to 62 C–130E/H aircraft at an estimated average cost of $700,000 per aircraft. How-

ever, not all aircraft inspected will be repairable. Recently, three C–130E aircraft were inspected and found to have substantial damage; repair estimates exceeded $2 millions per aircraft and were not considered fiscally prudent given their limited life expectancy.

The Air Force is using the C–130 Avionics Modernization Program (AMP) to upgrade the fleet. The purpose of the C–130 AMP is to lower the cost of ownership while complying with the Air Force Navigation and Safety (Nav/Safety) Master Plan and applicable Communications, Navigation, Surveillance/Air Traffic Management (CNS/ATM) mandates. AMP is a cockpit modernization program that replaces aging, unreliable equipment and adds equipment necessary to meet Nav/Safety and CNS/ATM requirements. The new equipment will lower the cost of ownership by reducing cockpit crew manning, increasing aircraft reliability, maintainability, and sustainability as well as reducing the number of different aircraft configurations. The C–130 AMP includes improved precision airdrop capability, Night Vision Imaging System, and improvements to the precision approach and landing capability. The standardized cockpit will allow crewmembers to be trained to fly in one aircraft type and require only one mission qualification flight, thereby reducing training cost.

The Air Force supports the C–130 AMP and considers it a "must do" program. The Air Force must start equipping the C–130 fleet with a more modern, more capable, and more cost effective cockpit to meet current and future warfighter requirements.

C–130J—The C–130J is a completely modernized version of the workhorse C–130 that has served us admirably for over 50 years. The C–130J will climb higher more quickly, and fly faster and longer than its predecessors. Its ability to takeoff and land in shorter distances will allow use of more locations. Improved reliability and maintainability will mean longer time between scheduled maintenance, reducing cost.

The Air Force is currently funded to complete Multiyear Procurement #1 (MYP1) in fiscal year 2008, delivering 79 USAF C–130J aircraft (62 Combat Delivery, 10 WC–130J, and 7 EC–130J). Three aircraft were added in the fiscal year 2006 Supplemental budget with delivery expected in fiscal year 2010, bringing the total to 82 aircraft. Global war on terrorism supplemental for fiscal year 2007 and fiscal year 2008 added 5 and 15 aircraft respectively.

The Commander of Air Mobility Command declared IOC for the C–130J on 5 October 2006.

4. Tankers (KC–135)—It is noteworthy that the Air Force is providing vital air refueling capability via the oldest aircraft in the Air Force inventory. The average age of aircraft in our tanker fleet is 43.3 years. Fifteen percent of our current air refueling fleet consists of the KC–135E model aircraft, which has an average age of 49.4 years. Fourteen of our KC–135 fleet will be grounded this fiscal year due to Expanded Interim Repair (EIR) expiration, followed by 16 aircraft in fiscal year 2008, 44 aircraft in fiscal year 2009 and the remaining 11 aircraft in fiscal year 2010. All 85 of our KC–135E model aircraft will be grounded by the end of fiscal year 2010 due to EIR expiration.

The Air Force has programmed all 85 of the remaining KC–135E aircraft to retire by the end of fiscal year 2008 and asks that Congress not restrict our ability to do so. The projected cost to keep a KC–135E flying with no additional warfighting capability (i.e. a basic KC–135E) after EIR expiration is $17.3 million per aircraft (85 × $17.3 million per aircraft = $1.4 billion for the entire fleet). The projected cost to maintain these obsolete tanker aircraft on the ramp after EIR expiration (referred to as XJ status) is approximately $11.7 million (85 × $138,000 per aircraft) in fiscal year 2008.

b. Fifth Generation Fighters

Both the F–22A and the F–35 represent our latest generation of fighter aircraft. We need both to replace capabilities inherent in our aging legacy platforms. The F–22A and F–35 present complementary capabilities—together they provide synergistic effects across the spectrum of conflict. The Office of the Secretary of Defense (OSD)-led 2006 Quadrennial Defense Review (QDR) Joint Air Dominance study revealed two key points. The first was that our Nation has a critical requirement to re-capitalize tactical air forces. The second was that with sufficient 5th generation fighters, the F–35 and F–22A, joint air forces could win a MCO with forces remaining to win the next MCO. The study determined attrition would be higher with a legacy-heavy, 4th generation, force.

1. F–22A—The F–22A Raptor is the Air Force's primary air superiority fighter, providing unmatched capabilities for operational access, homeland defense, cruise missile defense, and force protection for the Joint Team. The F–22A's combination of speed, stealth, maneuverability, and integrated avionics gives this remarkable

aircraft the ability to penetrate denied, anti-access environments. Its unparalleled ability to find, fix, and destroy enemy air- and surface-based threats ensures air dominance and freedom of maneuver for all Joint forces.

A world-class production line produces Raptors at a rate of about two per month delivering unrivaled combat capability that ensures freedom of maneuver for all joint and coalition forces. The Air Force has accepted 92 F–22A aircraft to date and is currently negotiating the congressionally-approved multiyear contract for delivery of Lots 7, 8, and 9. The Air Force expects to award this contract in 2007. Currently we have 12 F–22A aircraft deployed to the Western Pacific in support of the Pacific Command Commander's area of operations.

The F–22A force also optimizes capability return on investment. Fewer mobility assets are required to provide logistic support for the aircraft with smaller force packaging, and lower combat attrition. The average procurement unit cost continues to decline as we mature our production learning curve.

2. F–35—The F–35 program will develop and deploy a family of highly common, affordable, next-generation, stealthy, multi-role, strike fighter aircraft meeting operational needs of the Air Force, Navy, Marine Corps, and Allies. The F–35 provides our Nation the strike capability necessary to defeat an adversary with large-scale, integrated anti-access capabilities. Studies including the OSD/Joint Study: Joint Air Dominance—2006 and Air Force studies have demonstrated the requirement for both the payload and survivability of the F–35 in the face of these new threats. Legacy 4th generation aircraft simply cannot survive to operate and achieve the effects necessary to win in an integrated, anti-access environment. Failure to recapitalize the fighter force with the F–35 will result in significantly increased risk both to our air and ground forces.

Conventional take-off and landing test aircraft, AA–1, successfully conducted its first flight on 15 Dec 06. Since then it has flown thirteen times and its flying qualities are reported as excellent. The program is on track to meet all Low Rate Initial Production Lot I funding decision criteria and contract award by May 2007. The fiscal year 2008 President's budget did not support the General Electric/Rolls Royce F136 engine effort because the Defense Department concluded that a single engine supplier provided the best balance of risk and cost. The Government Accountability Office (GAO), Cost Analysis Improvement Group (CAIG) and the Institute for Defense Analyses (IDA) have conducted studies that re-examine the costs and benefits associated with an alternate engine program. CAIG and IDA final reports are expected in June 2007, however CAIG has indicated their study will likely support a single engine supplier, while IDA has not yet indicated which alternative their study will support. The GAO study supported an alternate engine program.

c. Emerging Capabilities/Platforms

1. KC–X—Since aerial refueling tankers are one of the single points of failure in modern, joint warfare, our Secretary and Chief of Staff made tanker replacement and recapitalization your Air Force's #1 acquisition priority. Our vision is a tanker born joint and able to refuel Air Force, Navy, and Allied aircraft on every mission using both boom and hose/drogue refueling capabilities.

For the past 50 years, the Air Force's primary tanker platform has been the KC–135, and it has served with distinction. However, we are carrying great risk operating this aircraft beyond expected service life. Some of the oldest models already operate well beyond the point of cost-effective repair. Tanker recapitalization is not a new idea. In 1999, a GAO report presaged the declining operational utility of our aging tankers and underscored the need for immediate investments in recapitalization. Given the increased operational requirements of our current operations around the globe, procurement of a new tanker aircraft—the KC–X—has become both an operational necessity and the most fiscally prudent option to maintain America's global presence and expeditionary capabilities.

KC–X tankers will provide increased aircraft availability, more adaptable technology, and greater overall capability than the current inventory of KC–135E tankers they will replace. Enhancements to every aspect of aircraft operation will provide the Joint warfighter with more flexible employment options. It is imperative that we begin a program of smart, steady reinvestment in a new tanker—coupled with measured, timely retirements of the oldest, least capable tankers. Recapitalizing our tankers will ensure the viability of this vital national capability. Tankers make the air bridge possible and are essential to the success of joint and coalition military operations. Tankers are critical to the deployment and employment of joint combat power, and are crucial to rapid response to combat and humanitarian relief operations.

Retiring operationally cost-prohibitive and less capable aircraft allows the Air Force to focus on recapitalization and invest in transformational capabilities. The

KC–135E is a good example. It is significantly less capable than the KC–135R with less fuel offload capability and fails to meet world-wide airspace and noise restrictions.

Operations in the 21st century mandate continuous modernization of our mobility platforms. To that end, the KC–X replacing the KC–135 "will revolutionize the way we do business". The KC–X will be able to multi-point refuel joint and coalition aircraft, carry cargo or passengers and self-deploy.

Release of the KC–X request for proposal (RFP) on 30 January 2007 set the stage for a fair, full, and open competition that will lead to the fielding of a flexible and versatile platform. The resultant tanker will possess numerous advantages over the current KC–135 fleet. In today's dynamic political-military environment, and with fiscal constraints in mind, the Air Force must maximize the abilities of each platform.

The KC–X RFP defines an integrated, capability-based, best-value approach and is the first third of the fleet-wide tanker replacement program that will leverage new technologies and industry best practices. The RFP includes specific factors for assessing the capability contribution of each offeror. Along with cost and assessments of past performance and proposal risk, these factors provide the source selection authority with excellent means to determine the best value between proposals of significantly differing capabilities and cost.

The RFP stipulates nine primary key performance parameters:

1) Air refueling capability (same sortie boom and drogue capable)
2) Fuel offload and range at least as great as the KC–135
3) Compliant CNS/ATM equipment
4) Airlift capability
5) Ability to take on fuel while airborne
6) Sufficient force protection measures
7) Ability to network into the information available in the battle space
8) Survivability measures (defensive systems, EMP hardening, chem/bio protection, etc.)
9) Provisioning for a multi-point refueling system to support Navy and Allied aircraft

The Air Force has gone through a rigorous review process for KC–X and has validated that the RFP accurately reflects the requirements as laid out by the warfighter. The Air Force remains committed to a full and open competition that will continue to be conducted in a transparent and deliberate manner. The Air Force expects to award the KC–X contract in 2007.

2. CSAR–X—The Air Force is the only Service with dedicated forces organized, trained, and equipped to perform combat search and rescue (CSAR). Air Force CSAR forces recover downed aircrew and other isolated personnel and conduct rescue operations across the spectrum of military operations including humanitarian relief, emergency evacuation, disaster relief, and civil support operations. Our average CSAR helicopter is 21 years old, is a low-density, high-demand asset and is limited in range, payload and high-altitude capability. This is our Service's number two acquisition priority behind a new tanker aircraft. The Air Force has a moral and ethical imperative to our airmen, fellow servicemembers, and coalition partners to provide combat search and rescue anytime and anywhere required.

In November 2006, the Air Force awarded a System Development and Demonstration (SDD) contract to Boeing Integrated Defense Systems. Following this decision, Lockheed-Martin and Sikorsky filed source selection protests with the GAO, and the GAO sustained the protests concerning CSAR–X source selection on 26 Feb 07. The Air Force is currently reviewing the GAO's findings to ensure complete understanding of the conclusions and recommendations, while determining the way ahead. The Air Force remains committed to the timely acquisition of a helicopter that best meets the warfighter's requirements.

3. Joint Cargo Aircraft (JCA)—The final piece to the intra-theater mix is the JCA. The JCA will supplement the C–130 fleet by delivering smaller payloads more effectively. In December 2005, PDM-III directed merging the Army Future Cargo Aircraft and the Air Force Light Cargo Aircraft programs into the JCA with acquisition under the Joint Program Office. In June 2006, the Army Vice Chief of Staff and the Air Force Vice Chief of Staff signed a JCA Memorandum of Agreement. The USA/USAF will conduct business case analyses to determine the most cost effective methods for implementing the Under Secretary of Defense (Acquisition, Technology, and Logistics)-directed single supply chain, single training base, and single maintenance process.

In October 2006 the JCA Joint Program JPO stood up at Redstone Arsenal, Huntsville, AL, which was a huge milestone for the joint program, and a testament

to the progress both services have made. Both Services are working to ensure a successful Milestone C at the end of May 2007. Assuming a successful MS C decision, Army production (two aircraft) will begin in fiscal year 2007 with Air Force production beginning in fiscal year 2010.[1]

4. Unmanned Aerial Vehicle (UAV) Executive Agency—The Chief of Staff of the Air Force recently sent a memo to the Deputy Secretary of Defense, the Chairman of the Joint Chiefs, the Service Chiefs, and COCOM commanders articulating the benefits of designating the Air Force as the DOD executive agent for medium- and high-altitude UAVs. The intent of the Chief's UAV executive agent proposal is to improve delivery of ISR information to America's joint warriors on the ground, at sea, and in the air while increasing jointness and achieving resource efficiencies. Specifically, the benefits of designating the Air Force as executive agent for medium- and high-altitude UAVs fall in three major categories: 1) Achieving efficiencies in acquisition and sustainment; 2) Increasing warfighting effectiveness in designing an optimal medium- and high-altitude UAV concept of operations; and 3) Enhancing UAV interoperability by directing common, synchronized architectures, data links, radios, etc.

The 2006 QDR recognizes that an executive agent definition may vary, but the universal intent is to ensure joint efforts are efficiently managed and resourced. In the case of medium- and high-altitude UAVs, the executive agent would integrate the development, acquisition, procurement and sustainment of jointly designed, standardized UAVs and their associated equipment and ground-control stations.

The primary focus of the executive agent would be on programs where the majority of DOD's near-term investments are being made—MQ–1 Predator, MQ–1C Warrior, RQ–4 Global Hawk, Broad Area Maritime Surveillance, and MQ–9 Reaper. It is reasonable to expect that the present medium- and high-altitude UAV investment budget could be reduced. Additional efficiencies could be achieved through common basing, training, sustainment, and employment.

Without an executive agent, the Services will likely continue their separate design and procurement efforts, and the DOD will have forfeited the considerable savings it could have realized. Additionally, the DOD will have lost an opportunity to create and harness the inter-Service synergies that would result from building upon—rather than duplicating—each Service's strengths. The Services need to be moving toward increased interdependency, vice resourcing to achieve self-sufficiency.

V. CLOSING

We are building a 21st century Air Force prepared to succeed—strategically, operationally, and tactically. Our highly capable and lethal aviation programs provide Global Vigilance, Global Reach, and Global Power. These capabilities are critical today and for the future Joint force.

But air forces do not succeed—or fail—on their own. We request Congress' help, in particular, to fix a strategic ends-means gap between the roles and missions we're expected to fulfill for the Nation and the funding we're being given to accomplish the mission. We respectfully request relief from existing congressional language preventing us from divesting our inventories of obsolete aircraft and those grounded or restricted due to surpassing their EBHs. The freedom to divest our inventories of these aircraft will provide us the flexibility to recapitalize your Air Force with more current and relevant capabilities, to maintain an Air Force that is second to none, to continue to provide a deterrent to potential adversaries, and to soundly defeat adversaries should deterrence fail.

The Air Force is committed to advancing our tactical and strategic aircraft programs and capabilities to fully support the joint and coalition team. We appreciate your continued support in turning our vision into an operational reality. Our nation must invest today to ensure tomorrow's air, space, and cyberspace dominance.

Senator LIEBERMAN. Thank you, General.

I think it's quite a powerful statistic, in terms of what your needs are, that the inventory of the Air Force is older than it's been in the 60 years that the Air Force has been a service.

General CHANDLER. Yes, sir.

Senator LIEBERMAN. General Hoffman, thank you for being here.

[1] RAND is currently completing the Intra-theater Airlift Capabilities Based Assessment (F-Studies) and will also provide a fleet mix analysis by December 2007. These studies will analyze the intra-theater airlift capability determining the right mix (C–130 and JCA) to meet COCOM requirements.

STATEMENT OF LT. GEN. DONALD J. HOFFMAN, USAF, MILITARY DEPUTY, OFFICE OF THE ASSISTANT SECRETARY OF THE AIR FORCE FOR ACQUISITION, DEPARTMENT OF THE AIR FORCE

General HOFFMAN. Mr. Chairman, I thank the committee for the opportunity to discuss our Air Force programs.

In addition to support for the requested amounts in the President's budget, there are two areas that I would ask this committee for support. The first is on the Berry Amendment.

Last year's authorization language allowed integrated circuits with diminished amounts of specialty metals to be exempt from Berry compliance. We very much appreciate this relief, but ask that this logic be extended to fasteners and small parts, or that we incorporate a market basket approach to the actual production facility.

We spend an enormous amount of government and industry time validating information to waive the Berry Amendment. As an example, for the advanced medium-range air-to-air missile (AMRAAM), we spent over 2,200 man-hours to review 4,000 parts and produce an 8-inch document to waive items worth $1,400 on a half-a-million- dollar missile.

The V–22 program just completed 6 months of work on the waiver package for 1,751 noncompliant parts that represent only 0.14 percent of the value of that system. One example is a 13 cent nut that meets military standards, but is noncompliant. To produce an equivalent nut that is compliant would take 48 weeks and cost 40 times as much.

Commercial buying practices have the potential to save the Government significant amounts of money, but buying commercial items in compliance with Berry are not compatible, as the global supply system does not track the original metal source for small parts.

The second area we could use relief is in simulator training. Last year's authorization language restricted our ability to use operations and maintenance dollars to purchase simulator training, and requires us to develop and procure the simulators. We would like the flexibility to evaluate both approaches to determine the best value to meet the warfighter's needs. We have very successful examples of simulator services for our F–15 and Airborne Warning and Control System crewmembers, and we would like to keep that avenue as an option.

I look forward to your comments and questions. Thank you.

Senator LIEBERMAN. Thanks, General.

General—is it Castellaw?

General CASTELLAW. That's good, sir.

Senator LIEBERMAN. Was it good enough? [Laughter.]

General CASTELLAW. More than good enough.

Senator LIEBERMAN. Okay. Thanks very much for being here. We welcome your testimony now.

STATEMENT OF LT. GEN. JOHN G. CASTELLAW, USMC, DEPUTY COMMANDANT FOR AVIATION, UNITED STATES MARINE CORPS

General CASTELLAW. Yes, sir. I ask that my written statement be put in the record, and a short opening .

Senator LIEBERMAN. Without objection.

General CASTELLAW. Senator Lieberman, Senator Cornyn, and I see we have the old Virginia country lawyer here. It's always good to have you, Senator Warner. I appreciate the opportunity to represent the Marine Corps in talking about our 2008 tactical air (TACAIR) programs.

The Marine Corps is operating at the highest operational tempo in over 40 years. It is imperative that we sustain our legacy systems while transitioning to new platforms and preparing for the long struggle.

Marine aviation comprises about 15 percent of tactical jet aviation, but I submit to you that this is the most capable, flexible, and cheapest 15 percent of America's TACAIR. On any given day, Marine TACAIR is operating from our Navy carriers integrated in their air wings, operating as a part of our Marine amphibious units, the aviation elements that are embarked aboard amphibious shipping, and also operating ashore from expeditionary sites supporting our joint forces in combat. I say to you that there's no other TACAIR force that has this flexibility and capability.

This year's submission contains funding to keep our legacy aircraft operating, relevant, and ready. It also includes the procurement of Marine tactical jet aircraft, the first procurement in 10 years. This year, we are taking two Hornet squadrons to cadre status and reinvesting the equipment into the remaining aircraft squadrons. There are only three types of Marine squadrons, those that are deployed, those that are fixing to be deployed, and those that are just getting back. It is our intent that we will keep our aircraft squadrons fully capable of deploying, and because the strike fighter shortfall for the Marine Corps is now, we are doing that.

Our focus from the birth of Marine aviation has been to support our Mud Marine brethren. Our operational concept is pretty simple. We call it Grunt-Based Operations. Our marines, whether in the streets of Ramadi or in the Western Pacific, deserve our best effort.

I look forward to your questions. Thank you very much for allowing me to be here.

[The prepared statement of General Castellaw follows:]

PREPARED STATEMENT BY LT. GEN. JOHN G. CASTELLAW, USMC

Chairman Lieberman, Senator Cornyn, and distinguished members of the subcommittee, thank you for the opportunity to appear before you to discuss Marine Corps Aviation. Today, over 30 percent of Marine Aviation is deployed overseas afloat and ashore. This past year we have flown over 80,000 combat hours in both rotary and fixed wing aircraft. This significant achievement is due to the tireless efforts of our Aviation Marines and the consistent support of Marine Aviation by this subcommittee. Thank you for your dedication and oversight.

The primary focus of Marine Aviation is "Grunt" Based Operations. In the same tradition of Marine aviators that flew over Guadalcanal in World War II and the skies of Korea providing support to Marine and Army infantry units, your Marine Corps is adding to its rich tradition of providing the best aviation support to the

Joint Force available in the world today. To that end, Marine Aviation has three priorities that guide all of our actions: Sustain the Current Fight, Modernize the Force, and Prepare for the Long War. Execution of any one of these priorities is a formidable challenge. Today, we are executing all three concurrently in order to win the battle while preserving our current warfighting capabilities to ensure we are ready to respond. Our goal is not only to preserve but also to expand upon our expeditionary nature so that when called, Marine Aviation can quickly and effectively defend our critical national interests. There is no greater calling and Marine Aviation will always remain "On Call in a Dangerous World".

SUSTAIN THE CURRENT FIGHT

The fiscal year 2008 President's budget request balances sustainment of legacy aircraft operating at surge rates with continued recapitalization of our force. United States Marine Corps Aviation is focused on a capabilities-based approach to provide the Marine Air Ground Task Force (MAGTF) and Joint Force with the ability to conduct full spectrum combat operations.

RESET

Increased wartime utilization rates for our legacy aircraft has demanded innovative solutions to ensure our aviation fleet remains ready and capable of supporting our most important asset—the individual marine. The Corps' Reset Combat Sustainment in Theater Program in the past 12 months has repaired over 7,000 aircraft discrepancies and provided the Marine Corps over 126,000 direct maintenance man-hours. In the continental United States, the Reset Program has funded approximately 1 million direct maintenance man-hours. Funding of the Reset Program has allowed this maintenance to be completed, which, considering operational tempo, would have been deferred. Additionally, the Reset program in fiscal year 2006 and 2007 has supported depot repair of over 250 Marine aircraft and is intended to support depot repair of approximately 170 aircraft in fiscal year 2008.

AIRCRAFT SURVIVABILITY EQUIPMENT (ASE)

We are operating against a highly adaptive and motivated enemy who continues to introduce advanced weapons systems to mitigate our aviation assets in theater. The Marine Corps has lost eight aircraft to direct enemy action in combat operations since September 11. In order to pace ourselves ahead of proliferation of advanced anti-air technologies, we continue to mitigate threats to rotary wing aviation in global war on terrorism theaters through a combination of tactics, techniques, procedures, and upgraded Aircraft Survivability Equipment (ASE). To prevent current technology lagging behind the threat, increased DOD science and technology (S&T) community focus and funding on developing the next generation helicopter survivability equipment are required to counter emerging threats. We need an improved capability to operate against advanced technology Man-Portable Air Defense Systems, and in degraded visibility environments. Marine Aviation has invested $390 million on rotary wing ASE development and procurement in the last 7 years. We have requested an additional $66.4 million in the fiscal year 2007 supplemental budgets for continued RDT&E and procurement of the latest available ASE technology for our helicopters. For fiscal year 2008 the Department of the Navy has requested $29.7 million for continued Directed Infrared Countermeasures (DIRCM) development, a state of the art ASE system that will enable Marine Aviation to pace the threat of advanced anti-aircraft systems proliferation. Your continued support is required to ensure our pilots and aircrews have the most current survivability technology available to them.

AVIATION TRAINING SYSTEMS

Aviation Training Systems (ATS) is a holistic, measurable approach to achieving optimum combat readiness for the fleet while simultaneously ensuring we are husbanding our resources through an increased focus on safety and standardization. The mission of ATS is to plan, execute, and manage Marine Aviation training to achieve individual and unit capability across all aviation core competencies to support full spectrum combat operations. Marine Aviation, through ATS, is pursuing the development of fully integrated training systems for both new and legacy aircraft to greatly enhance operational readiness, to improve safety through greater standardization, and to significantly reduce the life cycle cost of maintaining and sustaining aircraft. ATS will integrate all post-accession Officer and Enlisted training, operational safety programs, and standardize our training curriculums, simulation devices, and evaluation processes through three core elements. These include:

training device configuration and standardization; Systems Approach to Training derived curriculum; Standardization and Evaluation of Flight Leadership, Instrument and Naval Air Training and Operating Procedures Standardization (NATOPS) programs, and standardized operating procedures among like units. Our way forward includes the stand-up of the Marine Aviation Training Systems Squadron (MATSS) at each Marine Corps Air Station (MCAS) beginning this fall. Currently, there is one functional MATSS located onboard MCAS New River, North Carolina. MATSS New River has been highly successful with its responsive management of training systems for our tilt-rotor and rotary wing assets.

AV–8B

As the primary expeditionary TACAIR jet in the Marine Corps, our legacy AV–8B fleet must be maintained at a high level of readiness to support current combat operations in global war on terrorism theaters. The fiscal year 2008 budget requests $17.4 million RDT&E funds to support development of the Engine Life Management Plan (ELMP)/Accelerated Simulated Mission Endurance Testing, Tactical Moving Map Display, the Readiness Management Plan (RMP), and moving the LITENING targeting pod to the centerline station. This effort will increase the ordnance carriage capability of the Harrier to better support combat operations. The fiscal year 2008 budget also requests $40.5 million procurement funding for procurement of Open Systems Core Avionics Requirement, TAV–8B Upgrade, ELMP upgrades, and the RMP, which addresses aircraft obsolescence and deficiency issues associated with sustaining the current AV–8B fleet. The AV–8B program is additionally transitioning to a Fatigue Life Experienced Analysis program to more accurately track the useful life remaining on our legacy fleet. This program will commence in fiscal year 2009 and will help to manage our legacy inventory of AV–8Bs until transition to the F–35B.

F/A–18 A+/C/D

The backbone of Marine TACAIR capability resides in the F/A–18. Increased wartime utilizations rates, particularly in our F/A–18D fleet, demand that we continue to modernize the Hornet to maintain our combat capability in global war on terrorism theaters. The fiscal year 2008 budget request contains $73.6 million for the continuation of the systems upgrade programs for legacy F/A–18 platforms. Included in this request is the continued procurement of recently fielded systems such as Joint Helmet Mounted Cueing System, Multi-Function Information Distribution System, and Digital Communications System. The Marine Corps continues to upgrade 56 Lot 7–9 F/A–18A to Lot 17 F/A–18C aircraft capability with digital communications and tactical data link. The Marine Corps is upgrading the current capabilities of the F/A–18C/D with digital communications, tactical data link and tactical reconnaissance systems. This upgrade ensures that our F/A–18s remain viable and relevant in support of Department of the Navy (DoN) Tactical Air Integration and supports our Expeditionary Maneuver Warfare concept. When combined with data link hardware and the Rover Ground Station, the LITENING pod provides real time video to ground forces engaged with the enemy, adding a new dimension to precision fires and Intelligence, Surveillance, and Reconnaissance (ISR). Our fleet of legacy F/A–18D's is currently flying at four times their programmed rate. The fiscal year 2008 budget also requests $112 million allowing for procurement of center barrel replacements to extend the service life of F/A–18 A+/C/Ds 7 years to meet fleet inventory requirements until 2022. This initiative is critical to ensure we have adequate numbers of F/A–18's to meet National Military Strategy requirements until we transition to the F–35B.

EA–6B AND FUTURE MAGTF ELECTRONIC WARFARE

Control and manipulation of the electromagnetic spectrum in global war on terrorism theaters has and will continue to play an important role in our success on the battlefield. Multiple initiatives are underway to expand and better integrate the capabilities of electronic warfare to achieve our objectives. The Marine Corps remains fully committed to flying the EA–6B Prowler past 2015 as we look to enhance our legacy capabilities and posture for our future MAGTF Electronic Warfare Network. The fiscal year 2007 supplemental budget requests $113.5 million for RDT&E and procurement for continuing EA–6B upgrades and readiness improvements, which increase the operational availability of this low-density, high-demand aircraft and reduce operating costs. These requests include $97.7 million for purchase and installation of seven Improved Capability (ICAP) III aircraft systems for USMC EA–6Bs. Also included in our $113.5 million request are Multifunction Information Distribution System kits, which will provide dramatically improved emitter identification and location information, Link–16 connectivity for shared situational aware-

ness, as well as Blue Force Tracker capability. We are also conducting close coordination with the Air Force to leverage joint development of the Next Generation Jammer, the Digital Radio Frequency Memory (DRFM) program, and the Adapted Joint C^4ISR Node program.

Beyond the Prowler, the Future Electronic Warfare Network for the Marine Corps will comprise a "system of systems". The constituent components of this network include; the F–35B Joint Strike Fighter, with its embedded array of electronic warfare capabilities; Unmanned Aerial Systems (UAS) capable of carrying scalable and specifically tailored electronic warfare suites; ISR payloads, and ground systems already fielded and under development. This system will possess both offensive and defensive capabilities. A key tenet of our future vision is an array of electronic warfare capabilities, not just a single electronic warfare platform. The individual pieces of hardware used to conduct future electronic warfare will comprise the tentacles of the distributed network. This network will serve as the backbone for our electronic warfare capability. This is a critical and important distinction for the Corps and is what will make future USMC electronic warfare capabilities so useful to the MAGTF and the Department of Defense.

WEAPONS PROGRAMS

Since 2003, Marine TACAIR have employed 691 Joint Direct Attack Munitions (JDAMs), 2,710 Guided Bomb Units, and 268 Maverick missiles during combat operations. The fiscal year 2008 Budget supports precision-guided munition (PGM) programs that continue to support combat operations.

DUAL-MODE DIRECT ATTACK WEAPONS

In combat, our aviators need weapons systems that can respond to the changing, dynamic conditions of today's battlefield to support ground operations. Based on an urgent needs statement and feedback from the combatant commanders in Iraq and Afghanistan, the DoN determined that improved responsiveness and flexibility was required for close air support (CAS) missions in support of Marine and Army ground forces. To address these shortcomings, the Department leveraged congressionally directed funding in the research of dual-mode laser-guided weapons and successfully developed and integrated Global Positioning System and laser guided technologies into a single direct-attack weapon. This capability will be fielded on Marine Corps F/A–18 A+/C/D and AV–8B aircraft this summer to reduce the number of sorties needed to destroy intended targets, while providing the warfighter with increased flexibility in adverse weather against all classes of targets. 7000 Dual Mode Direct Attack Weapons were procured and will be delivered by the end of fiscal year 2008. The fiscal year 2008 budget requests $29 million to develop the Direct Attack Moving Target Capability (DMTC). In January, testing was completed on a Low Collateral Damage Bomb (LCDB), in response to a CENTCOM requirement for our legacy aircraft. The LCDB can be used with existing Direct Attack Laser Guided Bomb (DMLGB) or JDAM kits and will be available to our warfighters before June.

JOINT AIR-TO-GROUND MISSILE (JAGM) (FORMERLY JOINT COMMON MISSILE (JCM))

Marine Aviation needs a flexible, all-weather, common air-to-ground weapon system to replace the TOW, Hellfire, and Maverick missiles that can be employed against both stationary and moving ground targets by fixed and rotary wing aircraft. The Marine Corps has expended 1,155 Hellfire and 991 TOW air-to-ground missiles in support of ground forces engaged in combat since 2003. A JROC Memorandum called for a RDT&E effort, beginning in fiscal year 2007, to mitigate JROC-validated capability gaps in precision munitions by developing the next generation Air-to-Ground CAS weapon for fixed-wing, rotary-wing, and UAV aircraft. The Marine Corps is participating, with the Joint Staff, in an OSD-led Concept Decision Review. The Concept Decision Review will obtain a Tri-Chair strategic investment decision on JAGM in the first half of this calendar year. A low collateral damage PGM for moving targets is critical for Marine Aviation as a replacement for our aging stockpiles of TOW, Hellfire and Laser Maverick family of weapons. The Services have put $68.5 million in the fiscal year 2008 budget for JAGM risk reduction and seeker technology RDT&E.

Modernize the Force

F–35B

The F–35B Short Takeoff and Vertical Landing (STOVL) Joint Strike Fighter (JSF) is critical for maintaining our preeminence in expeditionary operations, exemplified by our legacy AV–8B Harrier jump jets during the march to Baghdad during

OIF I. The fiscal year 2008 budget requests $1.7 billion RDT&E for continuation of F–35 System Development and Demonstration (SDD) and $1.3 billion APN (including spares) for the initial DoN low rate production lot (LRIP 2) for six STOVL aircraft with $120 million for long lead funding for eight STOVL aircraft as part of LRIP 3. This budget request contains the first TACAIR jets procured for the Marine Corps in 10 years. We continue to provide the least expensive and most flexible component of our Nation's tactical air capability. On any given day, Marine TACAIR is aboard carriers, flying from amphibious shipping and operating ashore at expeditionary sites, all simultaneously. However, our legacy platforms are rapidly dwindling as we operate them at several times the normal peace time rates. In order to meet our future operational commitments we must maintain a procurement profile supporting a 2012 F–35B Initial Operational Capability (IOC) along with quantities to rapidly refill our depleted squadrons at an economical rate. The mature, thoughtful design of the F–35B and technological advances to replace many individual stovepipe capabilities into a single platform will provide the Marine Corps with a highly advanced, persistent, and enduring tactical aircraft for the next 50 years; the F–35B will act as an integrated flying combat system in support of our ground forces and will aid in providing full spectrum dominance of the battle space. We are managing our current strike fighter shortfall through reinvestment of existing squadrons in the rest of our fleet. If IOC of the F–35B is deferred past 2012 and the procurement ramp rate is shallowed out, the Marine Corps will be unable to fill its future operational commitments.

V–22 Osprey

As the Commandant of the Marine Corps announced on 13 April, VMM–263, our first operational MV–22 squadron, will deploy to Iraq in September of this year. This deployment directly supports our Corps' number one priority—our marines and sailors in combat. With thousands of flight hours of testing and training, in environments ranging from shipboard to the desert, the MV–22 is a mature technology that Osprey crews are eager to employ. The decision to send this aircraft to combat in Iraq underscores our confidence in it. The quantum leap in capability represented by the Osprey will give the Joint Force significantly increased flexibility and reach.

The fiscal year 2008 budget requests $2 billion of procurement funding for 21 MV–22s, associated spares, aircraft retrofit, and Economic Ordering Quantity investments supporting fiscal years 2008–2013 multiyear procurement, and $118 million of RDT&E for continued development, testing and evaluation. The V–22 Program will deliver a total of 13 aircraft in fiscal year 2008. Recent contractor performance has met expectations with on-time deliveries of block B aircraft and timely contractor support.

To date, 29 Block A and 16 Block B aircraft have been delivered to support developmental testing, Operational Evaluation (OPEVAL), training and initial fleet fielding. The MV–22 completed OPEVAL in 2005 and fielding is underway at MCAS New River, North Carolina. Three squadrons have commenced the transition from the 40-year-old CH–46E to Block B MV–22Bs. The first of these two squadrons will provide an IOC in fiscal year 2007. In full rate production, the aircraft procurement rate will ramp up to 30 aircraft per year. The program of record includes 360 MV–22s for the Marine Corps.

The demands of global war on terrorism and modernization of our Expeditionary Warfare capabilities have increased the urgency to rapidly field the MV–22 Osprey as a replacement for the 40 year old CH–46. Its design incorporates advanced technologies in composite materials, survivability, airfoil design, fly-by-wire controls, digital avionics and manufacturing. The MV–22 is capable of carrying 24 combat-equipped marines or a 10,000-pound external load, and has a strategic self-deployment capability of 2,100 nautical miles with a single aerial refueling. It is vastly superior to the CH–46E it replaces, with twice the speed, three times the payload, five times the range, and six times the survivability. The V–22 Osprey is a joint platform for the Navy, Marine Corps, and Air Force. It is providing significant opportunities for joint training, tactics development, and mission execution.

KC–130J

Aerial refueling and assault support are key warfighting tasks assigned to the KC–130J in global war on terrorism theaters. The KC–130J extends the operational flexibility of the MAGTF commander by providing increased persistence over the battlefield of our TACAIR fleet and critical supplies for our ground forces when and where they are needed. Simply put, the Marine Corps KC–130J is the work horse of Marine Aviation in OIF. Six aircraft have been continuously deployed in support of OIF since IOC and have provided the warfighter state of the art, multi-mission, tactical aerial refueling, and fixed wing assault support assets that have exceeded

expectations. This year's deployment of the in-flight refueling capable MV–22 significantly increases the tanking requirement of the KC–130J community. The fiscal year 2008 budget requests $270 million for procurement of four aircraft, associated spares, and advanced procurement. The Marine Corps is currently in a multiyear procurement program with the Air Force to procure a total of 35 aircraft by the end of fiscal year 2008. The program calls for the continued procurement of two aircraft per year.

UNMANNED AIRCRAFT SYSTEMS (UAS)

Knowledge is power on the battlefield and the Corps' family of UAS aircraft provides critical, persistent ISR capabilities to our commanders on the ground in support of combat operations. Marine Aviation has the lead for Tier III of the USMC UAS Family of Systems that is designed primarily to support a MEF or Joint Task Force-level commander. The Pioneer UAS has served us well since 1986 in this role; it has proven its worth in the fight against insurgent forces and terrorists in Iraq. However, due to the Pioneer's age and obsolescence, it has become a logistical challenge for our operational forces. Based on these challenges, the Marine Corps decided it will begin to transition to the Army Shadow UAS during the fourth quarter of fiscal year 2007. The Shadow's capabilities are similar to the Pioneer and have been upgraded over the past few years. It will provide commanders with a day/night ISR and target acquisition capability. This year's Presidential Budget contains a request for $90.3 million for procurement for five of 13 required Shadow systems. We envision the Shadow serving as an interim system until a Vertical UAS (VUAS) is developed and fielded in the 2015 timeframe.

The VUAS will provide a capability that can be either land or sea-based. It will provide the future MAGTF with organic, responsive and real-time ISR as well as electronic attack, fires, and command and control capabilities, operating in concert with all MAGTF assets.

CH–53K PROGRAM

Heavy lift requirements for Marine Aviation are primarily filled by the CH–53E. Delivery of critical supplies and equipment to austere sites in support of our ground combat element ensures that we remain flexible and responsive to needs of the ground commander. Marine Corps CH–53E legacy helicopters continue to make significant contributions in the Horn of Africa and Iraq, however, these aircraft are in need of replacement in the next decade. Vertical heavy-lift capability will continue to be critical to successful global operations in future anti-access, area-denial environments, enabling the joint concepts of Force Application and Focused Logistics within the Capstone Concept for Joint Operations. The fiscal year 2008 budget requests $417 million of RDT&E funds to support development of the CH–53K helicopter that will replace the current U.S. Marine Corps' heavy-lift aviation platform, the venerable but aging CH–53E Super Stallion.

The CH–53E, first fielded in 1981, continues to demonstrate its strategic value as a fully marinized, expeditionary, heavy-lift platform. But the CH–53E is reaching service-life and performance limits as the global war on terrorism drives operations from sea level to higher altitudes and into hostile environments and austere operating sites. The CH–53E cannot support our future operational concepts of Sea Basing and Ship to Objective Maneuver (STOM). To keep Fleet Marine Forces operationally effective well into the future, the Marine Corps is developing the CH–53K, a near-term and cost-effective replacement for the CH–53E that remains within the CH–53E shipboard footprint, and avoids L-class ship alteration or new ship construction costs. Addressing lessons learned from recent operations, the new-build CH–53K helicopter will be capable of externally lifting 27,000 pounds on a Sea-Level Hot day (103 degrees Fahrenheit (F)) to an unrefueled range of 110 nautical miles (NM). This capability is more than double the current CH–53E envelope under the same conditions. Additionally, CH–53K helicopters will each be capable of routinely carrying 30 combat-loaded troops. Major systems improvements which will significantly reduce Operations and Support (O&S) costs include: interoperable avionics, improved cargo-handling systems, and expanded survivability and force protection capabilities.

A Service Life Assessment completed in 1999 identified a CH–53E fatigue life limit of 6,120 airframe hours, which a significant number of CH–53E platforms will attain by fiscal year 2011. While the Marine Corps is also seeking short-term solutions to diminish the effects of this and other CH–53E issues in the fiscal year 2007 budget, these solutions will not arrest accelerating attrition, continuing escalation of O&S costs, and the ever-increasing maintenance burden on an aircraft that is 24 years old. In addition, due to the abnormally high global war on terrorism oper-

ational tempo, the CH–53E fleet is expending service life at a much faster rate than planned.

Requirements for the CH–53K were developed in consonance with STOM concepts from Expeditionary Maneuver Warfare in Marine Corps Strategy 21, the Naval concept of Sea Basing in Sea Power 21, and with lessons learned from recent operational experience. The Joint Requirements Oversight Council approved the Operational Requirements Document that defines the necessary CH–53K capabilities in December 2004. We intend to achieve IOC with the CH–53K, a heavy-lift helicopter with vastly enhanced performance capability, survivability and reliability, in 2015. The CH–53K will be the most capable, marinized, heavy-lift helicopter in the world, a truly transformational asset.

H–1 UPGRADES PROGRAM

Our H–1 fleet fills flexible and persistent attack and utility requirements for the ground combat element. Each and every day our Cobra and Huey crews are flying over the heads of our ground forces providing immediate support and security in support of Marine combat operations. To ensure continued support to the MAGTF, our H–1 aircraft are in need of modernization. The UH–1N, for example, has not received any major modifications to its rotor and drive train systems since its delivery to the Marine Corps in 1971. This situation has led to a decline in the aircraft's power available since its introduction. Reduced power margins in the Huey have decreased safety margins for our pilots and aircrew. Our AH–1W attack helicopters have been performing magnificently in combat operations. In order to maintain this high level of performance we need to upgrade the "W" to streamline pilot workload, increase ordnance carriage, and improve sensor capabilities.

The H–1 Upgrades Program will replace the Marine Corps' AH–1W and UH–1N helicopters with state-of-the-art AH–1Z and UH–1Y models. The program is a key modernization effort designed to improve upon existing capabilities, enhance operational effectiveness, and extend the service life of both aircraft. The UH–1Y, for example, expands utility mission capabilities with its improvements in range, speed, endurance, and useful payload. Additionally, the commonality gained between the AH–1Z and UH–1Y (84 percent) will significantly reduce life-cycle costs and logistical footprint, while increasing the maintainability and deployability of both aircraft.

The H–1 Upgrades Program, through a combination of remanufacture and build new, will upgrade our current legacy fleet to 100 UH–1Ys and 180 AH–1Zs. The Defense Acquisition Board will convene in May 2007 to authorize a program restructure, approve a fourth LRIP lot, and lay the foundation to "grow the force" in support of plans for a balanced 202,000 Marine Corps.

The fiscal year 2008 budget requests $580 million APN funds to procure 20 (15 UH–1Ys and 5 AH–1Zs) aircraft and spares and $3.6 million RDT&E funds to complete the H–1 Upgrades Engineering and Manufacturing Development phase. Production continues on the first three LRIP lots, awarded to Bell Helicopter. To date, three aircraft (two UH–1Ys and one AH–1Z) have been delivered to the Marines. One additional UH–1Y will be delivered by the end of next month. The program completed OPEVAL Phase I successfully in November 2006, and will enter Phase II later this year.

The program continues to seek opportunities to reduce unit cost and minimize the impact on current and future operational readiness. In support of maintaining readiness, the optimum mix of remanufactured and newly fabricated aircraft is currently being evaluated; the results will be reflected in future budget requests. We are encouraged by recent steps Bell has taken to arrest recent cost growth to include leadership change and program quality assurance measures. Bell Helicopter needs to continue to meet scheduled aircraft deliveries to ensure we have the best attack and utility helicopters available to our Corps as well as phase out our legacy inventory.

Prepare for the Long War

NAVAL AVIATION ENTERPRISE (NAE)

In order to provide consistent, timely aviation support to the ground force when and where it is needed, we must maintain our readiness. Marine Aviation's current readiness process is sub-optimized to link and relate the various elements of readiness in a way that enables us to accurately define requirements. Therefore, Marine Aviation is integrating into the NAE and Naval Aviation Readiness Integrated Improvement Program to achieve optimal readiness now, but also to sustain the health of Marine Aviation into the future. The integration strategy has three main phases and stages, and the goals of the integration are: increase in-reporting rates; decrease out-of-reporting rates; improve depot turn-around times; reduce direct main-

tenance man-hours per flight hour; reduce flight hour costs; extend airframe service life for legacy platforms; achieve programmed service life for new platforms; and increase the core competency of organizational and intermediate-level maintenance departments.

AVIATION SAFETY

The Marine Corps is committed to the continued reduction of our aviation safety mishap rate. We do not accept the loss of marines or aircraft during any type of flight operations, particularly during training. In fiscal year 2005, the Commandant of the Marine Corps directed 21 operational safety initiatives to address day-to-day flight and ground operations. We continue to look for new and innovative measures to reduce our aviation mishap rate. We feel confident that our most recent internal initiative, ATS, will continue to arrest our mishap rate as we strive to reach the Secretary of Defense goal of 50 percent mishap reduction. The Marine Corps fiscal year 2006 Class A flight mishap rate was 1.58 per 100,000 flight hours, a drop from 2.26 and 5.17 from the previous 2 years.

SUMMARY

The Marine Corps has a heritage of fighting battles and winning wars on the sea, on the ground, and in the air. We do so while supporting routine deployment cycles and transforming the force. Today is no different. My pride in the accomplishments of Marine Aviation past and present is only exceeded by my confidence that we are poised to meet our future challenges. Our focus remains on the lance corporal and ensuring that when he calls for Marine Air, we are there. Thank you for your consideration.

Senator LIEBERMAN. Thank you, General. You made me a little nostalgic for Senator McCain, who's off on a mission now, because he refers to our colleague from Virginia, fondly and respectfully, as "The Squire." [Laughter.]

Admiral Clingan, thank you.

STATEMENT OF RADM BRUCE W. CLINGAN, USN, DIRECTOR, AIR WARFARE, VICE CHIEF OF NAVAL OPERATIONS, DEPARTMENT OF THE NAVY

Admiral CLINGAN. Mr. Chairman, Senator Cornyn, and Senator Warner, thank you for the opportunity to appear before you today.

I've prepared a written statement, and ask that it be read into the record.

Senator LIEBERMAN. Will do.

Admiral CLINGAN. Naval aviation continues to provide tailored effects in support of Operation Iraqi Freedom, Operation Enduring Freedom, and the greater global war on terrorism. The fiscal year 2008 President's budget balances conventional and irregular warfare aviation capabilities, reduces excess capacity, and achieves technological superiority through costwise investments in recapitalization, sustainment, and modernization programs.

To reserve as much time as possible for your questions, I'll forego any additional comments.

Thank you, sir.

[The prepared statement of Rear Admiral Clingan follows:]

PREPARED STATEMENT BY RADM BRUCE W. CLINGAN, USN

Mr. Chairman and distinguished members of the subcommittee, thank you for this opportunity to appear before you to discuss the Department of the Navy's (DoN) fiscal year 2008 tactical aviation programs. I am delighted to share this time with my colleagues from the DoN, U.S. Marine Corps, and U.S. Air Force to convey the critical needs of tactical aviation in our Armed Forces.

Naval Aviation continues to play a major role in providing tailored effects in support of Operations Enduring Freedom (OEF) and Iraqi Freedom (OIF), as well as the broader global war on terrorism. The ability of naval aviation to shape strategic,

operational, and tactical environments is reflective of the substantive return on your investment in our people, our combat readiness, and our refined spectrum of critical warfighting capabilities. These investments—in surveillance, command and control, and persistent strike, among others—ensure our tactical aircraft can operate effectively from aircraft carriers that exploit the vast maneuver space provided by the sea.

The Navy's aviation programs; comprised of manned aircraft, unmanned aerial systems, and weapons; directly support the Sea Strike, Sea Shield, Sea Basing, and ForceNet pillars that underpin our Navy Strategic Plan and Naval Power 21 strategy. The fiscal year 2008 President's budget balances conventional and irregular warfare aviation capabilities, reduces excess capacity, and achieves technological superiority through cost-wise investments in recapitalization, sustainment and modernization programs. The adjustments reflected in the budget maintain sufficient capacity to meet global presence and warfighting requirements, manage overlap with joint capabilities, and preserve warfighting relevance through 2024.

From fiscal year 2008 to fiscal year 2013, the Department's fiscal year 2008 budget request procures 1,295 aircraft, reduces the average aircraft age from 74 percent to 61 percent of expected service life, and concentrates on resourcing capabilities that generate critical maritime and joint effects.

CARRIER-BASED AIRCRAFT

Joint Strike Fighter (JSF)—At the core of our tactical air (TACAIR) recapitalization plan is the JSF, a stealthy, multi-role fighter aircraft that will enhance precision strike capability with unprecedented range, sensor fusion, radar performance, combat identification and electronic attack capabilities. The carrier variant (CV) JSF complements the F/A–18E/F Block II and EA–18G in providing long-range strike capability and much improved persistence over the battlefield. The short takeoff and vertical landing (STOVL) JSF combines the multi-role versatility of the F/A–18 and the basing flexibility of the AV–8B with the 5th generation attributes required to be effective against emerging peer rivals. The DoN fiscal year 2008 budget requests $1.7 billion research, development, test, and evaluation (RDT&E) to continue JSF System Development and Demonstration (SDD) and $1.3 billion APN to procure six STOVL aircraft (including spares) in fiscal year 2008 and the long lead requirements for eight STOVL aircraft in fiscal year 2009.

The JSF is executing its 6th year of SDD, with 11 SDD aircraft in various stages of assembly. AA–1, the first conventional take-off and landing (CTOL) production flight test article, is conducting test flights to validate design, fabrication, and flight performance parameters. With over approximately 7,300 engine test hours completed through early March 2007, engine performance is meeting expectations. The progress of the CTOL to date, and the significant commonality between the three JSF variants, warrant confidence in the STOVL and CV developmental efforts.

Final detailed design work on the STOVL is nearing completion. STOVL weight has remained within requirements since the Critical Design Review (CDR) last year, and BF–1, the first STOVL test aircraft, is meeting its critical path metrics for a May 2008 first flight. STOVL weight control efforts have been effectively leveraged to manage CV weight growth over the last 3 months. The bulk of the ongoing engineering effort is now focused on the drawing packages required for the CV JSF CDR this summer. The JSF program is executing in accordance with the approved replan that commenced 2 years ago, and the STOVL and CV variants are projected to meet their respective Key Performance Parameters.

JSF Alternate Engine (F–136)—The DoN maintains that developing and procuring the F–136 alternate engine for the JSF is undesirable for a variety of reasons—Pratt and Whitney F–135 engine development is progressing satisfactorily, the form/fit/function parity requirement between the F–135 and F–136 engines undermines any competitive incentive to improve engine performance, and the business case indicates the cost of developing the second engine will not be recouped for more than two decades. These factors make the very limited risk associated with a single engine manufacturer, commonplace among tactical aircraft, an appropriate one to take. Within the context of the fiscal constraints and competing investment priorities that characterize the Future Years Defense Program (FDYP), the considerable resources necessary to develop the F–136 are best applied to the core, essential elements of the JSF program and other critical DoN capabilities.

Super Hornets (F/A–18 E/F)—The F/A–18 E/F continues to replace retired F–14 and legacy F/A–18 A/B/C/D aircraft, measurably improving the strike capability and survivability of the Carrier Air Wing. The Super Hornet provides a 40 percent increase in combat radius, 50 percent increase in endurance, and 25 percent increase in weapons payload over legacy Hornets. The fiscal year 2008 budget requests $2.1

billion to procure 24 F/A–18 E/F aircraft in the 4th year of a 5-year multiyear procurement (MYP) contract (fiscal years 2005 to 2009). The Super Hornet uses a spiral acquisition approach to develop and incorporate new capabilities, such as the Active Electronically Scanned Array (AESA) radar system. The AESA radar has completed Initial Operational Test and Evaluation and is awaiting a full rate production decision. All critical OT deficiencies are expected to be resolved with the release of software upgrades in summer 2007. The first F/A–18F squadron with AESA radar is scheduled to deploy summer 2008.

Legacy Hornets (F/A–18 A/B/C/D)—Inventory reductions stemming from USN/USMC TACAIR Integration, F/A–18 A/B/C/D service life limits, the JSF program replan and lowered JSF procurement ramp have combined to create a DoN strike-fighter shortfall that exists today and will extend through the transition to JSF. The shortfall is derived from the projected DoN TACAIR inventory compared to the USN Carrier Air Wing and USMC expeditionary TACAIR requirement for 35 USN and 19 USMC active strike-fighter squadrons. This lean force structure is essential to meet DoN rotational deployment and major combat operations surge requirements. Fiscal year 2008 President's budget based projections show legacy strike-fighter shortfalls ranging from about 50 aircraft to more than 200, depending on the service life extension for F/A–18 A/B/C/D aircraft (10,000 or 9,000 hours) and the JSF buy rate (50 or 35 per year beginning in fiscal year 2014). Fully funding the strike-fighter procurement programs of record through full operational capability (FOC) and the legacy aircraft service life extension programs are critical first steps in managing this shortfall.

To begin mitigating the shortfall, the fiscal year 2008 budget procures 28 additional F/A–18 E/F above the fiscal year 2007 Appropriations Bill in fiscal years 2010 through 2012. When the legacy Hornet service life assessment program is completed in December 2007, the F/A–18 E/F and JSF procurement plans will be adjusted to ensure DoN recapitalizes the capacity necessary to deliver the effects expected of Naval TACAIR.

Hornet Sustainment (F/A–18 A–F)—The fiscal year 2008 budget requests $442 million to continue replacing the center barrels on up to 421 legacy Hornets and to procure critical F/A–18 A–F aircraft system upgrades. The center barrel replacements will extend the service life of the F/A–18 A/C/D aircraft approximately 7 years and are essential to help mitigate the strike-fighter shortfall through 2023, when the last legacy Hornet is scheduled to retire. Procurement of capability enhancements such as the Joint Helmet Mounted Cueing System, Advanced Targeting Forward-Looking Infrared Radar, Multi-Function Information Distribution System, and Digital Communications System are required to ensure that our F/A–18s remain relevant in the rapidly advancing threat environment that will characterize the remainder of their service life.

Airborne Electronic Attack (AEA)—The Navy continues to develop the EA–18G as the replacement for the EA–6B AEA aircraft. The fiscal year 2008 budget requests $273 million for RDT&E and $1.3 billion for the procurement of 18 LRIP aircraft. The Navy is leveraging the F/A–18E/F and EA–18G MYP contract to buy 18 aircraft in fiscal year 2008. These aircraft will support EA–18G Fleet Replacement Squadron stand-up and the transition of three EA–6B squadrons to EA–18G, leading to an Initial Operational Capability (IOC) in fiscal year 2009 and Full Operational Capability (FOC) in fiscal year 2012.

The Office of Naval Research is working to develop adaptable, modular, and open architecture hardware, firmware and software for a next generation jamming capability that will be hosted on the EA–18G. In this regard, the Navy is working with the Air Force on jamming transmitters, and has leveraged previous work completed as part of their B–52 Stand-Off Jammer program that has since been cancelled. The Navy and Air Force technology teams continue to meet quarterly to ensure their efforts are coordinated and duplication does not occur.

The EA–6B, Department of Defense's (DOD) only tactical electronic attack aircraft with full spectrum jamming capabilities, has been in high demand to provide direct support to counter-improvised explosive device, Special Operating Force and time-sensitive targeting operations in OIF/OEF. The fiscal year 2008 budget requests $24.2 million in RDT&E and $30.6 million in procurement to field critical EA–6B capability enhancements and readiness improvements required to increase the operational availability of this low-density, high-demand aircraft. This funding also procures ten Low Band Transmitters that will replace the aging transmitters that are employed nearly continuously today in Iraq and Afghanistan, as well as provide new jamming capability. In addition, the budget procures essential avionics and structural equipment in support of the EA–6B Operational Safety Improvement Program.

Advanced Hawkeye (E–2D)—The fiscal year 2008 budget requests $809 million to procure three E–2D Pilot Production aircraft and supporting systems for Oper-

ational Test and standup of the first operational squadron in 2011. The E–2D Advanced Hawkeye provides essential battle management command and control, and is a key enabler for maritime intelligence, surveillance, and reconnaissance. Its significantly upgraded radar provides unparalleled overland capability against current and future cruise missile targets, in addition to transformational surveillance that meets theater air and missile defense requirements. The E–2D, with its ability to meet the current threat and pace the emerging threat posed by potential peer rivals, is programmed to replace the legacy E–2C fleet over the next decade.

WEAPONS

The fiscal year 2008 budget procures and develops a mix of legacy, advanced and next generation weapons that are lethal throughout the entire range of military operations. The demands of irregular warfare and counterinsurgency operations require adaptation of our legacy weapons to a wide variety of tactical environments.

Hellfire missile (AGM–114) improvements are being implemented in response to urban warfare requirements that mandate minimal collateral damage. Thermobaric warhead improvements that contain blast effects were deemed operationally effective in 2006, and will be complemented by trajectory shaping—which allows flight crews to select the missile flight profile most effective for the particular engagement. The fiscal year 2008 budget request includes $45.7 million to procure 439 weapons and components to address these requirements.

The BLU–126/B warhead, otherwise known as the low-collateral-damage bomb (LCDB) bridges a capability gap identified by CENTCOM. The LCDB is a low cost solution identified by the Naval Aviation Enterprise (NAE) that has been approved for use with the Joint Direct Attack Munitions (JDAM) and Laser Guided Bomb (LGB) precision guidance kits. It will be fielded in March 2007 using General Purpose Bomb funds.

The Navy continues to pursue a Network Enabled Weapon Strategy with Joint Standoff Weapon (JSOW), Standoff Land Attack Missile-Expanded Response (SLAM–ER), Harpoon, and Small Diameter Bomb II (SDB II) capabilities. The fiscal year 2008 budget requests technical risk reduction funding for SDB II leading to IOC on JSF in fiscal year 2016. SDB II moving target, through-the-weather capability is a key future capability for the JSF.

Direct Attack Moving Target Capability (DAMTC)—The fiscal year 2008 budget requests $29.1 million in fiscal year 2008 and $214.6 million across the FDYP for the DAMTC program, which seeks to use JDAM and/or LGB weapons as the foundation for a dual mode weapon that is capable of prosecuting targets moving at speeds up to 70 mph. An open competition will be expeditiously conducted in response to the urgent need for a fixed wing aircraft moving target weapon that will culminate in a fielded solution following operational testing in fiscal year 2009.

This low cost, rapid integration program adds significant capability while leveraging the existing industrial base to procure 17,720 DAMTC weapons.

Joint Standoff Weapon (JSOW)—The combat-proven JSOW family of Navy and Air Force air-to-ground weapons has achieved on-time deliveries for 5 consecutive years and delivered its 2,000th weapon in 2006. Cost reduction initiatives and Foreign Military Sales have resulted in a 6-percent reduction in JSOW-C Average Procurement Unit Cost (APUC) compared to the Fiscal Year 2007 Appropriations Bill. The fiscal year 2008 budget requests $131.3 million to procure 421 JSOW–Cs, a highly lethal precision weapon that employs an imaging infrared seeker, GPS/INS, and an augmenting charge with a follow-through penetrator bomb for use against hardened targets. Production of other JSOW variants remains deferred as we continue to work with the Office of the Secretary of Defense and our sister Services to resolve unexploded battlefield ordnance issues that are of concern to the DoN and our Allies. The fiscal year 2008 budget also includes $24.9 million to continue development of a network enabled weapon, termed JSOW–C–1, in order to fill a critical mission capability gap against moving ships at tactically significant ranges.

Harpoon Block III (AGM–84M)—The Navy requires an upgrade to the air-launched Harpoon cruise missile to provide an all-weather, over the horizon, anti-surface warfare capability with 'improved selectivity' in the cluttered littoral environment. This initiative is in direct support of the most recent Pacific Command Integrated Priorities List. The Harpoon BLK III Program will integrate a two-way data-link and GPS to achieve the enhanced selectivity that will facilitate employment under stringent rules of engagement. This program will leverage the surface Harpoon program's efforts already started with fiscal year 2007 RDT&E funds. Data-link development and NSA certification costs are being shared with the Navy JSOW program. The fiscal year 2008 budget requests $3.3 million in RDT&E to initiate the air launched Harpoon Block III effort. Procurement of 300 Harpoon III

missile kits and associated systems in the outyears requires $58.0 million in fiscal year 2011 through fiscal year 2013.

Advanced Anti-Radiation Guided Missile (AARGM)—The fiscal year 2008 budget requests $32.8 million for finalization of the AARGM SDD, and requests $41.3 million for the first increment of LRIP tactical and training weapons. AARGM utilizes legacy High-Speed Anti-Radiation Missile (HARM) weapon components with advanced multi-spectral/multi-sensor technologies to transform the AGM–88 weapon system from a Suppression of Enemy Air Defenses (SEAD) capability to a Destruction of Enemy Air Defenses (DEAD) capability. The program is expected to reach Milestone C and begin Operational Evaluation (OPEVAL) in fiscal year 2008. AARGM's high speed and extended stand-off capability to engage long-range threats with GPS precision; coupled with the geolocation precision resident in the EA–18G or F/A–18 E/F with AESA; will provide the Navy a critical time sensitive strike capability. AARGM is scheduled to reach IOC in fiscal year 2009 on the F/A–18 C/D Hornet, followed by the F/A–18 E/F Super Hornet and EA–18G Growler in fiscal year 2011.

Advanced Medium-Range Air-to-Air Missile (AMRAAM/AIM–120)—AMRAAM is a Joint Navy/Air Force (Air Force-led) advanced, medium range missile that counters existing aircraft and cruise missile threats. AMRAAM incorporates advanced electronic attack capabilities and is effective against a broad spectrum of targets operating at high/low altitudes beyond and within visual range. AMRAAM provides an essential air-to-air first look, first shot, first kill capability that exploits the networked environment supporting Sea Power 21's Theater Air and Missile Defense mission area. The AIM–120D missile is currently in SDD with a planned first live shot in June 2007. The fiscal year 2008 budget requests $4.6 million in RDT&E to complete AIM–120D developmental efforts and $87.5 million for production of 79 AIM–120D all-up rounds and associated hardware. This procurement is critical to begin building an inventory of air-to-air weapons effective against emerging threats.

Sidewinder Air-to-Air Missile (AIM–9X)—The Joint Navy/Air Force (Navy-led) Sidewinder missile is the only short-range infrared air-to-air missile integrated on USN/USAF strike-fighter aircraft. The AIM–9X is the newest variant in the Sidewinder family and is a 5th Generation weapon that incorporates high off-bore sight acquisition capability, thrust vectoring to achieve superior maneuverability, and increased seeker sensitivity through imaging infrared focal plane array technology and advanced processing. The fiscal year 2008 budget requests $54.9 million for production of 110 all-up round missiles, 74 Captive Air Training Missiles (CATMs), and the associated hardware required to make the capability available to our strike-fighter squadrons.

SELF PROTECTION SYSTEMS

Integrated Defensive Electronic Countermeasures (IDECM)—The fiscal year 2008 budget requests $131.4 million in aircraft procurement funding for 61 ALQ–214 onboard Radio Frequency Countermeasures systems and $24.4 million Ammunition Procurement funding for 581 ALE–55 Fiber Optic Towed Decoys, pending a full rate production decision. IDECM Block 3/ALE–55 Operational Testing and Evaluation identified a number of deficiencies that are being expeditiously corrected. A full rate production decision is expected in fiscal year 2008.

Digital Radio Frequency Memory (DRFM) Onboard Jammer—The fiscal year 2008 budget requests $8.2 million in RDT&E for development of an onboard jammer that will employ state-of-the-art Digital Radio Frequency Memory devices to replace the ALQ–126B Jammer that was last produced in 1991. This effort will measurably improve the survivability of Naval tactical aircraft by delaying, denying, and defeating threat air-to-air and surface-to-air missile systems operating in the radio frequency spectrum. The lead platform for the DRFM program is the F/A–18 C/D, followed by the AV–8B. An Analysis of Alternatives has been initiated to investigate alternative solutions, costs, and schedules. This developmental effort and the resulting capability is required to pace rapidly proliferating threat systems.

Tactical Aircraft Directed Infrared Countermeasures (TADIRCM)—The fiscal year 2008 budget requests $27.6 million in RDT&E for development of an improved Missile Warning System (MWS) and Infrared Countermeasure (IRCM) system for Navy and Marine Corps helicopters. This system will provide aircrew protection against current and next generation IR guided man-portable air defense systems. The Analysis of Alternatives for TADIRCM has been completed and the program is working toward a Milestone B in fiscal year 2008.

NAVY UNMANNED AIRCRAFT SYSTEMS (UAS)

Since its initial experience with UAS during Operation Desert Storm, operating Pioneer from the sea, the Navy has pursued a strategy of developing a family of maritime intelligence surveillance and reconnaissance (ISR) UAS that supports our Navy Strategic Plan and Naval Power 21 strategy.

This family of systems encompasses small tactical, tactical, persistent, and penetrating platforms that are being developed to provide maritime domain awareness across the Sea Shield, Base, and Strike pillars that embody naval power in the 21st century.

Scan Eagle—During the past year, Scan Eagle ISR fee-for-service contracts provided persistent ISR coverage for deployed Expeditionary Strike Groups (ESG), Expeditionary Action Groups (EAG), and independent naval ships, as well as land-based operations in the Central Command area of responsibility. There are currently three contracts (two ship-based and one shore-based) in use, with a follow-on contract in work. To date Scan Eagle UAS have completed in excess of 925 sorties/7,700 hours. A typical contract provides 10 hours of ISR coverage per day/300 hours per month. Reliability data is not directly tracked, but mishap rates for the Scan Eagle system have averaged 1 air vehicle loss per 214 hours historically. The mishap rate for recent shipboard operations has improved to 1 per 500 hours (or one to two lost air vehicles per 6 month deployment). A loss in this case is categorized as an air vehicle that is no longer in an airworthy status. This rate is not atypical for this size/class of "expendable" air vehicle. Scan Eagle video has been linked to its Ground Control Station, Toughbook-based Remote Video Terminal (RVT), and Rover III RVTs.

Small Tactical UAS (STUAS)—The fiscal year 2008 budget includes a request for $6.1 million in RDT&E that will be used to begin SDD efforts for a small tactical UAS akin to Scan Eagle. This funding will support a combined Navy and Marine Corps acquisition program (an additional $5.7 million RDT&E is funded by USMC) that will field a small, persistent ISR platform in fiscal year 2010 that can be operated from both ships and land facilities.

Fire Scout Vertical Takeoff UAV (VTUAV)—The fiscal year 2008 budget requests $33.0 million in RDT&E and $37.7 million in APN for the Fire Scout program. Fire Scout is on track to complete test and evaluation in 2008 and reach IOC in 4Q fiscal year 2008 onboard the Littoral Combat Ship. Procurement funds will be used to buy 3 Low Rate Initial Production (LRIP) air vehicles, plus associated Ground Control Stations (GCS) and equipment. Analysis supporting the Navy's employment of Fire Scout VTUAV includes an LCS aviation warfighting requirements analysis, LCS and draft VTUAV concept of operations (CONOPs), the campaign analysis completed in support of the DoN fiscal year 2008 budget submission, and the applicable Joint Capabilities Integration and Development System documents. The procurement profile in fiscal year 2008 begins the process of fielding VTUAV systems aligned to meet LCS mission module deliveries in the FYDP and beyond.

Broad Area Maritime Surveillance (BAMS) UAS—The fiscal year 2008 budget requests $116.7 million to continue development of the BAMS UAS. BAMS UAS will provide a persistent, multi-sensor, maritime Intelligence, Surveillance and Reconnaissance (ISR) capability and communications relay in support of major combat operations and the global war on terrorism. BAMS is a key component of the Navy's future Maritime Patrol and Reconnaissance Force, which includes the P–8A Multi-Mission Maritime Aircraft (MMA) and the EPX Information Operations aircraft. The BAMS UAS program is now scheduled for Milestone B in fourth quarter fiscal year 2007, leading to an IOC in late fiscal year 2014. A competitive request for proposal was issued to industry on 14 February 2007. Responses are due in April and the source selection results will be part of the MS B decision process.

Global Hawk Maritime Demonstration System (GHMD)—The fiscal year 2008 budget requests $17.7 million in O&M,N funding to support CONOPS development, fleet battle experiments, and BAMS risk reduction initiatives with the two Global Hawk UAS the Navy procured in concert with Air Force production. As part of the GHMD program, the Global Hawk Integrated Sensor System radar software has been modified to provide the wide area search, maritime moving target indicator (MMTI), and inverse synthetic aperture radar modes that are required in the high clutter maritime environment. The fiscal year 2008 budget includes $5.9 million in APN to procure needed spares to support continued GHMD operations.

Navy Unmanned Combat Air System—The fiscal year 2008 budget requests $161.7 million to continue development of the Navy's carrier-suitable, Unmanned Combat Air System (UCAS). Navy is committed to a carrier-based, penetrating, persistent UCAS to provide the Joint warfighter with a responsive ISR and time-sensitive strike capability that fills the gap identified in the Joint Strike Enabler Initial

Capability Document. To field that capability, the Navy is conducting a risk reduction carrier suitability demonstration of a relevant low observable platform air vehicle. This carrier demonstration, scheduled to complete in fiscal year 2013, will inform UCAS development in a program that will leverage the technology maturation initiatives of all the Services' manned and unmanned programs.

Tactical Control System (TCS)—The fiscal year 2008 budget requests $9.4 million to continue TCS development. TCS provides mission planning, command and control, and C^4I interface commonality for tactical and medium altitude unmanned UAS. The TCS program incorporates a standards-based architecture compliant with North Atlantic Treaty Organization Standardization Agreement 4586 that integrates Fire Scout functionality with LCS, and facilitates future interoperability and payload capability enhancements. TCS will IOC in fiscal year 2008 as part of the Fire Scout VTUAV system. With the help of $1.0 million provided by Congress in fiscal year 2007, the TCS program is also transitioning to open architecture and open source software.

Other UAS Initiatives—The Navy, as the lead service for Explosive Ordnance Disposal (EOD), is sponsoring the demonstration of small UAS capabilities in support of EOD forces deployed in the global war on terrorism. This in-theater demonstration, scheduled during 3Q fiscal year 2007, will employ 3 Silver Fox UAS and 10 Micro Air Vehicle (MAV) systems in response to a validated joint urgent operational need.

Additionally, the Navy continues to support the Marine Corps' Pioneer program. Program management, testing, and training support for its currently fielded systems is programmed through fiscal year 2008.

MARITIME PATROL AND RECONNAISSANCE AIRCRAFT

Aerial Common Sensor (ACS)—Since the ACS contract with Lockheed Martin was cancelled by the Army in January 2006, an OSD-directed Joint ISR (JISR) study co-led by Army and Navy has been completed. This study reexamined the multi-intelligence requirements that were the core of the ACS program, and considered potential manned and unmanned solutions. The JISR study validated the need for a manned, multi-Int platform to meet the tactical commander's direct support ISR needs and highlighted the specific attributes required to be effective in this regard.

Additionally, Navy campaign analysis for POM–08 refined the electronic warfare capabilities required to meet the threat posed by emerging peer rivals. Specifically, the Navy requires a platform with an unrefueled on station time of 4 hours at a combat radius of 1,200 NM. While collaboration on the mission system continues with our sister Services, the significant difference in range and endurance requirements for the Army and Navy have prompted both Services to pursue separate platform solutions. In the case of the Navy, the follow-on to the EP–3E is being called the EPX, pending development of the acquisition strategy. The EPX will be an integral part of the Maritime Patrol and Reconnaissance Force family of systems that includes the MMA and BAMS UAS and is planned to reach IOC in 2019.

EP–3E—The EP–3E flew more than 8,700 mission hours in support of Maritime Component Commanders and Combatant Commander global war on terrorism missions worldwide in 2006. The details of those missions are classified, but can be provided upon request. The Navy is fully committed to sustaining the EP–3E airframe and keeping its mission systems effective until the EPX is fielded. Three spiral upgrades to the mission system and installation of Special Structural Inspection Kits similar to the P–3 are programmed to sustain the EP–3E through 2019. Of note, the EPX will incorporate the EP–3E Spiral 3 capabilities as the baseline for EPX Block 0, plus additional capabilities that will result in a true multi-intelligence platform.

P–8A Multi-mission Maritime Aircraft (MMA)—The P–8A will replace the P–3C Orion on a less than 1:1 basis. It will significantly enhance naval lethality in the broad area maritime and littoral armed Anti-Submarine Warfare and Anti-Surface Warfare mission areas. The P–8A fills combatant commander requirements in major combat and shaping operations, as well as the war on terror and homeland defense. The program is in the detailed design phase and has been executing on time and on budget. The fiscal year 2008 budget requests $880 million in research and development funds to keep the program on track to achieve IOC in fiscal year 2013.

MH–60R/S Multi-Mission Helicopter—The MH–60R is a cornerstone of the Navy's helicopter CONOPs, which reduces the number of variants in service from six to two. The MH–60R Multi-Mission helicopter will replace the surface combatant-based SH–60B, carrier-based SH–60F, and anti-surface capabilities of the S–3 with a newly manufactured airframe and enhanced mission system. Sea control missions include Undersea and Surface Warfare. The MH–60R provides forward-deployed ca-

pabilities to defeat area-denial strategies, allowing Joint forces to project and sustain power. Full rate production was approved in March 2006. The fiscal year 2008 budget requests $998 million to procure 27 aircraft.

The MH–60S is designed to support 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. This program is in production. In fiscal year 2007 the first of five Organic Airborne Mine Countermeasures systems (AQS–20) will reach IOC. The remaining four airborne mine countermeasure systems will reach IOC between fiscal years 2008–2010.

An Armed Helicopter capability is also expected to enter service in 2007. The fiscal year 2008 budget requests $504 million to procure 18 aircraft.

SUMMARY

Mr. Chairman, and distinguished members of this subcommittee, I would like to thank you for your continued support of naval aviation and Navy TACAIR in particular. This budget submission—balanced with other Naval aviation budget priorities—ensures our young men and women, who fight daily with courage and commitment, have what it takes to win. Our budget submission makes sound investments in capabilities that make relevant contributions to irregular warfare, pace the threat posed by potential adversaries, and ensure Navy Aviation remains an effective anti-access force in major combat operations. Thank you again for this opportunity to appear today to speak on behalf of Navy aviation.

Senator LIEBERMAN. Thanks, Admiral.

Thank you all. A good beginning.

I'd like to start with you, Admiral.

I say to my colleagues that I think we'll start with 8-minute rounds, then we can keep it going as long as we have questions.

I want to ask you about this projected shortfall of the F–18 aircraft. We've heard that during the next decade, it could be as large as 150 less than the number required to support the 10 aircraft carrier wings. I also understand that the shortfall assumes that we will be able to operate the F–18s for up to 10,000 flight hours. So, this raises a couple of questions. One, will the Navy be able to maintain its Fleet Response Plan, being able to surge 5 or 6 carriers within 30 days of notification, followed by another carrier within 90 days, if you end up 150 aircraft below requirements?

Admiral CLINGAN. Thank you for the opportunity, Mr. Chairman, to address this question.

Senator LIEBERMAN. Sure.

Admiral CLINGAN. Over the course of the preparation of the budget, and in our work to support Congress's efforts as they explore the budget, we have discussed a strike-fighter shortfall that ranges from approximately 50 aircraft to over 200. Those numbers stem from excursions that we ran to understand how sensitive our potential shortfall is to the differences in the flight hours that we could sustain our legacy Hornets to, and the buy rate of the JSF. The program of record depicted in the President's budget 2008 assumes 10,000 flight hours for the legacy Hornets, and a buy rate which reaches 50 outside this Future Years Defense Program. In that program of record, we project that the strike-fighter shortfall for carrier-based aircraft will be approximately 50 in 2018. Over the course of our preparation of the fiscal year 2009 budget, we'll be making sure that we refine the model which has informed the discussion to date, and in preparation of the fiscal year 2010 budget, with a Service Life Assessment Program which is scheduled to complete in December 2007. We'll make further adjustments, potentially, to mitigate a shortfall to guarantee we can meet the com-

batant commanders' requirements and the surge requirements that you alluded to.

Senator LIEBERMAN. Okay. So, at this point you continue to feel that you can fulfill your responsibilities under the Fleet Response Plan, and the Navy's prepared to take action to make sure that that will continue to be so.

Admiral CLINGAN. Yes, sir, we are.

Senator LIEBERMAN. Are we exposing ourselves, or those who are in the planes, particularly, to excessive risk by assuming that this aircraft can go the 10,000 hours, even though I know it was designed originally for 8,000?

Admiral CLINGAN. We have an ongoing Service Life Assessment Program which is putting that airplane through a rigorous fatigue analysis, and we are about 63 percent complete. We are increasingly confident that we'll be able to extend the life beyond its current 8,000-hour limit, to 10,000 hours. That will involve an intrusive repair cycle, but our experience in doing service life extensions of other aircraft gives us confidence that we're learning what we need to do. We'll be able to develop the engineering packages to accomplish that service life.

Senator LIEBERMAN. Good. Thanks.

General Castellaw, since the Marine Corps is also flying the F–18s, and is contributing squadrons to some carrier air wings, how, if at all, is this potential gap likely to affect the Marine Corps' ability to meet its commitments?

General CASTELLAW. Sir, as I indicated, our strike- fighter shortfall is now.

Senator LIEBERMAN. Yes.

General CASTELLAW. We're taking down two squadrons to cadre status, with the intention of bringing them back when we start bringing in the F–35. It is exceedingly important to us to address the attrition and the shortfall in aircraft that we keep the F–35 Bravo on schedule. We're right at the cutting edge now, in terms of the numbers that are in the procurement plan. We are planning to initialize operational capability on this aircraft in 2012, and in order to do that, we need to stick to the schedule that we are now. It's on the bare edge.

Admiral Clingan and I are cooperating very closely in managing the Hornets, the legacy Hornets, as one entity.

Senator LIEBERMAN. Right

General CASTELLAW. We do not manage Marine Hornets and Navy Hornets. For instance, we have Navy Hornets that are tapped out, that have so many carrier landings they are no longer able to go aboard the carrier, and we're moving aircraft into the Navy, painting over the word "Marines" and putting "Navy" on it, so we can continue to meet those requirements.

So, right now, we are working with them by doing the draconian measure that we are, and taking down squadrons to cadre status by working with the Navy. We are managing by continuing to get the funding for center-barrel replacements, and continuing to do the life assessments. We are doing everything we can to continue the life of these legacy aircraft and squeeze every bit of juice we can out of them.

Senator LIEBERMAN. General Chandler, is the Air Force facing any fighter shortages comparable to the ones that we just talked about for the F–18?

General CHANDLER. Mr. Chairman, I would tell you that any potential "fighter bathtub" that we would have is directly dependent on the numbers, but, more importantly, how quickly we bring the F–35 online.

Senator LIEBERMAN. The JSF, yes.

General CHANDLER. Yes, sir, that's correct.

Because we bought the F–16 in large numbers, we bought as many as 180 a year in its beginning, obviously, those aircraft are going to age out in fairly large numbers. Now, we've done the Service Life Extension Program to take the F–16 to 8,000 hours, as well as Avionics Improvements Programs too. I personally feel that's about as far as we're going to be able to take that aircraft. So, our program of record buys us the 1,763 fighters that we've said we need to continue to do the job we're being asked to do.

Senator LIEBERMAN. I was just thinking, I remember, at a hearing last year, General Magnus, from the Marine Corps, talked about how important the JSF program was, and if it didn't come online in time he would really feel he'd be putting some marines in jeopardy, that that's how important it was. I'm not inviting a comment, but I just remembered it as we talked about it.

This reminds us of another thing; although the size of the DOD budget is obviously large, some of it has to do with ongoing activities in Iraq and Afghanistan. There's a lot of stress on the force, both to carry out the responsibilities of today and to prepare for the continued role of America as a world power and a guarantor of our security, and the security of a lot of our allies.

So, I want to ask one more question about the MP–RTIP as I mentioned it briefly in my introduction. General Chandler, let me ask you, why did the Air Force terminate the E–10 program?

General CHANDLER. Sir, I would tell you, quite honestly, it was a matter of budget and other priorities.

Senator LIEBERMAN. Understood. So, if you had your druthers, you wouldn't have done it.

General CHANDLER. No.

Senator LIEBERMAN. If you had the money, let's put that, rather than "your druthers," if you had the dollars, you wouldn't have done it.

General CHANDLER. Yes, sir. In a perfect world, with the right amount of money, from an operational perspective, we love the technology.

Senator LIEBERMAN. Yes. That's the next point I wanted to raise. There's a lot of satisfaction in the Air Force, and across the services, I gather, with the MP–RTIP technology.

General CHANDLER. Yes, sir.

General HOFFMAN. Mr. Chairman, if I could add, from an acquisitions standpoint it's one program that is green-green-green, cost-schedule-performance was doing very well. We just could not afford it. It is going on the Global Hawk, but from a cruise-missile-defense-mission standpoint, as you alluded to, it doesn't satisfy that role. We'd very much like to graft it onto the JSTARS aircraft, if we could afford that.

Senator LIEBERMAN. Right. Take just a minute, because my time's about up, and just briefly describe what the MP–RTIP does, what capabilities it gives you.

General HOFFMAN. It's an active electronically scanned array, so instead of a mechanically scanned antenna, it has all these little subtiles in there that can be electronically scanned, so it very rapidly can search its field of regard, it can get very precise pictures of the ground, and discern very small and slow-moving ground-moving targets and air-moving targets.

Senator LIEBERMAN. So, I appreciate that. Is it fair to say that the Department and the Air Force intends to keep the MP–RTIP technology moving forward?

General HOFFMAN. We are using our 2007 dollars to go as far as we can with the 2007 funding to keep the technology and keep the workforce actively engaged, so if we do transition and have to put it on the shelf, that we've garnered as much knowledge as we can from that.

Senator LIEBERMAN. Does the plan potentially include backfitting some number of existing JSTARS aircraft with this radar?

General HOFFMAN. There's no funding support for going on the JSTARS at this time. That would take several billions of dollars.

Senator LIEBERMAN. Yes, understood.

Thank you. My time's up.

Senator Cornyn.

Senator CORNYN. Thank you, Mr. Chairman.

The reason why I wrote down 60 years of service for the Air Force is my dad started in the Army Air Corps and then continued on in the United States Air Force for 31 years.

I want to talk a little bit about the JSF, as you might imagine. I know Senator Warner has questions about this, as well, but let me get it started off.

Congress acted last year to restore funding for the development of a second engine production source, and required several reports on the acquisition strategy for the JSF engine program. The Department has, once again, eliminated funding for a second source before the required reports have been evaluated, and I'd like to get your explanation, if you can, of the rationale for overturning the statutory guidance from Congress, providing for the JSF engine procurement before the results of the required studies were performed. I'd like to find out whether the Navy and Air Force both support the Department's decision, and why, or why not?

General Hoffman?

General HOFFMAN. Senator, Mr. Balderson and I were both at the House testimony, where the three reports were actually briefed, and only one report has actually come out in report format, and that is the Government Accountability Office (GAO) report. The other two were verbally briefed, and, as I understand it, they have not yet physically delivered the reports.

All three reports talk about the goodness of a second engine, and there are good elements to having a second engine, for risk reduction and so forth, competitive nature of a dual source, industrial-based concerns, and so forth. The three reports vary on the amount of money it would take to complete a second engine, and to sustain a second engine through a life-cycle cost standpoint. They all vary

somewhat on how much competitive advantage you would have to have to recoup those costs.

From a Department standpoint, this was not a service decision, this was a collective Department position that the risks that are involved in a single engine are balanced by the reliability and the track record we have right now on both the F–22 engine and the JSF engine, that has over 7,000 test hours on it, that those risks are balanced and prudent with respect to the cost, and it's simply a fiscally-driven decision requiring $2 billion if we want to continue on with the second engine procurement.

Senator CORNYN. I have to be honest with you that my instincts are always for competition, because it usually makes us all better, improves our performance, and usually the quality of the product. Why? What's overridden that principle that competition would ordinarily provide better-quality service and a better-quality product?

Senator WARNER. Would you yield for clarification?

Senator CORNYN. Sure.

Senator WARNER. You used the term "Department" three times. Is that the Department of the Air Force or the DOD?

General HOFFMAN. The DOD, sir.

Senator WARNER. Thank you.

Senator CORNYN. Mr. Balderson, were you going to respond?

Mr. BALDERSON. Yes, sir. If I could just make a couple of comments.

As General Hoffman mentioned, we had this discussion recently with the House Armed Services Committee. From the Navy's standpoint, we would put this in the same category that the General put MP–RTIP. This is a decision we wish we had not had to make. We're not opposed to an F–136 engine, and we do see benefits. As all three of the reports that were directed from the National Defense Authorization Act last year indicated, there are benefits to the competition, and we certainly concur with that. The problem that we have, Senator, is that we believe, based on our analysis within the Navy, I think the analysis within the Department that the Cost and Analysis Improvement Group did, and then the other assessments that GAO and the Institute for Defense Analyse did, the additional investment, which would be in excess of $1.5 billion to continue development of the second source, that it is not at all likely that we would recoup this investment.

In addition to that, we also feel that, from the Navy's standpoint, the norm is one engine supplier per aircraft. Although in a less fiscally-constrained environment there certainly are benefits to having a second source, we feel very comfortable with the F–119 core engine that is the F–135; I think it has in excess of 50,000 flight hours, high reliability and performing very well.

The distinction I would make is, it's not so much being opposed to competition, because we're absolutely not, it's the cost of carrying a second source. That's the distinction that I would make. It is costly to carry a second source, and what you do when you split a competition like this, of course, if you were to carry the two sources, you end up with lower procurement quantities for each vendor, which increases the per-unit cost. The Navy's experience—and I harken back to my Tomahawk days, where, for industrial surge reasons, we carried two Tomahawk sources; usually, one

source or the other, very early on, gets in a position where they're not as competitive and forces you to pay a great premium for those units. Our assessment within the Navy, and, I think, within the Department, is that even some of the reports that have assumed a viable competition and a competitive environment for both sources may be overstated, and it may be more difficult than those reports stated to recoup that investment in the two-source environment.

Senator CORNYN. What I worry about is that most Government studies and reports are invariably wrong; you just don't know if they're going to be too high or too low. So, it's hard to read into the future. But I trust there'll be some more questions on that in a moment.

Let me ask you about medium- and high-altitude UAVs. We had a chance to ask the Army, yesterday, about this subject, and I want to get the take of the Air Force, Navy, and Marine Corps on it.

General Moseley spelled out the case for the Air Force becoming executive agent for all medium- and high-altitude UAVs. He stated his desire to follow up with a comprehensive plan to optimize the Nation's intelligence, surveillance and reconnaissance assets. This committee has long supported jointness over parochial interests when it comes to acquisition of military capabilities; however, previous joint programs have not been very successful.

Why does the Air Force think their role as the executive agent would be more successful than previous joint procurement efforts?

General CHANDLER. Senator, if I may, I'll start.

That question, to the Air Force, revolves around three issues that I'll try to describe briefly.

First is, very simply, acquisition efficiencies. We think if the Department approaches this from a joint perspective led by an executive agent, we can gain some efficiencies in the process.

The second would be interoperability. Bandwidth, radio frequencies, radios, the ability to work together is something that an executive agent could pull together, and do that for the Department in a fashion that would make warfighting, I think, easier for all of us.

Then, the third issue is a related issue that has to do with operational control. Today, in every theater, there's what's called a coordination altitude. Above that altitude, every manned aircraft that flies in that airspace has certain capabilities. That allows the commander to control that airspace and defend that airspace for the joint force commander. What our Chief is asking for, in terms of executive agency, is only to apply that same rule to medium- and high-altitude UAVs that would be flying in that airspace, and, in that way, allow the joint force to be more effective, if you will, for the joint force commander.

Senator CORNYN. Okay, I want to pitch you a nice soft one to the Navy and the Marine Corps. What do you think of the Air Force's proposal?

General CASTELLAW. Sir, in terms of jointness, the Marine Corps, right now, is benefitting from working with the Army, for example, on Shadows. We're going to sundown our Pioneer, which is a unique system that only the Marine Corps has been operating, so we are going to jump in on that. The Army has been very good to

us and is going to let us get into the production line so that we can equip our squadron that's going to make the next deployment to Iraq. We're working with the Special Operations Command, the Army, and others, also, for instance, on what we call our Tier II, which is the Raven that we're operating. So, there is no separation, I think, between us when we talk about: we want to have uniform, we want to eliminate duplication. The issue is, how do we go about that? Quite frankly, I think the Commandant—and, of course, I believe in what the Commandant says—is that this is a discussion that ought to go on within the Services, outside the media, and away from the Hill until we come up with a common position before we come over here to you. I think that's pretty much where we are on it, sir.

Senator CORNYN. Sounds like the Commandant has a good idea. We look forward to hearing that joint report and recommendation.

I recognize that the C–5 and the C–17 aircraft actually fall under the Seapower Subcommittee purview, but I'm going to take advantage of the opportunity of having two senior Air Force acquisition officials before us and discuss, briefly, the Air Force's plans for the future of the C–5 and C–17 fleets.

Committee staff has been made aware of the recent Air Force initiative to retire up to 30 C–5s and acquire 30 additional C–17 aircraft. Would you care to comment on that?

General HOFFMAN. Senator, if I could, first of all, program of record on C–17 is 190, with last year's add. The manufacturer has already started the shutdown process at the sub-tier levels, because the orders are being fulfilled. C–5 is going through a midlife upgrade. There's the Avionics Modernization Program. Over two dozen aircraft were modified. That updates all the wiring in the cockpit to comply with new navigational standards and safety standards. That's going very well. The other major program is the Reliability Enhancement and Re-engining Program. That's what really gives it the muscle that allows the capability rate to increase by, we think, 10 percent in mission capability rate. All three of those aircraft that have been modified are in the test program now. We think, technically, it'll be successful, and gives us tremendous capability to the C–5 to get heavier loads up to altitude faster and so forth.

The big question on C–5 Reliability Enhancement and Re-engineering Program will be the cost. We've had previous business-case analysis that says it'll pay for itself in reduced operating cost. We know we have program cost growth. We don't know how much yet. We won't know until later this summer, when we get our costing studies in. So, at this point, right now, any comparison between old and new, from a dollar standpoint, is probably premature. But we know it's going to cost more than what the previous studies have indicated as a business-case solution.

That leaves Congress in the dilemma, right now, with imperfect information, to have to make an industrial-based decision, reference C–17, because if no decision is made, that, in fact, is a decision, and the C–17 factory will start to shut down, which becomes very costly to reopen at a later date.

So, that's where we are in those two strategic airlift programs.

Senator CORNYN. Thank you, General Hoffman.

Senator LIEBERMAN. Thanks, Senator Cornyn.

Senator Warner?

Senator WARNER. Thank you, Mr. Chairman.

General Castellaw, I thank you very much for your personal reference about my background, so let me return the favor to you. I noticed that you were commissioned from the University of Tennessee-Martin, in 1972. That's when our career began together. I was Secretary of the Navy. That must make you, if I may say—and it's quite an honor to have it—one of the last serving Active Duty marines from the Vietnam era. Is that correct?

General CASTELLAW. Yes, sir. There's a few more of them out there, sir.

Senator WARNER. You can almost count them on your fingers, though, can't you?

General CASTELLAW. Yes, sir. I think I have your name on my commissioning document, as well, so I'm afraid we're going to be connected for a long time. [Laughter.]

Senator WARNER. Well, that's fine. I hope you proudly display that on your wall. [Laughter.]

General CASTELLAW. I do, sir. [Laughter.]

Senator WARNER. Which brings me to a very important part of your testimony. There are no page numbers, but it's entitled V–22 Osprey. As the Commandant of the Marine Corps announced, on 13 April, a VMM–263, our first operational MV–22 squadron, deployed to Iraq in September this year. What were some of the factors that drove that decision? Because this aircraft has gone through a very historic chapter of development, with a lot of courage and dedication shown by marines. Many times I, and other colleagues on this committee, in my 29 years, have had hearings on it, and more than once it looked like it was going to go over the horizon and disappear, but the courage of the Corps kept it going, and now it appears to be working.

But I must say, based on some trips that I've had, and all of us have had a number of trips into that environment in Iraq, it is becoming a more ground-to-air hostile environment. To what extent were all of the considerations weighed as that deployment decision was made?

General CASTELLAW. Well, sir, the first one, and the most important one, is the one that many of you have already indicated here today, is what your goal and what our goal is, is to provide marines, sailors, airmen, soldiers, coast guardsmen with the most capable and survivable equipment possible. The MV–22 is the most capable and survivable aircraft that we can fly our most valuable weapons system in, and that's the marine rifleman. It has the airspeed, it has the built-in survivability, it has the defensive systems, and it has the capability for us to improve the ability of our marines, primarily, and the sailors that serve with us, to survive in that environment. Let me just talk about this; you can be at over 200 knots in 18 seconds, and you can be climbing through altitude outside the heart of the envelope of groundfire, and that includes Man-portable Air Defense System. We expect to operate this aircraft in what has hereto been known as the fixed-wing sanctuary, up around 13,000 feet. We can fly ground personnel around for about 3 hours at 13,000 feet above it. We can get just about any-

where in Iraq or any of these other locations in that period of time, and we can arrange, as we always do in our planning, for escorts to be available when they come down into their zone. I said in 18 seconds we can be at 200-plus. In 18 seconds, we can go from 200-plus down to hovering. It is an extremely agile, powerful aircraft that is giving us the best survivability for the marines that we're going to haul.

Now, we have carefully looked at the logistics support, we've carefully looked at the training, we established metrics to be met so that we are assured that this aircraft, when it goes, is going to have the people flying it that are prepared and the logistical support that's necessary for it to achieve the readiness that we have to have. So, we're quite confident that we're doing what needs to be done to support our forces.

Senator WARNER. That's very encouraging, and I'm delighted to hear that our record will contain a specific reference to the very careful preparation that the Corps went through to make that recommendation to the Secretary of Defense. I assume he chopped on that one personally.

General CASTELLAW. Senior leadership, yes, sir. Secretary of Defense.

Senator WARNER. Moving on, on that question, are you at liberty, in this unclassified forum, to say about how many units could become operational over what period of time?

General CASTELLAW. The V–22?

Senator WARNER. Yes.

General CASTELLAW. We currently have five squadrons. We have test squadron——

Senator WARNER. No, in-country, in Iraq, how many are likely to be operational in the timeframe projected?

General CASTELLAW. Right now, over the next year we plan to deploy two in rotation.

Senator WARNER. Two in rotation. That answers the question.

General CASTELLAW. Yes, sir.

Senator WARNER. There will just be two aircraft squadrons in country.

To our Air Force witnesses, have you all taken a look at this aircraft, in terms of your mission to do ground support for the Army? Is there any thought about getting into the program?

General CHANDLER. Senator, the Air Force Special Operations Command will buy 50 of these aircraft.

Senator WARNER. Under the Department of the Air Force, the contracting officer?

General CHANDLER. Yes, sir.

Senator WARNER. That's quite interesting. When does that begin?

General HOFFMAN. We have our first three aircraft in right now for training and test. We are buying our aircraft behind the Marine Corps aircraft.

Senator WARNER. Good. That's fine.

General CASTELLAW. Sir, can I jump in on that? We are in close cooperation with the Air Force Special Operations Command on this. We intend to have Air Force personnel who will go with that squadron when it deploys so they can gain experience and roll it back into their squadrons when they deploy.

Senator WARNER. On-the-job training. That's a very wise decision.

Gentlemen, I appreciate, very much, the deference that you proceed with in addressing this dual-engine question. We have honest differences of opinion, perhaps, on this panel. But I just want to ask some basic questions, which, after reading the testimony, I'm not sure are covered fully.

I respect that, when I asked the question of General Hoffman, it was a DOD decision. The old phrase says, "salute and march off," and I think you've done a credible job on it. But, nevertheless, the job falls to Congress to take a look at an independent assessment of this.

Clearly, it's budget-driven, all odds being, and all options being, if it weren't for the budget pressures, I think we'd take a good long look at this. For this reason, and that is, in my own history of studying procurement, which goes back a good period of time, both here in Congress and in the building, I cannot think of anything using real-term dollars or any other dollars, that would approach the magnitude of this engine contract over the life of the JSF. We're talking about a potential of $100 billion for one single contractor, and their partners, in this engine. Is that about right, gentlemen?

General HOFFMAN. Sir, it's 4,000 engines.

Senator WARNER. That translates into a figure of that amount, making it difficult to grasp. The competition, which, historically, has generated savings and has, through the intensity, particularly in the engineering departments, resulted in some technological advances over the life of the engine, because both of them are fiercely competing to get sequential contracts. So, I just don't know. I find it staggering; one contractor with $100 billion just on an engine.

Then we have the question of our foreign partners. They have expressed an interest in having the two engines for the same reason that many of us have advocated. I, frankly, think there's cost savings there, and engineering advantages. But, putting aside that, it's the reliability issue. What has been the attitude? Did you consult with the foreign partners in making this decision, or was that above your paygrade in DOD? Because last time, I have to tell you, there was an abysmal failure by the Department to timely inform the foreign partners of the decision, and they learned it, in many instances, through the media. Now, I hope this time they at least were consulted before the decision was made. Is there anyone before us today that can testify to that?

Mr. BALDERSON. Senator, as a part of JSF oversight, we have several boards. The one that we have that includes all of the international partners, including the U.S. executives, is called a Configuration Steering Board. It meets quarterly, and it's the forum where these sorts of things are vetted, any sorts of significant program decisions——

Senator WARNER. I'm fully familiar with all the tiers.

Mr. BALDERSON. Yes, sir.

Senator WARNER. The question was, were they consulted fully?

Mr. BALDERSON. Yes, sir. This was vetted at the Configuration Steering Board. That's generally at the two- and three-star level with these various international partners.

Senator WARNER. We have a couple of three-stars here. I mean, you need a couple more? We'll go get them. Where are the people who sat down and did the consultation with the foreign partners?

Mr. BALDERSON. This was vetted in that forum, and all of the foreign partners were aware of the decision that the Department had made. I'm not in a position to say what sort of communication within the partner countries occurred, but, at the two- and three-star level, prior to this decision being made, this was vetted in that——

Senator WARNER. Let me go to my last point very quickly, and I thank the indulgence of the chair.

From the Marine Corps and the certain tactical maneuvers that you hope to take in the vertical/short takeoff and landing-type mode, liftoff and things of that nature, are you ready to say that the F135 engines will give as much performance as projected by the F136 in added lift to perform that rather critical envelope for the plane's flight pattern?

General CASTELLAW. First of all, sir, we're very fortunate that we have two engines that would serve the F–35 well. In terms of what the Marine Corps sees, right now the F135, it's matched with both the lift fan and the push you get out of the rear end of the aircraft. What it comes down to is this, quite frankly, as I indicated before, it is absolutely essential that we IOC this aircraft in 2012, that we start replacing the attrition that we're having in our squadrons——

Senator WARNER. We're kind of drifting off a little bit, General. I respect that you want to make your IOC, but look at those Gold Wings. We're talking about pilot safety. We're talking about mission safety. Now, press reports say that on that aircraft iteration is going to be somewhat heavier, overall, than the other aircraft. Is that correct?

General CASTELLAW. Sir, I think all of them are going to be about the same. The difference is that we, in the short takeoff, vertical landing (STOVL), carry less gas than the others, because we have the lift fan in there. So, the range is not as great with a STOVL as with the other aircraft, but they're approximately the same, in terms of gross weight.

Senator WARNER. So, you think both engines will have about the same lift performance in the vertical mode. Is that correct?

General CASTELLAW. Yes, sir. When you match the engine with the lift fan—and right now the characteristics of the engine and the characteristics of the lift fan are balanced. So we have an engine that, with the F135, can do that.

But, again, sir, if you'll let me finish up on the other, the deal for us is this, quite frankly—why I was making the point about the IOC, it takes money to buy the second engine. That money has to come from somewhere. It's an affordability issue for us. Admiral Clingan and others can talk very lucidly about the logistical and the other, and Bill can talk about the competition element of it. But, for us, when you take the money away, then you slide the IOC, and that is a tremendous issue for the Marine Corps.

Senator WARNER. We'll give further attention.

I'd like to ask that I may place some questions in for the record on the engine and other issues.

Senator LIEBERMAN. Without objection.

Senator WARNER. I thank the chair.

Senator LIEBERMAN. Thank you, Senator Warner.

Senator Sessions.

Senator SESSIONS. Thank you, Mr. Chairman.

I'd just like to follow up on the UAV question. I really got interested in this several years ago, General Castellaw. Our escort officer was a Navy P–3 pilot. He was flying in support of downed marines. He told me some of the work that he had done with the Forward-Looking Infrared Radar and other capabilities they had to help the ground people. Then we discovered, after the battle of Fallujah—I was there—you used a different aircraft UAV, as you just mentioned. It always seemed to me, two things—one, we needed more intensive unity in developing the best optics and the best capabilities, and buying enough numbers to get the cost down as low as possible so that those marines and soldiers on the ground have the protection that they need.

Right now, I mean, there are a lot of ideas for UAVs, important parts and capabilities for strategic issues, and they're very expensive. But, for me, right now, going back, again, soon to Iraq, for the sixth time, I'm worried about those guys on the ground, and I want to be sure that, when this is done, General Chandler, that the ground forces are involved in this. I've been working on it for some years now. I just think we can do better to make sure that they are fully taken care of. I know there must been an agreement. General Casey said, yesterday, we ought to just talk about it within the building. So, maybe you all should talk about it within the building, but we have a concern.

How about the question of a joint cargo aircraft? I understand some progress has been made in working out the joint requirements on that. I guess, General Chandler, maybe you're the person to respond to that. But we're kind of getting to the point where we need to be moving forward, as I understand. General Cody told us, several years ago, that that was, he felt, critical to his people in Iraq, that they needed this capability.

General CHANDLER. Yes, sir, I was in a meeting with both Vice Chiefs. I believe it was about 2 weeks ago now. I will tell you that we're in agreement to reach a Milestone C decision by the end of May. I think the program's come together very well, in terms of the Joint Program Office and what they've been able to do.

There are some minor differences between the two aircraft. It's the same basic airframe. But, again, we're on track for a Milestone C decision, and those differences are going to be so minor that whatever we need to do with those, we'll have plenty of time to make adjustments as we work the program through.

Senator SESSIONS. Well, this is somewhat behind your original projections of reaching that agreement, is it not?

General CHANDLER. Sir, earlier, the Milestone C decision was going to be in the first part of May. That has been pushed back to the end of May.

Senator SESSIONS. Okay. I was thinking it was earlier than that. That's good.

We had a very interesting hearing with some opinions expressed by some well-known military people last week. General McCaffrey was there, General Scales, Lawrence Korb. They talked a lot about

the combatant commanders' need for lift in the theater, and talked about the need for more C–17s, whether 130s should be kept in the fleet, and whether C–5s should be maintained out there. They had a lot of opinions. I'm sure they are of some value. But I'm sure they may not be as attuned to the latest developments, as each of you are.

But I guess I've been thinking about the refueling tanker and how those assets, as we replace existing KC–135 with the KC–X, and that process that goes along, these old heads expressed real concern about lift capability.

General Chandler, would you think that we are giving the capability of a refueling tanker to also carry cargo and personnel? Is that being considered in your evaluation process?

General CHANDLER. Yes, sir, it has. In fact, ever since the early days of the KC–97, we've used the ability of that tanker to carry personnel and equipment. In some cases, we've used them for aeromedical evacuation, as well. We've counted on that residual capability. Quite frankly, if the capability is there, we think we should take advantage of it. It provides a versatility in that aircraft so that we don't have a single-trick pony, if you will. That doesn't do any of us much good. It's good to have an aircraft that has a certain amount of versatility.

So, I would tell you that we count on having that capability, to some degree, and have had, in the history of tankers in the United States Air Force.

Senator SESSIONS. We're talking about a large number of them in that capacity. I think it would be important.

Mr. Chairman, thank you for your leadership, and Senator Cornyn, and I'm pleased to work with you. That takes care of me.

Senator LIEBERMAN. Thanks, Senator Sessions. Thanks for all you contribute to this committee. It's always a pleasure to work with you.

I have a few more questions, and I'm happy to stay through part of a second round, with anyone else who does.

I want to come back to the JSF and the alternate-engine question, which is the question, in popular language, about whether we're going to have one engine or two engines built for this extraordinary program. My point of view on this is clear. We argued it out last year. I accept, as compelling, the conclusion of the relevant parts of the DOD here, which is that this one engine, which is a Pratt & Whitney engine, has performed very well. It's always good to have a second engine, but this one will cost $1.5 billion to have a second—$1.5 billion to $2 billion. The money will come out of the JSF program. This is actually where the circumstances, as it comes back to me, when General Magnus made this statement, because the four Vice Chiefs were before us, all quite strong about both how it would be great to have a second engine, but it just wasn't needed, and it would cost too much. I just want to set it in context, because, Mr. Balderson, you said—and I know that's true—that the Navy norm is for a one-engine requirement on aviation programs?

Mr. BALDERSON. Yes, sir.

Senator LIEBERMAN. On the F/A–18, therefore, there is a single-engine program.

Mr. BALDERSON. General Electric (GE) engine, yes, sir.

Senator LIEBERMAN. Yes, that's the irony I was going to point out here. That's the way these things work. Life is based on your perspective, I guess. So, it happens to be GE, which is the single source. Just give us a sense of the range of the scope of this buy at this point for the engines for the F/A–18. How many?

Mr. BALDERSON. Of the F–18? Yes, sir. There is some uncertainty, at this point, because the F–18 is participating in some potential foreign military sales coming up.

Senator LIEBERMAN. Right.

Mr. BALDERSON. You're probably aware that it's not a done deal yet, but the Australians have signed up for an additional 24. Of course, as Admiral Clingan commented, we do have to balance both sides of the equation, and we're very committed to JSF but there may be needs and opportunities to buy additional Super Hornets through that.

Having said all of that, with that uncertainty, the current program of record, the current Multiyear 2 runs out in fiscal year 2009, so we will continue to buy through fiscal year 2009 at a rate of 42 Hornets a year, a combination of the E/A–18G Growler and the E&F Super Hornet. Then, there is a smaller buy in 2010 and 2011, and, at that point, the current run of F–18 would end.

Senator LIEBERMAN. So, the ballpark range for the total number of aircraft and engines required?

Mr. BALDERSON. Seven, 8, 9, 10—I would say, at this point, probably a couple hundred additional. But that——

Senator LIEBERMAN. You don't know——

Mr. BALDERSON. I can take that for the record, if you——

Senator LIEBERMAN. Well, we'll get it. I'm just making a point that there's a lot of engines over the total life of the program, a lot of engines have been purchased on a single-source basis.

Mr. BALDERSON. Yes, sir.

[The information referred to follows:]

The total inventory for the F/A–18E/F and EA–18G programs is 490 F/A–18E/Fs and 84 EA–18Gs for a total of 574 aircraft at 2 engines per aircraft. As of fiscal year 2007, a total of 398 aircraft have been procured, 386 F/A–18E/Fs and 12 E/A–18Gs. Between fiscal year 2008 and fiscal year 2012, the remaining 176 aircraft will be procured, 104 F/A–18E/F and 72 EA–18Gs. In addition to production engines, the program has procured spare engines with a total of 61 planned to be procured or approximately 6 percent. The engine can be broken down into six modules and the program has/will procure spare modules based on planned estimated usage of the modules that varies from 3 percent to 15 percent.

Senator LIEBERMAN. Am I right, General Hoffman, this falls under your area, acquisitions generally speaking, with the exception, I think, of the F–16, that the Air Force has had a single source of engines for its aircraft?

General HOFFMAN. Both our F–15s and F–16s, we have the option for either engine to go in there. They're not interchangeable, like on the JSF program. We have to pull out one, put the other one in. From an operator's standpoint, it's exactly the same. So within the Air Force, we generally have wings that operate one flavor of engine or the other, so all the sustainers are trained up on that one engine, and the pilots operate within the limitations of that one engine. But we've had an experience, throughout our several decades of operating the 15 and 16, of having two engines available.

Senator LIEBERMAN. Am I right, that their reason for that was that there were, at that point, some failures in engine performance?

General HOFFMAN. In the first decade of our experience with the single-engine vendor we had both responsiveness issues from the vendor, and we had performance issues, and so forth. That's why a second qualified vendor was brought in.

Senator LIEBERMAN. But that has not been the case with the Pratt & Whitney engine that's being set for the JSF.

General HOFFMAN. Both our experiences on the F–22 and our history to date on the JSF have been solid.

Senator LIEBERMAN. Good.

Mr. Balderson, let me go at this from another point of view, just for assurance of public interest here. How will the Department ensure quality and performance of the Pratt & Whitney F–135 engine if it is the sole engine and, therefore, in the absence of competition?

Mr. BALDERSON. Yes, sir.

Mr. Chairman, if I could make one comment as a lead-in, and it gets a little bit to what Senator Cornyn was saying earlier, and, I believe, Senator Warner was getting at, too. We're not opposed to competition. What we believe is that we have effectively had a competition between the F135 and F136, since the inception of the program.

Senator LIEBERMAN. Right.

Mr. BALDERSON. Both from the standpoint of technological advancement, corporate investments, and price, we believe we have seen the primary benefits of competition.

We're in the process, right now, as we speak, of negotiating the first limited-rate production lot for the first two Air Force conventional take-off and landing aircraft, and the engines to support that buy. Both for the aircraft and the engine, these are critical negotiations, because they will establish what we call T1, the unit price of the first system, where you would normally expect the learning curve to come down from there. So, establishing the baseline from which the rest of the aircraft and the engines will be procured is very, very critical.

So, there are two things. We believe that we've achieved the benefits of competition, and it has put us in a very good position now to negotiate a solid unit price for T1 of that first limited/low-rate initial production buy. From that point on, we will continue to incentivize the contractor through reliability investments and through cost incentives in our contracting process, but we also have that baseline for the first year, that it would be very difficult, at this point, I think, for Pratt & Whitney. I would have no expectation that they would try to put us in a position where they would take advantage of the sole-source buy, because we will have had that cost history as a backup.

Senator LIEBERMAN. Thank you. I appreciate that answer.

Let me move to another subject, and that is the readiness of nondeployed forces. As you probably know, there's a lot of concern on the committee, I know there's a lot of concern in the Pentagon, about the stress that the Army and the Marine Corps are under as a result of our dependence on the ground forces of the Army and the Marine Corps in the war on terrorism, and the fact that we

have not given those two Services the support to meet the demands on them. We were focused, in these hearings, particularly, on some Army and Marine Corps units that are not deployed which have experienced declining levels of readiness due to personnel and equipment shortages. So, I want to ask you today. What is the situation, in this regard, with Air Force, Navy, and Marine Corps aviation units? Specifically, are these units fully staffed? Do they have the equipment, munitions, and spare parts that they need to keep up their levels of readiness?

General Chandler, why don't we start with you and go across the table.

General CHANDLER. Yes, sir.

Senator, if I may, to stay at the unclassified level—I'm not trying to be evasive but I can say that, since 2001, the C status, C1 and C2, the top two readiness levels of our major combat units, has come down about 17 percent across the board. Now, that is typically driven by a few pockets of those systems that have been used very, very heavily since the beginning of the global war on terror, those units that have not had an opportunity to reconstitute, things like Predator, Global Hawk, some of our Air Force Special Operations Command aircraft, JSTARS. Without going any deeper into that, I can tell you that there are shortages in some of those areas across the board, simply because of how hard those systems have been used over the last few years.

Senator LIEBERMAN. General Hoffman, you want to add anything to that?

General HOFFMAN. No, sir.

Senator LIEBERMAN. Right.

Mr. Balderson?

Mr. BALDERSON. No, sir. I'll defer to my operational friends here.

Senator LIEBERMAN. General Castellaw?

General CASTELLAW. Sir, in Marine aviation, with our rotary wing aircraft, we are at less than 1-to–2 dwell. That means that for every day deployed, they're at home less than 2 days. In fact, we have some units that are less than 1 to 1, particularly the Cobras and the unit activation schedule (UAS) units. So, what we're seeing is a reduction in the overall C rating. We're seeing it in a migration of readiness to deploy moving closer to the time they actually deploy. We're seeing stress on the ordnance, particularly such weapons as Mavericks. Laser Mavericks are in short supply. We're trying to work to get a replacement for that.

So, those items—training, ordnance support, the operational deployment—are all stress indicators on our forces; and, just like the ground units, the aviation units, particularly the rotary wing, are in about the same level of readiness.

Senator LIEBERMAN. Admiral?

Admiral CLINGAN. Mr. Chairman, as an air wing makes its way through its cycle—and we call it the Fleet Response Plan, which has a number of phases; a maintenance phase, a basic training phase, an advanced training phase, in which case it's prepared to emergency sortie, deployed phase, and a post-deployment sustainment phase—we make our way through that process with tiered readiness that reflects where it is in that cycle. The air wings that are deploying are going forward fully manned and

equipped and trained to meet the combatant commanders' requirements. Similarly, the equipment is provided by entitlements, so our emergency deployed and postdeployed forces are fully equipped.

Senator LIEBERMAN. Thanks.

I want to say that this subcommittee would like to work with the Marine Corps and the Air Force to see if we can do something to alleviate some of that stress that you've just testified to. I thank you for that.

Senator Cornyn.

Senator CORNYN. Admiral Clingan, General Chandler, General Hoffman, let me explore the delays in the emergency supplemental appropriation. Specifically, Secretary Gates and I believe that General Pace have noted that because of the delay in Congress passing an emergency war supplemental, that the Army and Marine Corps are having to reprogram funds from Air Force and Navy accounts. I'd just like for you to tell me, if you can, what you know about the impact that's having on your branches of the Service.

General CHANDLER. Sir, if I understand the question correctly, the money that we're talking about would come principally from personnel accounts. That would affect moving people—permanent change of station, for example—other types of things like that.

We are counting on, obviously, getting those funds back. The Chief has said that, and we have no indication that we will not be reimbursed so that we can continue to meet the bills further into the fiscal year. At this point, I would tell you, there is no impact.

Now, having said that, should it require more reprogramming from the Air Force top line, we will have to make some fairly draconian decisions about some of the things we will be required to do regarding flying aircraft, continuing to train people, for example, and other areas where we'll have to look to harvest money.

Senator CORNYN. When would those kinds of decisions have to be made?

General CHANDLER. Sir, we have already started to look at where we go do that.

Senator CORNYN. Not knowing when the money's coming you've made contingency plans.

General CHANDLER. Yes, sir. That's correct.

Senator CORNYN. Yes.

Admiral Clingan.

Admiral CLINGAN. Senator, I have a perception, but I think the subcommittee will be best served if I take that one for the record.

[The information referred to follows:]

Supplemental funding is required for the incremental costs of war. Title IX funding has been key in avoiding substantial "cash flowing" of war costs from our baseline readiness accounts in fiscal year 2007 and previous years. However, these advance funds do not satisfy the full-year request. Any significant delay in the enactment of the full-year supplemental request will have detrimental effects on our readiness.

If supplemental funds are not received, Navy will reduce non-war related flying and steaming hours, defer weapons/systems and depot maintenance, and eliminate non-readiness training and infrastructure support. Specifically, non-global war on terror training exercises will have to be cancelled; contracted services for base operations such as trash collection and mess hall services will have to be scaled back or curtailed; Facilities, Sustainment, Restoration, and Modernization projects will be placed on hold or deferred, which will cause higher costs and potential services disruption and attendant costs. Additionally, planned depot maintenance will have to be deferred as funds are reapplied to higher priority requirements. These delays,

deferments and cancellations will force the Department to accept more risk for future deployed forces. In addition, to the extent that investment accounts are needed to finance current operations, the resulting cancellations will increase costs and delay delivery of much needed weapon systems.

These costs are associated with personnel, personnel support and operations (including steaming days, flying hours, ground equipment and transportation). In addition, funds are required for depot maintenance of aircraft, ships, and ground equipment.

Senator CORNYN. By "personnel costs," General Chandler, are you talking about moving families?

General CHANDLER. Yes, sir.

Senator CORNYN. In other words, we're not just talking about uniformed servicemembers, impacts on them, you're talking about the families, as well.

General CHANDLER. Yes, sir.

Senator CORNYN. As I alluded earlier, growing up in a military family, I can identify with the importance of making sure that families are taken care of, because, of course, they're an all-volunteer military; it's very important, in terms of ability to retain good people, that we take care of their families.

General Castellaw and General Chandler, I wanted to ask just a brief question about the V–22. I've been on the assembly line in Amarillo, and I'm acquainted with the early history and the tragedy associated with the early development of the V–22. I've heard various people comment on their confidence in the capability of that particular aircraft and with the significant investment we're making with the human cargo it's going to be holding. I'd like to get your comments on the record as to your level of confidence in the capability and functioning of that aircraft.

General CASTELLAW. Sir, I'm an H–46 pilot, a helicopter pilot, and the V–22 is replacing the 46. It's 40 years old. It's time that we retired that old warhorse. We couldn't find a better aircraft than what we have now with the V–22. It's twice as fast, carries three times the payload, goes five times as far, and is, more importantly, six to seven times more survivable. So, what we have is an aircraft that carries our most important weapons system, as I said before, the marine rifleman, and having flown both aircraft, the V–22 is much more powerful, much more agile, much more responsive than the old aircraft that it's replacing. I'm proud to be able to support and testify to the capabilities of that aircraft.

Senator CORNYN. Well, just having seen it in production, it's a miracle of engineering science. I'm glad to hear you say what you just said.

General Chandler, do you have anything to add?

General CHANDLER. Sir, I would tell you that our feelings are much the same. The HH–53 has been with us in about the same numbers that the H–46 has been with the Marine Corps. It's been a good aircraft, but it's a tired aircraft. Special Operations is looking forward to getting their hands on the V–22. Based on the speed, the range, the payload, and just the capability of the aircraft, we feel like the aircraft is safe, and it's ready to fly.

Senator CORNYN. Thank you very much.

Mr. Balderson, let me ask you just one quick question about the Pratt & Whitney engine, and make sure I understood you correctly. I have a document in my hand here that appears to indicate that

the contract for this engine, for the F135, was not competitively procured. There's a date here, if I'm reading this correctly, January 23, 1997; another date, October 26, 2001. Am I misreading this, or is there some variance between what this document appears to say and your earlier statement about competitive——

Mr. BALDERSON. I think I probably wasn't clear. To be very honest with you——

Senator CORNYN. Well, it may not have been your fault. I may not have understood, but I can give you a chance to clarify.

Mr. BALDERSON. I'll take the specific question for the record, because that far precedes my time on the program, and I should know, but I don't know, whether the F135 was initially procured competitively through the Government or whether it was a Lockheed Martin decision or what.

[The information referred to follows:]

The Department submitted a report to the Congressional Defense Committees on the engine development strategy for the demonstrator aircraft in the Joint Advanced Strike Technology program dated January 27, 1996. Contracts were awarded to Pratt & Whitney (P&W) and General Electric for Concept Exploration Phase and Concept Development Phase efforts. Subsequently, all three Program Weapon System Contractors independently selected either the basic, or a derivative of, the P&W F119 as the cruise engine for their preferred weapons system concepts and demonstrator aircraft. A follow-on contract was awarded to P&W in fiscal year 1996 to provide hardware and engineering support as government furnished equipment for the weapon system concept demonstration efforts commencing in fiscal year 1997.

Mr. BALDERSON. But that notwithstanding, the fact is, we did proceed sole-source with the F135. What I meant, in response to Chairman Lieberman's question, is that as we were developing the F135, and then the Department made the decision, a number of years ago, to bring along the second source, the F136, at that point in time. As we went through dual development and both contractors anticipated dual production, all of the forces of competition that we would normally see, I believe, were, in effect, on both contractors. Normally what we do in a competition is, we would bring along two contractors, and, at a point prior to production, we would do a winner-take-all, and we would establish a source to continue with the program. Of course, in this case, the difference, as I mentioned, is, the plan had been, we would not do a winner-take-all, we would continue those two sources through production.

All I was trying to say is that I believe GE clearly felt the pressure of the F135 as they developed and moved toward production of their engine. But I also believe—and there's no question in my mind—that Pratt & Whitney felt the competitive effects of our funding the F136 engine, and that that drilled decisions they made, in terms of reliability, investment in technology, and cost-reduction initiatives. My point was, as we now are at the point of negotiating the price of those first production aircraft of the F135, I believe we've gained most of the competitive advantage that we would get. At this point, continuing to split the buy, I think, would offer us little opportunity to reduce or recoup those costs. I don't know if that's clear. It's a little confusing. I may not be explaining it well.

Senator CORNYN. That helps. If, on further review, you have any additional comments or clarifications, if you'll supplement the record with that, I would appreciate that.

Mr. BALDERSON. Yes, sir.

Senator CORNYN. I'd like to ask our Air Force witnesses—we've been notified that the C–130 aircraft modernization program has suffered a Nunn-McCurdy breach, and is awaiting recertification by the Under Secretary of Defense for Acquisition. Would you care to comment on where we are with the program? In your view, are there reasonable alternatives that will provide for equal, or greater, capability at lower cost, going forward?

General HOFFMAN. Senator, that's exactly the second question that has to be certified to. The first is; is it essential to national security? The second question that has to be answered during a Nunn-McCurdy process is; are there alternatives? That's exactly what the DOD is doing right now, and the other two questions are, are their production costs reasonable? Is there a management structure that's going to control costs in future success of the program? So, those four questions have to be answered for the Secretary of Defense to certify the Nunn-McCurdy process. If we can't certify it, the program stops. If we can satisfactorily answer those questions, then the program continues on in a rebaseline form.

So, we owe you, Congress, that answer by the first week of June, and we're on track to answer those questions.

[Additional information follows:]

On 4 June, Kenneth Krieg, Under Secretary of Defense, Acquisition, Technology, and Logistics, signed the C–130 AMP Nunn-McCurdy certification letters to the Congressional Defense Committees, the President of the Senate and the Speaker of the House—in compliance with title 10, U.S.C., section 2433. The letters were delivered June 5 to meet the statutory Nunn-McCurdy certification deadline.

Senator CORNYN. Thank you, sir.

My time's expired. Thank you.

Senator LIEBERMAN. Thanks, Senator Cornyn.

I want to thank our witnesses.

We're going to keep the record of the hearing open for 10 days, in case you want to add anything, and in case we want to ask any more.

Senator LIEBERMAN. Okay, I want to thank the five of you for your testimony today. In my opinion, you've been a very impressive group of witnesses. You know your stuff and you've spoken responsively to us. I think we're very fortunate to have people of your quality serving our country, particularly at this time, when our security is so directly threatened.

So, I end with admiration and gratitude for what you're doing.

Senator Cornyn.

Senator CORNYN. Thank you, Mr. Chairman, for calling the hearing. It's been very edifying, and I know there's additional dialogue we want to undertake on this important matter. I look forward to continuing to work with you and the subcommittee as we report our conclusions to the full committee and debate some of these important issues.

Thank you.

Senator LIEBERMAN. Thank you.

The hearing is adjourned.

[Questions for the record with answers supplied follow:]

QUESTIONS SUBMITTED BY SENATOR HILLARY RODHAM CLINTON

NEXT GENERATION COMBAT SEARCH AND RESCUE HELICOPTER PROGRAM

1. Senator CLINTON. General Hoffman, the April 27, 2007 Air Force press release identified that the Air Force will be providing "fair and open competition" with the amended request for proposals (RFPs) in regard to the next generation combat search and rescue helicopter (CSAR–X) program. However, the statement also denotes that "offerors will only be given an opportunity to substantive manpower efficiencies based on reliability and maintainability characteristics of the proposed aircraft," signifying limited options to rectify this acquisition. Will this process meet timetables for the original program schedule and be the most efficient?

General HOFFMAN. The Air Force's desire is to minimize the impacts the protests will have on the program, including schedule. The March 29, 2007, Government Accountability Office (GAO) decision regarding the Air Force's request for reconsideration validated the Air Force's evaluation regarding three of the four CSAR–X stated evaluation factors. The single area where the GAO found an inconsistency in our stated approach versus our actual evaluation was in the Operations and Support (O&S) cost portion of the Price/Cost factor, and this is where the Air Force's corrective action is aimed. Additionally, the Air Force is going beyond just clarifying our stated evaluation approach and has developed a way for the offerors to quantify and substantiate potential manpower efficiencies based on the reliability and maintainability characteristics of their proposed aircraft. This allows the Air Force to conduct a new best value assessment based on integration of the new maintenance manpower information along with the results of the original evaluation in the areas where the GAO found no problems.

VH–71 PROGRAM

2. Senator CLINTON. Mr. Balderson, the Navy recently announced that the VH–71 program will be accelerated and operational by the proposed 2009 initial operational capability (IOC) target date. Will all testing and safety requirements be met under this accelerated schedule?

Mr. BALDERSON. Yes, all testing and safety requirements will be met before any IOC is declared.

3. Senator CLINTON. Mr. Balderson, as the 2009 launch draws closer for the VH–71, how would you summarize the progress of the program?

Mr. BALDERSON. The Increment 1 strategy purposely acknowledged a high schedule risk to meet urgent needs for safe and reliable Presidential transport. The Increment 1 program schedule has been affected by slow progress in requirements definition, design completion, and lack of coordination of the proposed design between Lockheed Martin System Integrator—Owego and their subcontractors, all of which resulted in a 10-month slip to the Increment 1 Critical Design Review. The program continues execution to an aggressive schedule to meet Increment 1 IOC.

Increment 2 serves as the long-term solution and follows a more traditional acquisition approach. Program of Record challenges include budget phasing, schedule perturbations due to Increment 1 delays, concurrency among Increment 1 and Increment 2 testing, and full definition of a design solution that meets the requirements. The program is in the process of reassessing Increment 2, culminating with a system requirements review and revised schedule and government cost estimate.

4. Senator CLINTON. Mr. Balderson, has the Navy made a decision on the location of the future VH–71 aircraft production facility?

Mr. BALDERSON. Final assembly for Increment 2 Low Rate Initial Production and Full Rate Production aircraft will be carried out in the United States. A specific United States location is still being determined.

QUESTIONS SUBMITTED BY SENATOR JOHN CORNYN

NEXT GENERATION COMBAT SEARCH AND RESCUE HELICOPTER

5. Senator CORNYN. General Chandler and General Hoffman, after Boeing won the contract for development of the CSAR–X for the Air Force, I understand both Lockheed and Sikorsky protested to the GAO. In a rare decision, GAO upheld the protest on a technical point of lifecycle costs. Now the ball is in the Air Force's court, so to speak. What is the Air Force's way ahead on the CSAR–X program?

General CHANDLER and General HOFFMAN. The Air Force released an amendment to the CSAR–X RFPs. The amendment will clarify the Air Force's evaluation of O&S costs and also give the offerors an opportunity to quantify and substantiate potential manpower efficiencies based on the reliability and maintainability characteristics of the proposed aircraft.

Once the Air Force receives revised proposals from the offerors, Air Force officials will review and evaluate the offerors' proposed O&S efficiencies, and will conduct a new best value assessment based on an integration of the new O&S information along with the results of the original evaluation in the areas where the GAO found no problems.

6. Senator CORNYN. General Chandler and General Hoffman, does the Air Force still think they can make their target of IOC by 2012?

General CHANDLER and General HOFFMAN. The Air Force will take appropriate steps to mitigate the impacts caused by protests in order to get this capability into the hands of the warfighter as soon as possible. Schedule impacts to CSAR–X are unknown until the Air Force is able to award the contract.

AIR POWER IN THE NEW COUNTERINSURGENCY ERA

7. Senator CORNYN. General Chandler, General Hoffman, Mr. Balderson, General Castellaw, and Admiral Clingan, yesterday, the acting Secretary of the Army and the Chief of Staff of the Army testified before this subcommittee on their ongoing efforts to shape and restructure the Army for the new counterinsurgency era that we find ourselves in. Coincidentally, RAND has just released a new book, titled "Air Power in the New Counterinsurgency Era." Please provide comments on the recommendations made. Please briefly discuss ongoing efforts to restructure or reshape our Nation's aviation assets to be more responsive to the counterinsurgency threat we are facing.

General CHANDLER and General HOFFMAN. RAND made five recommendations in "Air Power in the New Counterinsurgency Era:"

(1) Make counterinsurgency an institutional priority

a. USAF is participating fully in the Irregular Warfare (IW) roadmap mandated by Quadrennial Defense Review (QDR) 06.

b. Air Force Doctrine Center is in final coordination for publishing a brand new doctrine document titled IR (AFDD 2–3). This document will complement the recently published Army Field Manual 3–24, Counterinsurgency (COIN).

c. AF Doctrine Center is also in final coordination for publication of updated AFDD 2–3.1, Foreign Internal Defense (FID).

(2) Create organizations and processes to oversee USAF counterinsurgency efforts

a. USAF has formally stood up a coalition and Irregular Warfare Center of Excellence (CIWC) at Nellis AFB. Final staffing should be complete by fall 2007. CIWC's mission it to facilitate the development of relevant airpower capabilities, capacities and relationships in partner nations in the global war on terror.

(3) Develop and nurture counterinsurgency expertise throughout USAF

a. COIN and FID are not new missions for the Air Force. The 6th SOS at Hurlburt has been performing this mission since 1962. This has been a small effort though, relative to the rest of the Air Force. Recently the squadron nearly doubled in size, to meet the growing demand in COIN and FID.

b. Recently the Air Force initiated the Transformational Aircrew Management Initiative for the 21st Century (TAMI–21). This program will move 80 fighter pilots and 40 bomber pilots into Air Force Special Operations Command (AFSOC) and Unmanned Aircraft System (UAS) growth areas.

(4) Create a wing-level organization for aviation advising

a. AFSOC recently published a white paper outlining a concept for an IW wing. The paper was signed by the AFSOC Commander, Lieutenant General Wooley. Full development of the concept awaits CSAF approval/guidance.

(5) Enhance U.S. Air Force combat capabilities for counterinsurgencies.

a. While AFSOC has always focused on counterinsurgency operations, other Air Force units have had to adapt to the counterinsurgency fight in

Iraq and Afghanistan, as we did in Vietnam. Enhancements to adapt these capabilities and platforms for COIN operations include, but are not limited to:

i. Introduction of Remotely Operated Video Enhanced Receiver transmitters and receivers-greatly enhanced ability to perform COIN/CAS in urban environment

ii. Use of targeting pods and other electro-optical devices in a non-traditional ISR role to support ground units in COIN ops

iii. Various counter IED measures

iv. Introduction of Small Diameter Bomb-provides a lower collateral damage weapon for COIN ops.

v. Integration of Hellfire on Predator UAS.

vi. Use of Fighters and Bombers in non-lethal show of force maneuvers

vii. Use of a variety of air mobility platforms to support ground forces conducting COIN/FID operations, reducing overland convoys' exposure to enemy IEDs and ambushes.

RAND has several other on-going studies that further investigate the role of the Air Force and Airpower in a counterinsurgency/IW environment. Preliminary findings indicate that a focus on COIN and IW is needed. One of the CSAF's "2007 initiatives" is an evaluation of COIN aircraft and AFSOC has published a concept for an IW wing. As an Air Force we continue to study this issue with an eye towards balancing a force with an appropriate focus on both IW and major combat operations.

AFSOC's IW wing would be equipped (notionally) with light attack aircraft, light utility aircraft, medium lift, heavy lift, manned ISR and helos. While the missions these aircraft would perform can be done by our current frontline aircraft, many of our existing and future allies in the global war on terrorism can not afford such platforms. An IW wing would provide the Air Force a useful capability in COIN operations such as Iraq and Afghanistan, while at the same time providing a direct means of supporting FID operations with nations unable to procure or sustain expensive frontline weapons systems.

The speed, range, flexibility, versatility, and persistence of airpower capabilities allow the Air Force to operate over vast denied areas and provide a critical portfolio of options for dealing with a myriad of challenges. As we look to the future we face the very real possibility of major theater war as well as increased COIN and IW operations. We are evaluating our force posture to maximize our contributions across the spectrum of conflict.

Mr. BALDERSON and Admiral CLINGAN. The RAND Corporation Project Air Force monograph series referenced, titled "Air Power in the New Counterinsurgency Era," is an Air Force study in which the recommendations address USAF force structure and mission. It would be inappropriate for me to comment on those specific recommendations.

Naval Aviation continues to play a major role in providing tailored effects in support of Operations Enduring Freedom (OEF) and Iraqi Freedom (OIF), as well as the broader global war on terrorism. The Navy carefully balances investments across the aviation portfolio to guarantee it can deliver the effects required by maritime and Joint commanders in both major combat operations and IW. The 2008 President's budget and Navy supplemental requests continue procurement and sustainment of platforms, systems and weapons that enhance counterinsurgency operations by improving speed, range, persistence, flexibility, and lethality—all "unique advantages of air power" as noted in the RAND study. In many cases, the investments are the direct result of combatant commander requests for capabilities related to counterinsurgency operations, as highlighted below.

Weapons

The RAND Study observes (page 74): "The intermingling of insurgents with civilian populations presents severe challenges for intelligence, surveillance, and reconnaissance capabilities and makes it desirable to have a variety of munitions with very limited effects." The President's budget 2008 procures and develops a mix of legacy, advanced and next generation weapons that are lethal throughout the entire range of military operations, including urban warfare:

Hellfire missile (AGM–114)—Thermobaric warhead improvements that contain blast effects to minimize collateral damage in an urban environment were deemed operationally effective in 2006. This capability will be complemented by trajectory shaping, which will allow flight crews to select the missile flight profile most effective for the particular engagement. The President's budget 2008 request includes

$45.7 million to procure 439 weapons and the components to address these requirements.

BLU–126/B—Low-collateral-damage bomb (LCDB) bridges a capability gap identified by U.S. Central Command (CENTCOM). The LCDB is a low cost solution identified by the Naval Aviation Enterprise for use with the Joint Direct Attack Munitions (JDAM) and Laser Guided Bomb (LGB) precision guidance kits. It uses 20 percent of the explosive fill of a standard 500 pound MK82 to create a precise, air-delivered weapon effect when limited collateral damage is paramount. The BLU–126/B is currently in production and approximately 1,500 LCD bomb bodies are available to the Joint Force Commander.

Direct Attack Moving Target Capability (DAMTC)—The President's budget 2008 requests $29.1 million in fiscal year 2008 and $214.5 million across the FDYP for the DAMTC program, which seeks to use JDAM and/or LGB weapons as the foundation for a dual mode weapon that is capable of prosecuting targets moving at speeds up to 70 mph. An open competition will be expeditiously conducted in response to the urgent need for a fixed wing aircraft moving target weapon that will culminate in a fielded solution following operational testing in fiscal year 2009. This low cost, rapid integration program adds significant capability while leveraging the existing industrial base to procure 17,720 DAMTC weapons.

Future Naval Strike Weapon plans continue to address the importance of supporting the warfighter in the global war on terrorism and counterinsurgency operations. The Navy and Marine Corp have studied the utility and feasibility of transforming the current inventory of unguided 2.75″ and 5″ rockets into precise weapons using laser and IR seekers. The potential precision and flexibility of a guided rocket system exemplifies how naval aviation continues to transform air power to meet the challenges of counterinsurgency operations.

Self Protection Systems

Tactical Aircraft Directed Infrared Countermeasures (TADIRCM)—The President's budget 2008 requests $27.6 million in research, development, test, and evaluation (RDT&E) for development of an improved Missile Warning System (MWS) and Infrared CounterMeasure (IRCM) system for Navy and Marine Corps helicopters. This system will provide aircrew protection against current and next generation IR guided man-portable air defense systems (MANPADS). The Analysis of Alternatives for TADIRCM has been completed and the program is working toward a Milestone B in fiscal year 2008.

Countermeasure Dispensing System capacity is being added to rotary winged aircraft to increase the number of flare dispensing events per mission and to provide forward firing flares for advanced threats. Additionally, the existing AAR–47A(V)2 Missile Warning System is being upgraded to the AAR–47B(V)2 to enhance survivability in background clutter environments.

Large Aircraft InfraRed CounterMeasures (USAF LAIRCM) system is being installed on CH–53E/D, CH–46E, and MV–22 aircraft through the Rapid Deployment Capability process, to get the best IRCM capability to the fleet as soon as possible, while the TADIRCM system is developed for smaller aircraft that cannot take the LAIRCM.

Aircraft and Aircraft Systems

F/A–18E/F (Distributed Targeting and Sensor Integration)—The President's budget 2008 requests $12.7 million to continue RDT&E and capitalize on the $9.7 million previously funded by Congress to develop quicker reaction time on the battlefield for strike platforms. Distributed Targeting and Sensor Integration provide autonomous identification and all weather precision strike capability on surface targets. These systems will allow the F/A–18E/F to identify ground targets, provide precision target coordinates from onboard imagery (ATFLIR and AESA), and generate templates for reactive JSOW-C usage and for future weapons including dual mode JDAM and JAGM.

SHARP—In addition, the SHAred Reconnaissance Pod (SHARP) carried on the F/A–18E/F is a dual mode (electro-optical/Infrared) pod being heavily employed by CENTCOM. SHARP is currently evaluating a hyperspectral sensor which will support automatic detection, classification and identification of camouflaged and concealed targets, in all weather conditions. Concurrently, efforts are underway to improve in-cockpit viewing and selection of imagery which will then be data-linked to other aircraft and/or ground forces for strike or situational awareness.

EA–6B/EA–18G—Navy is directly supporting the ground warfighter with EA–6Bs deployed from carriers and in the expeditionary role that provide on-call nonkinetic fires critical to counterinsurgency operations. Significant investments in the capabilities of this platform's weapons system are in direct response to combatant com-

mander requirements in past years and again the President's budget 2008. The details of these capabilities are available if desired in the classified format. Enhanced capabilities, resident in the EA–18G, will begin to generate battlefield effects as the Navy begins to transition its carrier-based EA–6Bs to the EA–18G in 2009. The Navy has requested $1,318.8 million of APN in the fiscal year 2008 budget to procure 18 aircraft. These aircraft will be configured with the AN/ALQ–227 Communications Countermeasures Set receiver system. The EA–18G ALQ–227 system will use the AN/ALQ–99 Low Band Transmitter for communications jamming. The fiscal year 2008 budget also contains $21.8 million of APN to procure 10 Low Band Transmitters and to sustain the EA–6B Prowler's counterinsurgency capabilities. Both of these investments are in direct response to requirements stemming from the global war on terror and counterinsurgency operations.

EP–3E/EP-X—Today the EP–3E is deployed globally and fully supports all combatant commander counterinsurgency tasking by collecting signals of interest and passing the identification and/or location to the supported commanders. In the next decade, the EP–3E will be replaced by the EPX aircraft, currently in the requirements development phase. The EPX will be a multi-intelligence collection platform with a more robust capability to collect, process, fuse and target IW signals of interest.

MH–60S/MH–60R—The Navy's Helicopter Master Plan introduces significantly improved major combat operation and IW capabilities that support insertion and extraction, crew served weapons support, sniper platform and C2 of Special Operation Forces; Maritime/Leadership Interdiction Operations; Maritime Domain Awareness; ISR and Combat Search and Rescue. Helicopter detachments can deploy worldwide on any naval combatant and possess the ability to operate in austere environments with only limited support. These aircraft can conduct missions in all weather, day or night, taking advantage or night vision devices, EO/IR systems and precision laser guided munitions.

Unmanned Aircraft Systems (UAS)

UAS play a key role in providing intelligence, surveillance, and reconnaissance (ISR) support to counterinsurgency operations. Navy investments are focused on fielding unmanned systems tailored for single units and striking forces that will be effective in both permissive and non-permissive environments. Specific examples include:

Small Tactical UAS/Tier II UAS—The Navy and Marine Corps will begin a combined program of record in fiscal year 2008, leading to development of an organic, persistent ISR platform that will support Navy ship/small unit commanders and Marine Regiment/Battalion/ Expeditionary Unit commanders with a planned IOC in fiscal year 2010. This program will fill capability gaps currently addressed through ISR service contracts, which will be continued to meet capability shortfalls in the short term. A Marine Corps Warfighting Lab (MCWL) demonstration is also planned to examine the feasibility of operating these UASs with ground units.

VTUAV—The Navy's Fire Scout UAS will reach IOC in fourth quarter fiscal year 2008 onboard LCS. This UAS system will provide baseline EO/IR/Laser Designator and communications relay support for all LCS mission modules, and will be very valuable during littoral counterinsurgency operations.

During fiscal year 2007, as the lead service for Explosive Ordnance Disposal (EOD), the Navy will sponsor the demonstration of small UAS capabilities in support of EOD forces deployed in the global war on terrorism. This in-theater demonstration, scheduled during 3Q fiscal year 2007, will employ 3 Silver Fox UAS and 10 Micro Air Vehicle (MAV) systems in response to a validated Joint Urgent Operational Need (JUON).

The President's budget 2008 requests funding for a broad spectrum of capabilities that are relevant and essential to both IW and major combat operations. It strikes a thoughtful balance between legitimately competing imperatives, and ensures naval aviation will be capable of delivering timely, precisely tailored effects in support of IW throughout the world. The persistence of naval forces, conducting counterinsurgency operations from international waters with speed and precision, is a hallmark of the United States Navy.

Genral CASTELLAW. The Rand Corporation Project Air Force monograph series titled, "Air Power in the New Counterinsurgency Era," referenced is an Air Force Centric study and the recommendations concern primarily USAF force structure and mission. It would be inappropriate for me to comment on those specific recommendations. The Naval Aviation fiscal year 2008 budget procures and develops a mix of legacy, advanced and next generation weapons that are effective throughout the entire range of military operations, including IW.

Weapon Systems

Hellfire missile (AGM–114) improvements are being implemented in response to urban warfare requirements that mandate minimal collateral damage. Thermobaric warhead improvements that contain blast effects were deemed operationally effective in 2006. The fiscal year 2008 budget request includes $45.7 million to procure 439 weapons and components to address these requirements. The LCDB bridges a capability gap identified by CENTCOM. The LCDB is a low cost solution identified by the Naval Aviation Enterprise (NAE) that has been approved for use with the JDAMs and LGB precision guidance kits. It was fielded in March 2007 using General Purpose Bomb funds.

DAMTC—The fiscal year 2008 budget requests $29.1 million in fiscal year 2008 and $214.6 million across the FDYP for the DAMTC program, which seeks to use JDAM and/or LGB weapons as the foundation for a dual mode weapon that is capable of prosecuting targets moving at speeds up to 70 mph. This low cost, rapid integration program adds significant capability while leveraging the existing industrial base to procure 17,720 DAMTC weapons.

Self Protection Systems

TADIRCM—The fiscal year 2008 budget requests $27.6 million in RDT&E for development of an improved Missile Warning System (MWS) and Infrared Countermeasure (IRCM) system for Navy and Marine Corps helicopters. This system will provide aircrew protection against current and next generation IR guided MANPADS. The Analysis of Alternatives for TADIRCM has been completed and the program is working toward a Milestone B in fiscal year 2008.

Aircraft

Specific to counterinsurgency efforts, the MV–22 and F–35B will fill critical roles for the U.S. Marine Corps as early as this fiscal year with the deployment of the Corps' first MV–22 tactical squadron, VMM–263. Counterinsurgency efforts must be supported by aircraft that possess capabilities across the spectrum of conflict; from humanitarian assistance to kinetic fires, the MV–22 and F–35B will provide vastly greater operational reach, persistence on the battlefield, and connectivity across all lines of effort. The MV–22 can reach anywhere within 500,000 square miles from its point of origin on a single refuel that will allow the ground commander to deploy and resupply troops at the time and place of his choosing. Likewise, the F–35B, due to its unique and flexible basing characteristics, will provide persistent fires as well as ISR and connectively to forward deployed troops in support of mission objectives.

Command and Control

The ability to swiftly and decisively act upon time sensitive intelligence in support of counterinsurgency efforts requires a high degree of coordination and control of aviation assets. Coupled with the capabilities of manned and unmanned aircraft in the U.S. Marine Corps inventory, effective command and control ensures that the right aviation assets are where they need to be when they are needed. To this end the Marine Corps is heavily investing in our next generation aviation command and control system (CAC2S). CAC2S will provide crucial linkages within the MAGTF to ensure a high degree of shared situational awareness and the efficient tasking of high-demand, low-density assets.

COMMERCIAL TANKERS

8. Senator CORNYN. General Chandler and General Hoffman, the original proposal to replace the aging KC–135 tanker fleet had a Part B section which called for developing a plan for the Government to use commercial tanker aircraft to fulfill some of the military's tanking needs. The committee understands that a pilot project is in development; when can we expect to see something from it?

General CHANDLER and General HOFFMAN. The Air Force has completed the initial strategy development for a commercial tanker "fee-for-service" demonstration. Briefings on Capitol Hill are in progress. The Senate Armed Services Committee has been briefed (31 May 2007) with briefing to the House Armed Services Committee anticipated during the week of 5–8 June 2007.

IMPROVISED EXPLOSIVE DEVICES

9. Senator CORNYN. General Chandler, General Hoffman, Mr. Balderson, General Castellaw, and Admiral Clingan, what technology strategy and level of investment is being proposed in the Air Force and Navy budgets to support our ability to get on top of and ahead of the improvised explosive device (IED) threat?

General CHANDLER and General HOFFMAN. In response to April 2006 direction to the Services, the Air Force programmed approximately $9.9 million per year through fiscal year 2013 ($59.443 million total) for procurement and sustainment costs directly associated with Counter-Improvised Explosive Device (C–IED) equipment/systems. This funding is specifically for Specialized Search Dogs (the Air Force is the Department of Defense Executive Agency for Military Working Dogs), Explosive Ordnance Disposal Robots, and Air Force funded requirements for up-armor modification kits for the Service's fleet of High Mobility Multipurpose Wheeled Vehicles (HMMWVs) in the theater of operations.

[In millions of dollars]

Specialized Search Dogs	$5.843
Robotics	19.6
Up-Armored HUMMWVs	34.0
Total programmed:	$59.443

The Air Force does not have any other dedicated or independent funding lines for C–IED initiatives. However, the Air Force also makes significant contributions to C–IED efforts with a variety of initiatives that are corporately vetted through the Air Force's Rapid Response Process—the most promising of these initiatives are championed by the Service for potential Joint IED Defeat Organization (JIEDDO) funding. To date JIEDDO has funded 14 Air Force initiatives for $87.035M.

Regarding strategy, the Air Combat Command (ACC), acting as the Air Force's lead Major Command (MAJCOM) warfighter force provider, recently signed a C–IED Operating Concept to ensure Air Force efforts are synchronized and cohesive in the campaign to overcome the threat and loss of personnel/resources posed by adversary use of IEDs. This operating concept provides a standardized approach with the JIEDDO, U.S. CENTCOM, U.S. Central Command Air Forces (CENTAF), and ACC C–IED efforts by using common constructs and terminologies. The ACC's C–IED Concept directly supports and is congruent with CENTCOM's C–IED Campaign plan through mutual focus on defeating the IED system. To execute this framework, ACC, with assistance from the Army and CENTCOM, recently completed a draft Concept of Employment (CONEMP) that is written from an airman's perspective taking a constrained and unconstrained approach to interdicting the IED system. Following CONEMP execution, ACC will look to identify capability and tactics, techniques and procedures (TTP) gaps permitting sound analysis/actions for Doctrine, Organization, Training, Materiel, Leadership, Personnel, and Facilities (DOTMLPF) improvements.

There are also a number of technologies within the Air Force Science and Technology (S&T) Program that could be applicable to countering the IED threat; however, S&T efforts are typically non-system specific and support a wide range of potential applications—as such, there is not a dedicated S&T investment line in this area. For example, one of the Air Force S&T Program's Focused Long-Term Challenges is to Dominate Difficult Surface Target Engagement/Defeat, which includes technologies that could be used to find, identify, track, and engage IEDs, such as: adversarial modeling; improved operator interfaces for enhanced unmanned aerial vehicles (UAVs); and a wide range of command, control, communications, computers, intelligence, surveillance, and reconnaissance technologies.

Beyond S&T, the Air Force continues to improve existing platforms like Compass Call and Predator, which have proven useful in C–IED missions. Compass Call improvements provide a very effective C–IED classified capability, while planned Fiscal Year 2008 Predator improvements enhance Predator support to C–IED missions. In addition, the Air Force requested global war on terrorism Supplemental funding in both fiscal years 2007 and 2008 to field a net-centric beyond line-of-sight (BLOS) secure communications capability across the Joint Surveillance and Target Attack Radar System (Joint STARS) fleet. This improvement, combined with a future Network Centric Collaborative Targeting (NCCT) capability, will enable Joint STARS to rapidly collaborate with other sensors and intelligence sources to produce actionable intelligence. CENTCOM has recently identified BLOS secure communications as an Urgent Operational Need and this funding will enable the Air Force to achieve an IOC for Joint STARS BLOS communications by March 2008. The Air Force will consider funding for NCCT in its fiscal year 2010 budget request.

Mr. BALDERSON and Admiral CLINGAN. IEDs are a significant threat to U.S. forces deployed in Iraq and Afghanistan. They are the primary source of U.S. casualties. The JIEDDO, together with the military Services and all of the Department of Defense, is working to win the IED fight in a holistic way, using a balance of intelligence, training and technology. This counter-IED effort is a combined Joint Service, interagency, multi-national program designed to leverage all available resources

and technologies in a coordinated campaign to eliminate IEDs as weapons of strategic influence.

The Office of Naval Research (ONR), acting in its role as the Science and Technology (S&T) provider for the Navy, invites JIEDDO participation in semi-annual program reviews for the ONR CIED Basic Research initiatives (Basic Research is a name for S&T that addresses phenomenology, versus applied research or engineering). ONR has also brought JIEDDO into discussions that have involved new or innovative technical discussions such as a preliminary outbriefing at the National Academies for Science, and ONR participates in JIEDDO sponsored events such as their Technology Outreach Conference). Our relationship is collaborative where collaboration is possible and practical. ONR's basic research is intended for future application into applied research programs or R&D/engineering as performed by Naval entities or by JIEDDO. JIEDDO does not perform or fund S&T; JIEDDO is focused on addressing immediate (6–18 month time horizon) warfighter requirements. So, in terms of coordination, ONR and JIEDDO pursue inherently different but complementary technology goals—ONR the long-term S&T, and JIEDDO the near-term R&D and engineering. There is virtually no overlap between the two organizations, nor should any overlap exist.

The Commanding General, Marine Corps Warfighting Laboratory (CG MCWL) represents U.S. Marine Corps within the JIEDDO Integrated Process Team (JIPT), the top-level decision-making body. The MCWL-led U.S. Marine Corps IED Working Group supports CG MCWL through daily engagement with various JIEDDO sub-IPTs, developing and delivering technology to the warfighter and eliminating redundancy.

As to RDT&E,N funding requested in fiscal year 2008 for counter IED efforts (in all lines), $104.351 million. As for that which has been executed in fiscal year 2006 and in fiscal year 2007 (to date), $36.032 million was executed in fiscal year 2006 and $26.769 million is allocated for execution in fiscal year 2007 in support of CIED efforts.

[In millions of dollars]

	Fiscal Year		
	2006	2007	2008
6.1	22.755	15.659	24.001
6.2	8.164	5.118	4.400
6.3	* 5.113	* 5.492	* 14.550
6.4		0.5	61.400
Total	36.032	26.769	104.351

* Includes 2.023 in fiscal year 2006, 3.515 in fiscal year 2007, and 12.000 in fiscal year 2008 for MCWL

General CASTELLAW. Aerial reconnaissance is provided by all fixed and rotary wing platforms visually (naked eye), as well as with Litening equipped F/A–18, AV–8B and EA–6B aircraft, in order to identify and warn ground forces of potential IED locations or tracking triggermen after an event. The Litening ISR pod is used to spot potential IED emplacement areas, warn ground forces, and track fleeing insurgents after an IED attack. The U.S. Marine Corps is adding the Litening capability to the EA–6B aircraft, which will be introduced as a global war on terrorism TAC DEMO in fiscal year 2007. Using the Change Detection Workstation (CDWS), Advanced Tactical Air Reconnaissance System (ATARS) equipped F/A–18s have identified changes in the environment that would indicate potential IED emplacements.

- CDWS is a Windows-based desktop PC with imagery comparison software designed to create imagery mosaics of areas of interest. These mosaics are compared to a baseline mosaic and changes are identified through an automated comparison processing and manual comparison.
- CDWS compares existing F/A–18D ATARS Electro-optical (EO) imagery, exporting imagery from the solid state digital recorder at the squadron ground station (SGS) or MEF G–2 Tactical Exploitation Group (TEG) to CDWS.
- Recent funding will allow ATARS to incorporate CDWS into SHARC, for multi-service compatibility, as well as providing an automatic functionality.
- TTPs continue to evolve to identify likely IED emplacements, suspicious vehicles and activities as well as to track and report movement of suspicious vehicles and personnel after IED attacks. The U.S. Marine Corps is introducing an Electronic Attack (EA) payload for the Pioneer UAV.

• Pioneer EA Payload is a U.S. Marine Corps fiscal year 2007 TAC DEMO leveraging the successes of the Iron Nail program initially created for the Army.
• JIEDDO has funded the effort. Specific capabilities and operational concepts are classified.

QUESTIONS SUBMITTED BY SENATOR JOHN WARNER

STUDIES ON THE SECOND ENGINE SOURCE FOR THE F–35 JOINT STRIKE FIGHTER

10. Senator WARNER. General Chandler, General Hoffman, Mr. Balderson, General Castellaw, and Admiral Clingan, in the National Defense Authorization Act (NDAA) for Fiscal Year 2007, Congress required that three separate studies be conducted on the cost and benefits of having a second engine production source for the F–35 Joint Strike Fighter (JSF). Two of the studies, from the Institute for Defense Analyses and the Cost Analysis Improvement Group, cite a potential problem with the F135 engine inlet temperature versus the F136 engine. Given this condition, are you satisfied with the level of risk associated with solely using the F135 engine?

General CHANDLER and General HOFFMAN. With 7,300+ test hours on 12 engines through early April 2007, engine performance is meeting expectations. Recent experience with engine development indicates there is low operational risk to the warfighter with a single engine supplier. The Department's decision to cancel the F136 program provides the best balance of risk and cost. The conclusions of the studies required by the National Defense Authorization Act for Fiscal Year 2007, while supportive of competition in general, support the Department's initial findings that the expected savings from competition do not outweigh the investment costs. The Department considered the intangible benefits and determined they were not sufficient to warrant the production of a second engine for the F–35.

Mr. BALDERSON and Admiral CLINGAN. With approximately 7,300+ engine test hours on 12 engines completed through early April 2007, engine performance is meeting expectations. Recent experience with engine development indicates there is low operational risk to the warfighter with a single engine supplier. The Department's decision to cancel the F136 program is strictly based on affordability, providing the best balance of risk and cost. The conclusions of the studies required by the National Defense Authorization Act for Fiscal Year 2007, while supportive of competition in general, support the Department's initial findings that the expected savings from competition do not outweigh the investment costs. The studies also concluded that other benefits might result from competition. The Department believes the cost of competition outweighs the benefits. The Department considered all of the intangible benefits and determined that the other benefits were not sufficient to warrant an engine competition for the F–35.

General CASTELLAW. We are satisfied the risk associated with the F135 engine is acceptable. The Marine Corps does not support any action that delays or otherwise negatively impacts the delivery and IOC of the F–35B. While there is goodness in having a second F–35 engine competition, it simply does not outweigh the operational impacts of delaying F–35B introduction and additional program cost.

CONSTRUCTION OF OUTLYING LANDING FIELD, WASHINGTON COUNTY, NC

11. Senator WARNER. Mr. Balderson and Admiral Clingan, the Department of the Navy has a requirement to acquire land and to construct an outlying landing field (OLF) on the East Coast of the United States to support aircraft operations at Naval Air Station (NAS) Oceana, VA, and Marine Corps Air Station (MCAS) Cherry Point, North Carolina. For the past 4 years, the Department of the Navy has studied an area in Washington County, North Carolina, as the preferred location as it is approximately half-way between NAS Oceana and MCAS Cherry Point by air. As required by the National Environmental Policy Act (NEPA), an Environmental Impact Statement (EIS) was prepared by the Department of the Navy to study the impact of a new OLF on the local environment and nearby nature preserves in North Carolina. This study has been the subject of intense scrutiny and lawsuits, which eventually resulted in a Federal court order to the Department of the Navy to expand its scope of the environmental study.

The Department of the Navy has included in the budget request for fiscal year 2008 military construction funds totaling $10.0 million to be used to acquire land and initiate construction activities. This is the fourth year in which the Department of the Navy has requested funds for this project, and in each of those years, Congress has rescinded funds due to the inability of the Department of the Navy to obli-

gate them in a timely manner. This background, coupled with the reported opposition by certain segments of the local community, suggests that it may be prudent to examine other locations for the OLF. Has the Department of the Navy given consideration to a reassessment of the final location of the OLF? If so, would this reassessment include reconsideration of the 2003 decision by the Department of the Navy to base eight squadrons of F–18 Superhornets at NAS Oceana and another two squadrons at MCAS Cherry Point?

Mr. BALDERSON and Admiral CLINGAN. While the Washington County, North Carolina location remains the Navy's preferred site among the five OLF alternative sites in Northeastern North Carolina considered in the Final Environmental Impact Statement and the draft Supplemental Environmental Impact Statement (SEIS), the views that have been expressed about those alternatives by the citizens of North Carolina and their elected leaders deserve our most careful consideration before final decisions are made. If the Navy receives new information about additional sites that potentially meet our OLF siting requirements, the Navy will consider and evaluate that new information and determine whether adjustments in the current SEIS process are warranted to enable formal analysis and consideration of additional sites under the National Environmental Policy Act.

There is no plan at this time to reconsider the aircraft homebasing decision.

12. Senator WARNER. Mr. Balderson and Admiral Clingan, what is the current status of the Navy's supplemental EIS actions?

Mr. BALDERSON and Admiral CLINGAN. The Draft SEIS was released for public comment on 23 Feb 07. Public hearings have been conducted in each of the six counties in Northeastern North Carolina that could be impacted by a final decision on the OLF site. At the request of Senator Dole, a seventh public hearing was held in Charlotte, North Carolina on 17 April. The public comment period is scheduled to end on May 9, 2007. The Navy is collating and cataloguing the public comments which will be included in the Final SEIS along with the Navy's response where appropriate.

13. Senator WARNER. Mr. Balderson and Admiral Clingan, what is the estimated date for the release of a record of decision?

Mr. BALDERSON and Admiral CLINGAN. The Final SEIS is expected in fall 2007, to be followed by a Record of Decision in late 2007.

14. Senator WARNER. Mr. Balderson and Admiral Clingan, what further actions are required by the U.S. Government to satisfy the Federal court order and to be able to proceed unencumbered with the land acquisition and construction of the OLF?

Mr. BALDERSON and Admiral CLINGAN. The Navy must complete and publish the Final SEIS and the Record of Decision to satisfy the Federal court order. At Record of Decision the Navy can advertise for a construction contract and can begin to acquire the necessary property interests at the selected OLF site unless there is further litigation and an injunction that prevents us from proceeding.

5. Senator WARNER. Mr. Balderson and Admiral Clingan, does NAS Oceana have the capability in terms of aircraft parking ramps, hangars, and support facilities to be able to accommodate the basing of all 10 F–18 squadrons? If so, would a revised decision to base all 10 squadrons at NAS Oceana expand the range of potential locations for construction of a new OLF to meet the training requirements for carrier pilots?

Mr. BALDERSON and Admiral CLINGAN. The two F/A–18 E/F Super Hornet squadrons scheduled to be homebased at MCAS Cherry Point could be based at NAS Oceana in currently available facilities (and will be while facilities at MCAS Cherry Point are being upgraded to support these two squadrons), but permanent stationing would require additions to two hangars to meet recommended Facilities Planning Criteria.

Siting all 10 F/A–18 E/F Super Hornet squadrons and the Fleet Replacement Squadron at NAS Oceana does not expand the range of potential locations for construction of a new OLF based on current OLF siting criteria. The study area radius around a homebase is based primarily upon fuel consumption rates for flights to and from the OLF and performing field carrier landing practice, and the required safety margin.

16. Senator WARNER. Mr. Balderson and Admiral Clingan, in your judgment, might an OLF located at Ft. Pickett, Virginia, meet the needs of the naval aviation community?

Mr. BALDERSON and Admiral CLINGAN. The Navy is continuing to review information regarding Fort Pickett.

QUESTIONS SUBMITTED BY SENATOR SAXBY CHAMBLISS

F–22 MULTIYEAR CONTRACT

17. Senator CHAMBLISS. General Chandler and General Hoffman, in the NDAA for Fiscal Year 2007, Congress provided the Air Force authority to enter a multiyear contract for the F–22. The NDAA for Fiscal Year 2007 also required that the Secretary of the Air Force certify that the proposed multiyear contract satisfies the conditions in title 10, 2306b for multiyear contracting. Where is the Air Force in the process of providing that certification?

General CHANDLER and General HOFFMAN. The SECDEF is plans to deliver the required certifications and final RAND report to Congress in July to support a planned MYP contract award in August.

F–22 Multiyear Procurement (MYP) negotiations are nearly finished. Once negotiations are complete, RAND will finalize their report on the estimate of savings.

18. Senator CHAMBLISS. General Chandler and General Hoffman, what, in your opinion, are the benefits of multiyear contracting?

General CHANDLER and General HOFFMAN. Multiyear contracting allows the contractor to plan a more efficient production; such a contract can reduce the cost of an acquisition compared with buying the items through a series of annual procurement contracts. Savings can come from several sources, such as investments in equipment and facilities, investments in the contractor's workforce, and orders for component parts in economically efficient quantities. With stable program funding, the contractor will be able to focus on long-term program and performance expectations.

19. Senator CHAMBLISS. General Chandler and General Hoffman, do you believe that any changes to the statute governing multiyear contracting, 10 U.S.C. 2306b, are necessary or would be appropriate at this time?

General CHANDLER and General HOFFMAN. We have no legislative initiatives governing multiyear contracting to offer at this time.

20. Senator CHAMBLISS. General Chandler and General Hoffman, how are deliveries of the F–22 aircraft to operational units progressing?

General CHANDLER and General HOFFMAN. Combat capable F–22s are delivering on time to operational units. Raptors are delivering on time at a rate of two per month. Langley AFB has two operational combat squadrons. Additionally, F–22s for Elmendorf AFB are being delivered to Langley now and will transition to Alaska this summer.

21. Senator CHAMBLISS. General Chandler and General Hoffman, what in your opinion is the number of F–22s the Nation needs?

General CHANDLER and General HOFFMAN. Both Air Force and independent analyses have substantiated that 381 is the minimum requirement to meet the National Military Strategy (NMS). The OSD-led 2006 QDR Joint Air Dominance study revealed two key points: The U.S. has a critical requirement to re-capitalize TACAIR force, and with sufficient 5th generation fighters, especially F–22, joint air forces win the first MCO with enough forces left to win the next MCO. Without sufficient F–22s, attrition is unacceptably high using a legacy-heavy force and jeopardizes the follow-on win. Meeting the requirement of 381 F–22s means fewer mobility assets are required for smaller force packaging and lower combat attrition. The Average Procurement Unit Cost (APUC) is reduced as we build to our requirement. Finally, 381 Raptors meets the National Defense Strategy requirements with reasonable risk and provides a sustainable ops tempo.

AIRCRAFT RETIREMENTS AND RECAPITALIZATION

22. Senator CHAMBLISS. General Chandler and General Hoffman, can you explain how aircraft retirement restrictions are hindering your ability to recapitalize your fleet?

General CHANDLER and General HOFFMAN. Additional relief from legislative restrictions would allow for flexibility and increased options for fleet management. For example, if we were able to retire the older C–5s, we could recapitalize the airlift

capability with C–17 platforms off a production line that is still open. It we wait, we may not have that option. Restrictions translate into costs to modify, operate and support aircraft with funds that could otherwise be spent on newer platforms that would be sustainable for a longer period of time. Once retired, we also need the flexibility to harvest parts so that we can increase the mission readiness of the remaining fleet. Present language that says store in a "recallable" status precludes us from doing that.

23. Senator CHAMBLISS. General Chandler and General Hoffman, can you characterize the current state of the C–130 fleet and the need to recapitalize due to Iraq and Afghanistan related "wear and tear?"

General CHANDLER and General HOFFMAN. The Global War on Terrorism continues to place very high demands on the Air Force combat delivery and special mission C–130 fleets. As a result, C–130 structural fatigue, especially on the Center Wing Box (CWB), has accelerated aircraft restrictions, groundings and cracks.

To address increased wear and tear and substantial modernization/sustainability costs, the Air Force needs to continue retiring C–130Es and invest in fleet recapitalization efforts. The 2005 Mobility Capabilities Study identified a range of 395–674 combat delivery C–130s to support National Military Strategy objectives with acceptable risk. The approval of 20 additional C–130Js via fiscal years 2007 and 2008 supplementals is a start. In the low-density and high-demand (LD/HD) special mission fleet, 37 MC–130Ps and Es and 37 HC–130Ps and Ns need to be replaced while addressing LD/HD issues. At this time, the number and type of replacement aircraft for special missions has not been determined.

24. Senator CHAMBLISS. General Chandler and General Hoffman, can you quantity the approximate number of C–130s the Air Force needs to buy to meet the requirements of Air Combat Command, Air Mobility Command, and AFSOC?

General CHANDLER and General HOFFMAN. For Air Mobility Command, the 2005 Mobility Capabilities Study identified a range of 395 to 674 combat delivery C–130s to support National Military Strategy objectives with acceptable risk. As the Air Force retires legacy C–130s, they need to be replaced to ensure a minimum of 395 combat delivery C–130s. As a start, the Air Force requested 20 more C–130Js in the fiscal year 2007 and 2008 supplemental.

In the global war on terror, the special mission C–130 fleet is in low-density and high-demand (LD/HD). Air Combat Command needs to replace its 37 HC–130Ps and Ns while addressing LD/HD for Combat Search and Rescue assets. AFSOC also needs to replace its 37 MC–130Ps and Es while addressing Special Operations Force growth. At this time, the quantity and type of replacement aircraft for these special mission C–130s has not been determined.

25. Senator CHAMBLISS. General Castellaw, can you quantity the current U.S. Marine Corps' requirement for additional KC–130Js?

General CASTELLAW. The U.S. Marine Corps is currently funded for 31 KC–130J aircraft. This is 20 aircraft short of its program requirement. The requirement is based on a Mobility Capability Study which determined a KC–130 operational requirement range of 77 (high risk) to 129 (low risk). The legacy KC–130 F and R model aircraft are being retired due to service life and fatigue due to age and overutilization during the early stages of OEF and OIF. These aircraft flew more than twice their programmed flight hours which resulted in accelerated retirement/replacement. The last legacy aircraft are scheduled to be retired in December 2008.

The U.S. Marine Corps's KC–130 fleet comprises 45 percent of DOD's helicopter refueling assets. The U.S. Marine Corps's aerial refueling requirement will increase greatly as 360 MV–22s replace non-aerial refuelable CH–46E and CH–53D helicopters. The KC–130 is the only aircraft capable of refueling the MV–22 in flight, and the MV–22 relies on the KC–130J to self-deploy. In addition, a reduction in operating costs and an increase in reliability have been realized as the U.S. Marine Corps transitions from its 46 and 29 year-old legacy KC–130F/Rs to the new and more capable KC–130J.

26. Senator CHAMBLISS. General Chandler and General Castellaw, given the total number of aircraft required for both Services, would it make sense to have another joint multiyear procurement contract for C–130Js?

General CHANDLER and General HOFFMAN. The Air Force and Marine Corps are currently procuring aircraft under the existing C 130J multiyear procurement (MYP) contract ending in fiscal year 2008. At this time the Air Force does not have any C–130J procurements programmed beyond fiscal year 2008 to justify a second MYP contract for C–130Js.

E–10 TERMINATION AND RADAR OPTIONS

27. Senator CHAMBLISS. General Chandler and General Hoffman, in the fiscal year 2008 President's budget the Air Force stopped the development of the E–10 program including the development of the large radar. Is there still an operational requirement for this program?

General CHANDLER and General HOFFMAN. The operational requirement for the capability has not changed. The Air Force is mitigating what the Multi Platform—Radar Technology Insertion Program (MP–RTIP) Wide Area Surveillance (WAS) radar would have provided by procuring three additional Global Hawk (GH) Block 40 for a total of 15 GH Block 40s. The GH Block 40 will provide some of the E–10's ground moving target indicator (GMTI) and synthetic aperture radar (SAR) capability, but with reduced coverage and resolution. The cruise missile defense capability the E–10 was bringing to the warfighter will be an unfilled capability gap.

On 13 December 2006, OSD directed "United States Strategic Command (USSTRATCOM) and USD (AT&L), in coordination with the services, to lead a study to assess the likely effectiveness of the United States air and cruise missile defense architecture and systems in fiscal year 2015." Additionally, USSTRATCOM will leverage the results completed on the Sensor Weapon Pairing Task Force Study and the ongoing integrated Air and Missile Evaluation of Alternatives to provide more complete coverage for air and missile defense. If warranted, USSTRATCOM will provide recommendations for suggested improvement in capabilities and present the results by August 15, 2007 to the Deputy Secretary of Defense.

28. Senator CHAMBLISS. General Chandler and General Hoffman, do you believe the large radar is still needed for force protection, including against cruise missiles? If so, how will you meet this operational requirement?

General CHANDLER and General HOFFMAN. Yes, the Air Force still believes the large radar is needed for force protection including the capability to defend against cruise missiles. Component commanders still have a valid requirement to see low-observable low-altitude activities, today and in the future. Although Joint STARS doesn't provide cruise missile defense, Joint STARS is providing GMTI and SAR for the warfighter. The capability that Global Hawk Block 40 will bring in 2011 will add to the GMTI and SAR range/coverage beyond Joint STARS' capability. For cruise missile defense, there will be a capability gap that will not be met and the Air Force is accepting the risk based on fiscal constraints.

29. Senator CHAMBLISS. General Chandler and General Hoffman, have you considered moving the large radar to the Joint STARS aircraft by installing the new radar on the fleet of already operational aircraft?

General CHANDLER and General HOFFMAN. Yes, the Air Force has assessed the value to migrate the Cruise Missile Defense (CMD) mission to Joint STARS. However, in light of budget considerations, the ongoing Air and Cruise Missile Defense architecture study, and the assessed CMD capability with MP–RTIP on Joint STARS, it was not deemed critical to replace the Joint STARS radar at this time. However, if the decision was made to replace the Joint STARS radar, it could be replaced with the MP–RTIP.

30. Senator CHAMBLISS. General Chandler and General Hoffman, the Air Force placed the MP–RTIP radar in their top 20 programs on the unfunded requirements list. If funded, does the Air Force have an intended platform on which to integrate the MP–RTIP radar?

General CHANDLER and General HOFFMAN. The Unfunded Priority List (UPL) request for MP–RTIP would be applied to continue the development activity on the Wide Area Surveillance (WAS) large radar variant associated with a wide body platform. This funding would only provide for 1 additional year of development headed towards a flight test. Additional funding would be required to reach a flight test.

31. Senator CHAMBLISS. General Chandler and General Hoffman, in the fiscal year 2008 global war on terror supplemental request, the Air Force requested funding for upgrading the back end of Joint STARS to handle MP–RTIP data, as well as funding for further development of the large MP–RTIP; however, the Air Force also requested funding for the E–10. If the Air Force already cancelled the E–10, could this additional funding have been used to move the radar to the Joint STARS platform instead of continuing E–10 funding?

General CHANDLER and General HOFFMAN. The fiscal year 2008 President's budget funding requested under the E–10 program is not for continuing the E–10 development, but rather to complete the development and flight testing of the MP–RTIP

variant for Global Hawk Block 40. This activity is on schedule to be operational in 2011. We evaluated transitioning the MP–RTIP technology to Joint STARS. However, the global war on terrorism funding requested to address the diminishing manufacturing sources related to the Joint STARS mission equipment is only a small fraction of the funding required to transition the MP–RTIP to Joint STARS. The notion of keeping the large radar technology alive and perhaps to put it on the Joint STARS in the future is why it was placed on the UPL as the # 15 priority.

32. Senator CHAMBLISS. General Chandler and General Hoffman, can you quantity the improved performance, operational capability, and additional support to the warfighter that will result from a re-engined Joint STARS fleet?

General CHANDLER and General HOFFMAN. Current Joint STARS engines do not meet the performance requirements. Based on the analysis conducted during source selection, the new engines will meet or exceed the increased range and time-on-station, improve efficiency, and reduce dependence on tankers.

	Current Engine TF33–102C	Pratt and Whitney JT8D–219
Altitude (Ft) (ORD: 34–42K)	25–31K	34–42K
Mission Time (Hrs) (ORD: 10)	8 Hours Avg	12.1
Fuel Efficiency	Baseline	17 percent Improvement
Noise/Emission	Non-Compliant	Compliant

The warfighter will see improved support in multiple areas. Increased operating altitudes translate into more effective GMTI, improved tracking of targets of interest, and better communications with tasked fighter and helicopter assets. Overall, this means far improved mission support to ground units.

CSAR–X

33. Senator CHAMBLISS. General Chandler and General Hoffman, in relation to CSAR–X source selection, did the Air Force place any value on an aircraft's performance in brownout conditions?

General CHANDLER and General HOFFMAN. The CSAR–X evaluation included the requirement for aircraft to provide sufficient situational awareness for the aircrew to permit safe and effective completion of the CSAR mission, which included the capability to manage, monitor and control aircraft drift in all three axes while in zero visibility.

34. Senator CHAMBLISS. General Chandler and General Hoffman, did the source selection consider an aircraft's landing footprint for landing in a terminal area?

General CHANDLER and General HOFFMAN. An aircraft "footprint" was not a CSAR–X requirement; the CSAR–X requirements specified a capability not a design.

35. Senator CHAMBLISS. General Chandler and General Hoffman, did the Air Force evaluate acoustic signatures and an aircraft's ability to enter a terminal area quietly?

General CHANDLER and General HOFFMAN. The CSAR–X capability-based requirements included the reduction of aircraft signature (including acoustic). The CSAR–X solicitation required that all offered aircraft meet all CSAR–X minimum capability-based requirements to be eligible for contract award.

[Whereupon, at 4:34 p.m., the subcommittee adjourned.]

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