

**HEARING TO RECEIVE TESTIMONY ON AIR  
FORCE AND NAVY AVIATION PROGRAMS IN  
REVIEW OF THE DEFENSE AUTHORIZATION  
REQUEST FOR FISCAL YEAR 2009 AND THE  
FUTURE YEARS DEFENSE PROGRAM**

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**Wednesday, April 9, 2008**

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

The subcommittee met, pursuant to notice, at 2:05 p.m. in Room SR-222, Russell Senate Office Building, Hon. Joseph I. Lieberman, chairman of the subcommittee, presiding.

Committee Members Present: Senators Lieberman [presiding], Pryor, Chambliss, and Cornyn.

Committee staff members present: Cindy Pearson, assistant Chief Clerk and Security Manager

Majority staff members present: Creighton Greene, Professional Staff Member.

Minority staff members present: Gregory T. Kiley, Professional Staff Member, David M. Morriss, Minority Counsel, and Sean G. Stackley, Professional Staff Member.

Staff assistants present: Ali Z. Pasha and Benjamin L. Rubin.

Committee members' assistants present: Frederick M. Downey, assistant to Senator Lieberman, M. Bradford Foley, assistant to Senator Pryor, Samuel Zega, assistant to Senator Warner, Clyde A. Taylor IV, assistant to Senator Chambliss, David Hanke, assistant to Senator Cornyn, and Brian Polley, assistant to Senator Cornyn.

**OPENING STATEMENT OF HON. JOSEPH I. LIEBERMAN, U.S.  
SENATOR FROM CONNECTICUT**

Senator LIEBERMAN. The subcommittee will come to order. I want to extend a welcome to our distinguished panel of witnesses and thank each of you for appearing before the subcommittee today.

This subcommittee meets against the backdrop of continued bravery and exemplary performance by the members of our armed forces in Iraq, Afghanistan, and really throughout the world. I think we always want to as we begin specific inquiries note that reality with great appreciation.

We convene this session of the Airland Subcommittee to discuss the present and future of aviation programs which come under the jurisdiction of this Airland Subcommittee. Every year we are faced

with the challenge of balancing a number of competing demands for limited resources and in some sense balancing the demands of current operations with or against the requirement for future modernization. Decisions we make today I assure you we understand are important because in the most direct sense they can result in lives being saved in the next year or even years down the road.

So with that introduction, let me just touch on a few of the issues that I hope that we will learn more about from the witnesses today. 2 years ago Congress authorized the Air Force to enter into a multi-year procurement contract for the F-22 aircraft program. Now that program is facing a production shutdown. The fiscal year 2009 budget, that is the one that's before Congress now, for F-22 includes neither funds for advanced procurement of additional aircraft in 2010 nor money to pay for line shutdown charges.

But I think the Air Force's view is clear on this, particularly noting that General Moseley's unfunded priority list—underline, “priority list”—for fiscal year 2009 includes \$497 million for advanced procurement for 24 aircraft that would be produced in a later fiscal year. However, self-evidently, others within the Department of Defense hold a view that the currently approved program of 183 F-22 aircraft is enough to meet the needs of our warfighters. Now, the subcommittee really needs to hear from our witnesses today more about those differing views.

We should also get an update on where the Joint Strike Fighter stands today. We all know how important the JSF is to the modernization of all three services represented here today.

Beyond that, there are a couple of other areas of concern we have. One of these is the prospects for meeting future force structure requirements. For example, today we are facing the prospect that the 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 be available to his successors.

Under current plans for Navy and Marine Corps tactical aircraft acquisition, we are facing a shortfall that optimistically will amount to 125 tactical fighters needed to outfit our ten aircraft carrier air wings and three Marine Corps air wings. That's an optimistic view that we're going to be 125 planes short of what's needed.

With shortfalls that large, we could be faced with some tough choices: drastically reducing the number of aircraft available on short notice to the combatant commanders, either because we have deployed understrength air wings or because we did not deploy the carrier at all because of these aircraft shortages. These are really urgent, important questions. Perhaps even in asking them and documenting it in this way we make the point that that I know my friend and colleague Senator Cornyn shares with me, which is that, though we are spending obviously a very large amount in absolute dollars for the Department of Defense budget, the fact is that we are underfunding with those dollars some critically necessary programs. So we want to do our best to try to evaluate the needs and then authorize as close as we can up to the level of those needs in the interest of our National security.

I'm now pleased to call on my ranking member and coworker in these efforts, Senator John Cornyn.

**STATEMENT OF HON. JOHN CORNYN, U.S. SENATOR FROM TEXAS**

Senator CORNYN. Thank you, Mr. Chairman.

I join the chairman in welcoming all of you here today. While many focus on the contributions of our U.S. ground forces in Iraq and Afghanistan, and rightly so, the efforts of U.S. aviators on behalf of our Nation—the efforts of U.S. aviators on behalf of our Nation are nothing short of exceptional. Our aviators have been actively engaged in the CENTCOM area of operations for 17 years: the first Gulf War, the enforcement of the Iraq no-fly zones, and now Operations Enduring Freedom and Iraqi Freedom.

These deployments, in addition to operations elsewhere throughout the world in support of humanitarian efforts, have made maximum use of this Nation's air forces. And of course we all extend an expression of gratitude to these men and women and their families as they continue their sacrifice and service to our Nation.

While we recognize the joint aviation's invaluable contribution to defense, we face the challenge of balancing competing demands for funding current operations and investing in modernization. Since September 11, 2001, the balance has been tilted toward current operations, to the neglect of modernization. The shift is partly a result of the needs of the Army and the Marine Corps ground forces as operations in the Persian Gulf rightly demanded. Our Nation's ability to put off aviation modernization, however, is fast coming to an end, and I offer two quick examples.

For fiscal year 2009 the Air Force submitted an unfunded priorities list of items that did not make it into the final budget request totaling \$18.7 billion. The Air Force's unfunded list is four times the Navy's list, nearly five times the Army's, and ten times the Marine Corps's list.

Last year during an Airland Subcommittee hearing, Navy witnesses testified to a potential gap in strike fighters. While the uncertainties of the service life of the current F-18s and the production schedules for the future F-35 were discussed, the potential gap could reach over 220 Navy aircraft by the middle of the next decade.

We must collectively commit to properly funding aviation modernization and then support those efforts. Moving forward, we cannot lose sight of the contributions the current forces are making, but we must adequately fund and support systems for the next generation of aviators and airmen.

I'm particularly concerned with the actions taken, reports, and rumors on the next generation, the so-called fifth generation, tactical aircraft programs, the F-35 and F-22. Once again, the F-35 Joint Strike Fighter program eliminates funding for the development of a second engine. Last year we held extensive hearings on the subject, discussing the pros and cons of ensuring that a competitive environment is maintained for the production of aircraft engines. Yet, contrary to expert opinion and Congressional direction, this budget eliminates funding for a second source, and I'd

like to hear from our witnesses why the Department chose not to follow the law.

The Government Accountability Office recently released a report critical of the F-35 Joint Strike Fighter. The GAO took exception to the program's current risk reduction program, schedule, and cost estimates. I'd like to hear from our witnesses their response to the program critique by the GAO.

Recent press reports question the Department of Navy's commitment to the program and I'd like to hear whether those reports are accurate or not.

On the F-22, the fiscal year 2009 budget presented to Congress neither funded advanced procurement for additional F-22 aircraft beyond fiscal year 2009 nor included funding to shut down the production line. As presented, the budget for the F-22 is incomplete. I'd like to hear what our witnesses expect Congress to do with the F-22 program.

Without getting into proprietary information or jeopardizing ongoing protests, I'd like an update on other aviation modernization efforts, including the new KC-45 tanker, the next generation combat search and rescue helicopter, and the VH-71 presidential helicopter program. I have concerns in other areas as well and I hope the witnesses will address these in their testimony or in the question and answer period that will follow. The witnesses should expect questions on the impact of aviation requirements resulting from the planned Army and Marine Corps end strength increases, the latest DOD unmanned aerial vehicle road map, and efforts to make air power more relevant to irregular warfare.

I thank the witnesses and I look forward to your testimony.

Thank you, Mr. Chairman.

Senator LIEBERMAN. Thank you, Senator Cornyn.

I think we'll begin with Mr. Balderson, based on seniority. I don't know about age. Probably age, but seniority and position and general civilian authority. We're not going to ask you for any statements about your age, Mr. Balderson.

Mr. Balderson is the Deputy assistant Secretary for Air Programs in the Office of the assistant Secretary of the Navy for Research, Development, and Acquisition. It's a pleasure to have you here and why don't you begin now.

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

Mr. Balderson: Thank you, Mr. Chairman, and I will say I'm senior only in age at this table.

Mr. Chairman, Senator Cornyn: I appreciate the opportunity to appear before you today to discuss Navy and Marine Corps aviation programs. I do have a written statement that I respectfully submit for the record.

Senator LIEBERMAN. Without objection.

Mr. Balderson: Out of respect for the committee's time, I will limit my opening remarks to the following points. First, the Department of the Navy's acquisition team continues to work aggressively to identify efficiencies in the development, testing, and pro-

curement of the products and services we provide to the fleet. The fiscal year 2009 budget request reflects considerable effort in identifying affordable solutions for the Department's aviation programs, and we are striving to address Navy and Marine Corps warfighting needs in the most cost effective way possible. As a prominent example, 60 percent of the production aircraft included in the fiscal year 2009 President's budget are being purchased via multi-year procurement contracts.

Second, the fiscal year 2009 budget request is a balance between sustaining our fleet of legacy aircraft while also recapitalizing with newer, more capable, and more reliable aircraft. Our proposed plan procures 206 aircraft—that's 134 fixed wing, 69 rotary wing, and 3 UAVs—and continues development of the F-35, the E-2D Advanced Hawkeye, the P-8A, the CH-53K, the E-18G, the VH-71, and a number of other critical recapitalization programs.

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 and tomorrow will reflect the return on your investment in them and the systems they take to fight.

Once again, thank you and I look forward to your questions, and I'd be most happy to address any of the naval topics that you listed in your opening statements. [The prepared statement of Mr. Balderson and Admiral Myers follows:]

Senator LIEBERMAN. Thanks very much, Secretary Balderson.

While we're with the Navy, why don't we offer General Trautman and Admiral Myers the opportunity to testify.

**STATEMENT OF LIEUTENANT GENERAL GEORGE J. TRAUTMAN, III, USMC, DEPUTY COMMANDANT FOR AVIATION, UNITED STATES MARINE CORPS**

General Trautman: Chairman Lieberman, Ranking Member Cornyn, and distinguished members of the subcommittee: It's a pleasure for me to be before you today to discuss the 2009 budget submission as it relates to Marine Corps aviation. The Marine Corps is operating at the highest operations tempo in decades. We are flying our aircraft hard, deploying our marines often, and doing our best to take care of families, who are growing tired under the strain of the operational pace we're required to maintain. However, the magnificent men and women who serve our Corps continue to meet every challenge that comes their way.

As we speak, the aviation combat element of the 24th Marine Expeditionary Unit is deployed in support of a force of over 3400 marines in Afghanistan. When combined with the forces already in Iraq and those that are rotated through the Pacific, this year will see us reach a new operational peak, with 68 percent of our squadrons either deployed or preparing to deploy.

The many accomplishments of Marine aviation over the past year are a direct reflection of the extraordinary dedication to duty and tireless pursuit of mission accomplishment that is the hallmark of your Corps of Marines. I know that I speak for each and every one of them when I thank you today for your equally tireless dedication to those who must serve in harm's way.

Well over a decade ago, with exceptional support from visionaries in the Congress, the Marine Corps made a conscious decision to make the MV-22 Osprey and the F-35B Lightning II the centerpieces of our future warfighting concepts of operation. As the first combat deployment of the Osprey in Iraq comes to a close this week, our abiding belief in the significant benefits of tilt rotor technology has been validated in the skies over Iraq.

We are similarly committed to the vitally important fifth generation warfighting capabilities resident in Joint Strike Fighter. The short takeoff, vertical landing Joint Strike Fighter enables flexible, distributed shipboard expeditionary airfield basing, rapid response to crises, high sortie generation rates, a small footprint, and vastly improved survivability. The STVL concept is predicated on the utility of austere forward basing at a time when conventional basing and access are projected to be less and less available, either through risk of enemy attack or the vagaries of politically imposed operating restrictions.

We see F-35 and V-22, along with the KC-130J, H-1 upgrades, and the CH-53K, as part of an essential bridge from the aging legacy platforms we must fly in combat today to the advanced aviation warfighting capabilities we so desperately need in the future.

My respect for the accomplishments of the men and women who comprise Marine aviation past and present is only exceeded by my confidence that, with your continued support we are properly poised to continue the success of our current endeavors and to meet our future challenges. Your Marine Corps is operationally engaged and working hard to maintain our hallmark of 232 years of warfighting excellence.

I would like to close by expressing my gratitude for the brave warriors of every service who are committed to defending this great Nation both at home and abroad.

Thank you for the opportunity to speak with you today and I look forward to answering your questions, any questions that you may have. [The prepared statement of General Trautman follows.]

Senator LIEBERMAN. Thanks very much, General. I just did want to enter for the record that you're the Deputy Commandant for Aviation.

Admiral Myers, glad to have you here, Vice Chief of Naval Operations and the Director of Air Warfare for the Navy.

**STATEMENT OF REAR ADMIRAL ALLEN G. MYERS, USN, VICE CHIEF OF NAVAL OPERATIONS AND DIRECTOR, AIR WARFARE DIVISION, OFFICE OF THE CHIEF OF NAVAL OPERATIONS**

Admiral Myers: Chairman Lieberman, Ranking Member Cornyn, distinguished members of the subcommittee: Thank you for this opportunity to appear before you to discuss the Department of Navy's fiscal year 2009 aviation programs. I appreciate the opportunity to share time with my colleagues here from the Department of the Navy, the Marine Corps, and the Air Force to convey the critical needs of naval aviation in our armed forces.

The Navy has been fully engaged in Operations Enduring Freedom and Iraqi Freedom for the last 6-1/2 years and we're prepared to continue that same level of operational tempo as long as it's re-

quired. The remarkable performance of our sailors and marines could not have been possible without this committee's tireless devotion and significant contributions, not only to our Navy but to our Nation as a whole.

Naval aviation continues to play a major role in providing tailored effects in support of Operations Enduring Freedom and Iraqi Freedom, as well as the broader global war on terrorism. The ability of naval aviation to shape strategic and operational tactical environments is reflective of the substantive return on investment in our people, our combat readiness, and our refined spectrum of critical warfighting capabilities.

Also, these investments in surveillance, command and control, and persistent strike, among others, ensure our tactical aircraft can operate effectively from aircraft carriers that can exploit the vast maneuver space provided by the sea.

Our aviation plan balances aviation capabilities through cost-wise investments in recapitalization, sustainment, and modernization programs. One of the challenges that we will be dealing with in future programming processes is the Strike Fighter shortfall. The best estimate for the most likely magnitude of the Strike Fighter shortfall is projected to be 125 aircraft for the entire Department and 69 for the U.S. Navy portion of the Department, peaking in the 2017 time frame, and that assumes the program of record.

Now, our F/A-18A through D, our legacy Hornets, these aircraft are reaching their life limits and will require extensions to bridge the gap to reach the Joint Strike Fighter. The Department of the Navy has made significant investments in a thorough service life assessment program and is currently assessing the remaining life of these legacy platforms.

The preliminary service life assessment program analytical data necessary to determine whether or not we can extend these aircraft to the 10,000 hour mark—and originally they came to us from the factory with a 6,000 hour life. We think that we can extend them with the preliminary data that we received in the January time frame, but the final data to support the extension is planned to be released around the June time frame, and with that final data is when we will start to put together the engineering change proposals to support the extensions beginning at the end of the summer.

Now, the Navy's strategic vision for tac air is based on a mix of capabilities of both the Joint Strike Fighter and the Block 2 F/A-18E and F. Our air wings will be increasingly more capable as the older legacy hornets are replaced by the modern more capable Joint Strike Fighter. However, delays in the Joint Strike Fighter program, budget cuts that reduce either the Joint Strike Fighter or the F/A-18E and F procurements, or early legacy Hornet retirements all could increase our projected Joint Strike Fighter shortfall and will directly impact our ability to provide warfighting effects to our combatant commanders.

Now, these Navy aviation programs, comprised of both platforms and weapons, directly underpin our Navy's strategic plan and directly support our new maritime strategy. The fiscal year 2009 President's budget maintains the trends of balancing conventional

and irregular warfare aviation capabilities. It 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 the overlap with joint capabilities, and preserve warfighting relevance through the 2024 time frame.

Thank you again for the opportunity to appear before you today and thank you for your support of naval aviation and our fleet, which defends our great Nation today and tomorrow. I look forward to your questions.

Senator LIEBERMAN. Thanks very much, Admiral. I know we'll have some questions before you about some of the items you touched on.

We'll go now to the Air Force. Lieutenant General Daniel Darnell is the Deputy Chief of Staff for Air, Space and Information Operations, Plans and Requirements. General Darnell, thanks for being here.

**STATEMENT OF LIEUTENANT GENERAL DANIEL J. DARNELL,  
USAF, DEPUTY CHIEF OF STAFF FOR AIR, SPACE AND IN-  
FORMATION OPERATIONS, PLANS AND REQUIREMENTS, DE-  
PARTMENT OF THE AIR FORCE**

General Darnell: Mr. Chairman, thank you. Mr. Chairman, Senator Cornyn, distinguished subcommittee members: Thank you for the opportunity to speak before you today.

Your Air Force is the most battle-tested in history, as Senator Cornyn pointed out earlier, and every day your airmen find innovative ways to accomplish their mission more effectively and more efficiently. As you know, our first priority is to win today's fight. In the global war on terror, we continue to fulfill our roles as airmen for the joint team, working with our sister services to provide the desired effects to the combatant commanders.

Every day your Air Force flies over 300 sorties in Iraq and Afghanistan, directly integrated with and enhancing ground operations. Since 9-11, America's airmen have flown over 394,000 mobility sorties, moving equipment and troops to and from the CENTCOM area of responsibility. The Air Force has flown over 80 percent of the coalition's combat sorties in support of Operations OIF and OEF. Since 1991 we've flown over 50,000 missions protecting the homeland for Operation Noble Eagle.

Air Force engagement in the GWOT is only the tip of the iceberg. Over 40 percent of the total force and 53 percent of the active-Duty Force are directly engaged in and supporting combatant commanders' operations every day. On any given day, the Air Force has approximately 206,000 airmen fulfilling worldwide combatant commander needs. This includes approximately 127,000 airmen conducting activities such as operating and controlling satellites, standing alert in our intercontinental ballistic missile facilities, operating unmanned aerial vehicles, launching airlift and tanker sorties, providing intelligence assessments, and many other functions critical to each of the combatant commanders.

Airmen fulfilling combatant commander tasks today are fully ready to perform their missions, but future dominance is at risk. America faces a dangerous and uncertain future. Our enemies do not sit idly by. Adversaries both declared and potential continue to develop and field new and better means to threaten our Nation, our interests, and worldwide stability. At the same time, the average age of our air and spacecraft continue to rise and our ability to overcome future threats diminishes. We must be capable of setting the conditions for America's success and we're doing all we can to become even more efficient and effective and to defray these rising costs.

We thank you for your continued support. Once again, I appreciate the opportunity to speak with you today and I look forward to answering your questions. [The prepared statement of General Darnell and General Hoffman follows:]

Senator LIEBERMAN. Thanks, General.

Finally, we'll have Lieutenant General Donald J. Hoffman of the Air Force, the Military Deputy, Office of the assistant Secretary of the Air Force for Acquisition. Good to see you again, General.

**STATEMENT OF LIEUTENANT GENERAL DONALD J. HOFFMAN,  
MILITARY DEPUTY, OFFICE OF THE ASSISTANT SECRETARY  
OF THE AIR FORCE FOR ACQUISITION, DEPARTMENT OF  
THE AIR FORCE**

General Hoffman: Mr. Chairman, thank you. We may have the most battle-tested Air Force that we've ever had, but we also have the oldest equipment we've ever had, as General Darnell mentioned. We're now over 24 years average age. Our Chief and Secretary have testified we need around \$20 billion a year to arrest that. That won't reverse it, but that will at least arrest the aging. As my role as the Military Deputy for Acquisition, I'd be glad to answer any questions you may have on our recapitalization efforts to do that to meet our future threats.

Senator LIEBERMAN. Thanks.

How much is in the budget for you this year? Are you anywhere near that number in the next, during the POM?

General Hoffman: That's over and above what's in the budget, is what we think we need to arrest it.

Senator LIEBERMAN. Well, at some point it's a larger question. Senator Cornyn and I have talked about somehow, maybe at the beginning of the next administration, we need to do that, is to try to formulate hopefully a bipartisan sort of public education campaign about the extent to which we're not funding critical Department of Defense programs because we don't have the money.

Let me go on to some questions, and I'll begin with General Darnell. I wanted to talk about the F-22. Let's do 7-minute rounds and we'll just keep moving, and you'll let me know when I come to the end of the 7 minutes.

I understand, General, that one part of the difference of opinion between the Air Force and the Department of Defense about the F-22s and how many to buy centers on whether the currently planned 183 aircraft would be sufficient to meet wartime requirements. I know that in this public forum we cannot discuss the specific differences, but I want to say in that context it appears that

the Air Force, to me, that the Air Force and the Office of the Secretary of Defense are using different estimates of the threat.

My understanding is that the Defense Intelligence Agency is responsible for publishing coordinated threat estimates against which the whole Department fields capabilities. So I want to ask this question, and I understand your answer will be within the context of this public forum. Is the Air Force using the DIA-approved threat estimates in arriving at its conclusion that you need more F-22s?

General Darnell: Mr. Chairman, it is my understanding that we are using the DIA threat estimates.

Senator LIEBERMAN. Okay.

Then this question is either to you, General Darnell, or General Hoffman. On page 11 of your prepared testimony today you make a statement regarding the timing of the decision to obligate the funds for advanced procurement for F-22 to keep the line operating past the current end of production with fiscal year 2009 procurement of 20 aircraft. I'm going to quote here. You say: "We must make a decision by November to avoid increased costs and a break in the production line before our suppliers begin to exit the market."

At the full committee, the full Armed Services Committee posture hearing in February, Secretary Gates regarding this F-22 production issue: "My objective is to give the next administration an option." Air Force officials, including Secretary Wynn, have told us that they're in agreement with the position of the Secretary of Defense.

So what I want to ask is, how would these positions be in agreement, in other words, signing advanced procurement contracts, as you said today, in November 2008 and giving the next administration an option, when obviously the next administration won't take office until January 20th?

General Hoffman: Mr. Chairman, I think if you recall back on the B-1 story, we cancelled the B-1, we restarted the B-1. So all subsequent administrations have the option. I think it's a matter of at what cost do you exercise that option. To do that in a most efficient manner—

Senator LIEBERMAN. Right.

General Hoffman:—which is where I come from in an acquisition standpoint, and that is to have the right advanced notice, to do EOQ, multi-year or even single lot advanced procurement in a quantity that makes sense for effective production.

If we go past November, we'll start seeing shutdown of sub-vendor tiers and all that, and then to go back and recapture them will become more expensive. And every month after that the costs will go up of what it takes to go back and recapture them, without a path forward, without a commitment for additional procurement.

Senator LIEBERMAN. Okay, I appreciate that answer. I assumed that's what you had in mind. I'm curious whether you've calculated at all what the dollar and schedule effect would be of waiting actually until January or some time thereafter to make a decision.

General Hoffman: Well, it takes about 3 years to build an F-22. From when we go on contract, it's 35 months until it rolls out the door. So that's at an efficient rate. If you're at a less than efficient

rate, that number can vary. So December 11 is when the last F-22 goes out the door right now. So you can back that up to find out when you're in that 35-month window and then it's a month for month delay to that. Costs go up, and depending on how many months that will be will determine what the cost is.

There's no per-month cost because it's an increasing amount every month as additional sub-vendors close their doors.

Senator LIEBERMAN. But you can say with some certainty that waiting until '09 to make the advanced procurement decision would cost more money?

General Hoffman: Yes, sir. November of this year will be fiscal year '09, but if you're talking about calendar year '09 to make the decision—

Senator LIEBERMAN. Yes.

General Hoffman:—we're already into the fiscal year and we do not have the authorizations there to keep those sub-vendors still alive.

Senator LIEBERMAN. So what you're saying is that there's time and money to be saved by doing the advanced procurement in November of this year, and that your understanding of Secretary Gates' position about giving the next administration an option is basically meaning that they can stop the process if they choose?

General Hoffman: Yes, sir. Depending on when the next administration would form as a team to build or get that decision through the Congress as well.

Senator LIEBERMAN. In calendar '09, okay.

Admiral Myers, let me ask you a question regarding force structure. We talked about the shortfall in aircraft. I want to understand whether you're saying that the combination of the Joint Strike Fighter and upgrading existing planes will actually fill the gap, which we have at least 69 aircraft short of the number required to support the ten aircraft carrier wings? So is that combination that you talked about in your opening testimony adequate to fill the gap?

Admiral Myers: Chairman Lieberman, we will have a 69- aircraft, tactical fighter aircraft gap that peaks in the 2017 time frame if we continue to follow the current program of record and there are no delays in the Joint Strike Fighter. So that assumes that we receive the program of record for the Joint Strike Fighter as it's identified in the President's budget '09, and that also assumes that we don't have any other early retirements of our legacy Hornets that we're completing the analysis on the service life extension program.

Senator LIEBERMAN. Let me ask you about how much risk, on that last point, you think we're exposing ourselves and obviously our pilots to by assuming that the F-18, which was designed for 8,000 hours, will be able to fly operationally until it reaches 9,000 hours?

Admiral Myers: Chairman, that's a great question. We have over the last few years spent quite a bit of time doing the analysis to try to get what came to us from the factory as a 6,000-hour aircraft, 6,000 hours with 8,300 landings and 2,000 cats and traps, and we have already taken those aircraft, the legacy F-18A

through Ds, out to 8,000 hours—so we’ve done that successfully—and extended their landings to 14,500 and 2700 cats and traps.

So this is the next phase, to try to get the hours from 8,000 to 10,000. We’re not going to increase the cats and traps or the landings. Our analysis to date shows that we think we’re going to get to the number of aircraft that we need. We have about 640 legacy F/A-18s and if we get half of those to a point where we can extend them, meaning we’ve looked at each aircraft, we understand the 159 hot spots that are associated with high fatigue and corrosion areas for every aircraft, and then of those 159 hot spots 100 are going to require some kind of engineering change or augment to extend it if it shows where.

So what we’re doing right now is we’re completing the analysis to identify which aircraft will fall into that category that we can extend, and then we’ll start with the engineering change proposals at the end of the summer. So it’s a little bit early to say that we’re going to get there with all of the aircraft that we need for the 10,000- hour extension, but we’re confident that we are on the right track and we’ll know more here in the next few months.

That’s our challenge in POM 10, is to make sure that those engineering changes are funded and that we have all the aircraft that we need programmed to try to do what we can to mitigate that shortfall.

Senator LIEBERMAN. My time is up, but just to ask a quick answer. I presume you’re imposing a high standard of acceptable risk here as you extend the hours of service life for individual planes?

Admiral Myers: Sir, this is what I would term as a highest standard of acceptable risk. We would not put our tactical aviators in a position if we weren’t confident that we could safely extend the aircraft.

Senator LIEBERMAN. Right. Thank you.

Senator Cornyn?

Senator CORNYN. Thank you, Mr. Chairman.

General Darnell and General Hoffman, we’re all aware of the controversy surrounding the KC-45 tanker program and I’m not going to get into the merits of that. But I would like to just ask a few basic questions about this top priority program for the Air Force.

First of all, General Darnell, how urgent is the requirement for a next generation of aerial refueling tanker?

General Darnell: Senator Cornyn, we consider it so urgent that we’ve made it our number one acquisition priority. Our average fleet age for our KC-135Es is 45 years, and our maintenance man-hour costs per flying hour for the KC-135 has gone up dramatically and exponentially. So we again consider it that important to make it our number one acquisition priority.

Senator CORNYN. General Hoffman, compared to other programs that you’ve witnessed over your career, would you compare how fair, open, and transparent was the bid and award process for the KC-45 tanker compared to those other programs you’ve witnessed over your career?

General Hoffman: Yes, sir. I would say that this is unprecedented in the amount of effort that’s gone into being open to all partners in this, both between the Department of Defense with

Congress on what the game plan is. It's been unprecedented in the amount of exchanges we've had with the vendors of what our intentions are and getting feedback from them before we locked in the requirements, that we made sure we had executable requirements from our industrial partners.

I can think of no program that's gone through the volume of effort that this program has.

Senator CORNYN. General Darnell, General Trautman and Admiral Myers, I want to ask about the second engine on the F-35, because, frankly, I'm perplexed. Congress acted to restore funding for the development of the second engine production source for the Joint Strike Fighter and actually passed legislation requiring a second source, and the Department has, it looks like has ignored that.

Can you please describe the Department's rationale for doing so, if in fact you agree that's happened? I'd like to know whether the Navy and the Air Force support the Department's decision, and why or why not. General Darnell, you could start, please, or General Hoffman if you think it's more appropriate.

General Hoffman: We do support the President's budget and the Department's position on this. In a fiscally constrained environment, the balance of risk versus the benefit of competition is balanced, and we think we have a track record in other aircraft that have a single engine provider to give us confidence that we'll have a successful program.

Senator CORNYN. General Trautman, would you care to respond?

General Trautman: Senator, the issue for the Marine Corps is how do we stretch the limited resources that we have across a wide range of needs. It is incredibly important that we keep the F-35 on track for a 2012 IOC for all the reasons that Admiral Myers so clearly articulated. So it just becomes a matter of that as a decisionmaker for us.

Senator CORNYN. Admiral Myers, do you have anything you'd like to add?

Admiral Myers: Yes, sir, just that the Navy and the Department continue to believe that the risks associated with a single engine supplier are manageable and do not outweigh the investment required to fund a competitive alternate engine.

Senator CORNYN. Well, I know this has been the subject of a lot of discussion and hearing over time. I'm one of those who if you tell me the military needs something I'm willing to open up the Treasury to pay for it. But it's a little perplexing why, given the discussion and the conscious decisionmaking process by Congress, that this budget ignores that judgment. So I guess we'll have to go through it again this time.

Let me ask Mr. Balderson and General Hoffman. The Government Accountability Office recently released a report critical of the F-35 and I alluded to that in my opening statement. They took exception to the program's current risk reduction program, schedule and cost estimates. I'd like to give you an opportunity, if you will, both of you, to respond to that.

Mr. Balderson: Senator, I'll start if I can. Actually, there have been two reports. I'd be happy to respond to both of them. The report that you refer to I think basically had two findings. First, it was critical of the midcourse risk reduction plan; and then, second,

there were a series of recommendations that addressed the need for an independent cost estimate and schedule risk assessment.

With respect to the midcourse correction recovery plan, we believe that this was a strategy that was carefully considered over a very long period of time. There are really two elements to the risk reduction plan. The first element is a very modest reduction of staffing at Lockheed Martin, engineering staffing at Lockheed Martin, during the end of the development phase. When I say modest, there was already, of course, a reduction plan for people, as you would at the end of a development program. Our risk reduction plan reduces those people about 5 percent faster.

The second piece of that reduction plan was to reduce two test vehicles. What we have to keep in mind is that when we entered the STD phase of this program about 6 years ago, at that point we had a test plan and made certain assumptions about the number of test hours we would need and the test vehicles that we would need. 4 years into the program, when we decided that we did need to recoup some management Reserve and we began to look for opportunities to do that, the Lockheed Martin team, the Lockheed Martin- government team, all unanimously believed that what we had learned during that first 4 years made it clear that there were two vehicles in that test plan that we didn't need.

We didn't go looking for areas to cut and picked test vehicles. It became clear to us from information that we had gleaned over the first 4 years that we could do without those vehicles.

We believe we have a mitigation strategy for both of those areas should we prove to be wrong. First of all, we're going to watch this very carefully over the next couple of years. With respect to the people, very simply, if we're not ready to remove those people we won't remove them. They won't come off the program before the time. We just believe that we will be able to get rid of them at this pace.

Second, we have a fallback position with respect to the two test vehicles. We don't believe we will need those vehicles for the test program, but if we do we're prepared to substitute LRIP vehicles to complete the op-eval, and we know that we can do that.

Just very briefly, the other piece of the recommendation with respect to independent cost estimate and schedule risk assessment, we completely agree with that. In fact, prior to this particular GAO report coming out the Department had chartered what we call a joint independent review, where the Navy and the Air Force independent cost teams, teaming with OSD's CEG, are as we speak doing a comprehensive cost and risk assessment that will inform POM 10 and will inform a decision to proceed on with the subsequent LRIPs.

General Hoffman: Senator, I would just add, the GAO made a bunch of observations. They took some data points. But we don't necessarily agree with how they connected the dots in projecting forward into the future. I think the program office is the source for the truth on that. We've been tasked in both services and the OSD staff by Mr. Young to come to closure on what we think the expected at completion cost is, and that process is going on throughout the summer.

As you know, the select activity report for '07 shows really no change from '06 in that regard. But we do admit there was cost and pressure schedule in this program. We're trying to define that here in the next couple months so we can inform POM 10 build and the building so that we can deliver a quality product to you next year with confidence in the way ahead in this program.

I will say that this program has learned a lot from the F-22 program. We have a very robust test fleet and additional test assets, like the cooperative avionics test bird and so forth, to wring the risk out of the program in a timely manner so that we can make informed decisions as we go through our low rate initial production lots into full rate production.

Senator CORNYN. Thank you. My time has expired.

Senator LIEBERMAN. Thanks, Senator Cornyn.

Senator Chambliss?

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

General Hoffman, going back to Senator Lieberman's comments relative to the F-22, I notice in your statement where you talk about the line being shut down or a line being kept open. Obviously, as you said, under the current procurement situation the line will start shutting down in November. Suppliers will begin backing off. And that if we're truly going to keep that line open, as you state on page 11, it will require \$595.6 million in the fiscal year 2009 advanced procurement budget, is that correct, for 24 additional aircraft?

General Hoffman: Yes, sir. We need \$595 million for advanced procurement. Some of that money can come from money we have set aside right now for the tail-up expenses. If there is a lot 10, that tail-up gets deferred, so the amount of money, \$125 million, that's in there for lot 10 can be applied toward that advanced procurement.

Senator CHAMBLISS. What about the satisfaction of the Air Force as a customer as to what's being done with respect to the F-22 production now? Is it moving the way you want it to move?

General Hoffman: Absolutely. You may recall 4 or 5 years ago that we were struggling to get on schedule and stay on schedule. We have more than recovered schedule. Their average delivery is 2 months early now and we're actually getting jets that are being delivered with zero writeups on them.

Senator CHAMBLISS. There is conversation about four more F-22s being added to the supplemental. What does that add to the time from the standpoint of the production line being kept open?

General Hoffman: Sir, that adds four aircraft to the fleet. It adds very little to the debate about keeping vendors open. At the current production rate, if we blended it in at the same production rate, that would be less than 2 months of production.

Senator CHAMBLISS. Based upon where we are with respect to the F-35, which is a great airplane and obviously I think we all agree we've got to continue down the road with that weapons system, but given the current procurement plan, will the Air Force have a gap in your fighter inventory line?

General Hoffman: Yes, sir, but I'll let General Darnell talk to that from the requirements standpoint.

Senator CHAMBLISS. Okay.

General Darnell: Senator, yes, we will. Based on the program of record, beginning in 2017 we will start incurring a gap, out to the 2024 time period. Based on a delivery of 48 F-35s a year and 183 F-22s, we would anticipate a shortage of over 800 aircraft in 2024.

Senator CHAMBLISS. In your opinion is there any need to do an additional study to determine what the right mix is of legacy as well as fifth generation aircraft?

General Darnell: Well, Senator, right now, in light of that, we're doing—as Admiral Myers already talked about, we're already starting to review what that mix of legacy might have to be if we're unable to increase production.

Senator CHAMBLISS. I note from your written statement that, regarding repairing the F-15A through Ds, that the commander of Air Combat Command has proposed that of the nine aircraft still grounded due to the longeron cracks, five will be repaired, at a cost of approximately \$235,000 per plane or a total of \$1.2 million. Is that correct?

General Darnell: That's correct, sir.

Senator CHAMBLISS. Is that the extent you think the expense of those grounded aircraft is going to come to?

General Darnell: Those are our best estimates at this time, yes, sir.

Senator CHAMBLISS. Do you recommend purchasing any new F-15s?

General Darnell: No, sir, I do not.

Senator CHAMBLISS. You discuss the F-22A future capabilities and modifications in your written statement. You talk a little bit about the criticality of this program to upgrading our current F-22s. As we know, GAO recently issued a report that was critical of the F-22 modernization program. Do you agree with the GAO's assessment?

General Darnell: Sir, I probably ought to let General Hoffman talk to that. As an operator, quite frankly, I did not. But he may have a little more insight than I.

Senator CHAMBLISS. General Hoffman?

General Hoffman: Sir, I think it's a matter of when you put your probe into the program and all that. They had comments in there about the maturity of some of the technologies. We are well on our way on the early increments of those modernization programs. 3.2 is fully funded. Like all modernization increments, there's continuous debate as technology matures at a certain rate or as funding is available at a certain rate, what crosses in the boundary between that increment and the one preceding it or the one following it.

That's the whole beauty of increments, is it gives you that flexibility as you approach that time frame to make those decisions on content in order to hold schedule and cost.

Senator CHAMBLISS. What's going to happen in that gap period out there? If we're going to be 800 airplanes short, what's the plan?

General Darnell: Senator, that is one thing we're going to have to figure out, is exactly what we're going to do with our legacy fleet, specifically F-15s. We have 177 programmed to go out to the 2024 time period or time frame. We're going to do a tear-down analysis this year. We're going to do a fleet viability study; the re-

sults out to be out in the May-June time frame. We're going to do a complete review of the program to see where we need to go.

We've extended the life of the F-15s now to 8,000 hours.

Senator CHAMBLISS. What's the oldest of those F-15s we have in those legacy aircraft now?

General Darnell: Calendar age, we've got aircraft that are 25 years old.

Senator CHAMBLISS. General Trautman, you note in your written statement that the KC-130J aircraft are continuously deployed in support of Operation Iraqi Freedom and providing multi-mission tactical air refueling and fixed wing assault support, and that these aircraft reduce the requirement for resupply via ground and limit the exposure of convoys to IEDs. You also note that the introduction of the aerial refuelable MV-22, combined with the retirement of the legacy KC-130, requires accelerated procurement of the KC-130J.

I note that the Marine Corps unfunded program list includes a request for \$150 million for two KC-130Js. Can you please articulate how procuring these additional aircraft in fiscal year 2009 would support your requirements for refueling and in-theater logistics support and how you might be better able to support deployed marines and marine assets if you had additional aircraft sooner?

General Trautman: Thank you, Senator. Yes, sir. Our program of record is for 51 KC-130Js in the active-Duty Force. We've had 36 aircraft delivered or on contract. We've kept these airplanes very, very busy in the support to deployed forces. In fact, we're flying them at about 250 percent of our planned rate.

That means that beginning in about September of this year we'll start the process of taking airplanes off the flight line to put them into required depot-level maintenance. So the stress on the force as we continue this transition will continue and will actually exacerbate itself slightly in the fall. So any additional airplanes that we can put in the hands of our operators will be put to good use.

Senator CHAMBLISS. Thank you, Mr. Chairman.

Senator LIEBERMAN. Thank you, Senator Chambliss.

Senator Pryor?

Senator PRYOR. Thank you, Mr. Chairman, and thank you for your leadership on these issues; very important.

If I may, Mr. Balderson, let me start with you. I want to ask about helicopters. Of course, you have the MH-60, which has kind of been the workhorse of the fleet. As I understand it, back in previous budget years there was a decision to consolidate some of our helicopters and have more MH-60s and fewer other type of helicopters. Does that decision that was made a few years ago still make sense, and can you give the committee a better understanding of what Fleet Forces Command's study is trying to address?

Mr. Balderson: Senator, if I could I'd like to refer that question to Admiral Myers. It has more of an operational than a budget flavor. I'd be happy to address the acquisition aspects of the program.

Senator PRYOR. Okay. Admiral Myers?

Admiral Myers: Thank you, Senator. The reduction from seven type model series of helicopters to two started back in the late 90s with our helicopter master plan, and that's been refined and up-

dated since 2001 to make sure that we're on the right path. We're essentially going down to two type model series, which is the MH-60 Sierra, which will be an anti-surface and a mine warfare platform, as well as a logistics platform; and then the Romeo, which will be our ASW helicopter.

Of recent, the last few years, we've taken a look to make sure that we're on the right path and, knowing that our MH-53s are going to retire starting in the 2016 time frame and be retired out about the 2019 time frame, that that will mean that our heavy lift, vertical lift capability goes out with that helicopter. So Fleet Forces Command was asked—was requested to do a vertical heavy lift requirements study to make sure that we had a good idea of what the operational environment was going to be starting in that time frame and what the requirement was going to be in that time frame, and that we had contingencies or a way of operating that would accommodate the things that we're currently using an MH-53 heavy lift helicopter for.

We thought that that heavy lift CONOPS was going to be completed last fall. It's been sort of rescrubbed and we don't anticipate that that's going to be available for us from Fleet Forces Command until some time early next fall. But that will help set us on the right programmatic path in the future and-or assure us that we're on the right glide slope with the reduction from the seven type model series to two.

Senator PRYOR. General Hoffman, let me ask you, if I may, about the C-130J program. As I understand it, there is no request for C-130Js in the fiscal year 2009 budget. Given the aging C-130E fleet, etcetera, and some of the problems we've had there, why have we not requested any more C-130Js?

General Hoffman: Senator, I think it's a combination of us completing the multi-year buy that we're presently on, plus the amounts that are in the GWOT right now. Then you'll see it pick up again in the '10 request and on, where we have kind of a steady state level of effort for the C-130J recapitalization.

Senator PRYOR. So will J's still be—they'll still be being manufactured during the fiscal year 2009 cycle?

General Hoffman: Yes, sir. In fact, there are some in there. Even though the numbers may be zero in the production there as far as the request, there is more of a steady flow through the factory during that time frame there because of prior GWOTs, because of the Marine Corps buy and because of foreign buys and all that. There's activity throughout that time period.

Senator PRYOR. Let me ask about the CV-22 if I may, General Hoffman, about—can you give me a good understanding of the acquisition status of that and any kind of problems that you see with the CV-22?

General Hoffman: We're completing the initial operational test and evaluation for the Air Force variant of the V-22. We're completing that this summer. We'll get test report on that. So I'll hold fire until the testers give their professional opinion on what we think—what they think is going on.

But I've heard nothing at my level that causes any concern on the acquisition and continued production of that aircraft.

Senator PRYOR. Thank you.

Mr. Balderson, there's one sort of theme that we get tired of hearing here in the Senate oftentimes, and that is that oftentimes when it comes to military acquisitions there's two things that happen. They get behind schedule and they get over budget. I know that you have several items right now in your mix that you're overseeing that are behind schedule and over budget, and it's like what Senator Chambliss asked a few minutes ago. When you start to get into that situation, you still have the needs that are still there.

But let me ask about—let me start with one of those and that is the presidential transport, the VH-71. As I understand it, it's behind schedule and they may cost more than we thought they would. What's the status of that?

Mr. Balderson: Let me speak to the VH-71 in two increments, Senator. Increment one, which is the initial capability, five aircraft, that program is proceeding I would say reasonably well. There are three increment 1 test vehicles flying at Patuxent River currently. All five of the increment 1 production vehicles are in various stages of production in Yeovil, England. They will all be delivered by the end of this year to begin testing, and we're projecting an IOC of September 2010. That's about 11 months later than the original projection, which is why I say the program is going reasonably well. We lost some time and progress when we initiated that program. We couldn't recover all of that. But we feel confident that that program is going well and we'll introduce that initial operational capability of increment 1 in the September 2010 time frame.

Increment 2 has been a different challenge. Increment 2 is a considerable leap in terms of capability, in terms of range, communications, survivability, etcetera, etcetera. It was always anticipated to be a much more capable aircraft. We recognized at the end of calendar year 2006 that we were not going to be able to execute increment 2 on cost or on schedule and frankly since the end of 2006 we have been evaluating any number of options to proceed forward and deliver that capability.

In fact, toward the end of last year, because of funding shortages for increment 2 and because we were in the process of restructuring, we issued a stop work order and currently there is no work. We have increment 2 on hold.

Recently, having evaluated a large number of options to proceed with increment 2 or other alternatives and working closely with the White House, we've made the determination that the increment 2 capability and the program of record that we have on hold now is really the only way and the only means of meeting the requirement for this capability. So what we have ongoing at the current time is we are now working very closely with Lockheed Martin to get a proposal that would lead to a negotiated restructure of that contract by the end of this year.

We're preparing to go to a Defense Acquisition Board in the fall, which would give us the authority to proceed. As we do that, we're developing and refining our cost estimate for the program. It does look like at this point, depending on how negotiations go and what sort of trades we might be able to make, it does look like we're talking about a cost growth in the neighborhood of \$4 billion and probably roughly 5 years in delivering that IOC.

I would add that the only way we can restart increment 2 in the fall is with the '09 authorization and appropriation. We don't have funding in '08 to continue with increment 2 for a number of reasons, which I can go into. So there are about \$300 million—billion dollars, in the '09 budget request that would continue increment 2, and we will need that to get the program restarted.

Senator PRYOR. That's not great news, because it sounds like, if I understand it, that program is going to be, what did you say, \$4 billion over budget and 5 years late?

Mr. Balderson: The increment 2, that would be a pretty close estimate, yes, sir.

Senator LIEBERMAN. Yes, that's tough news.

Senator PRYOR. Thank you, Mr. Chairman.

Senator LIEBERMAN. We'll pursue that further.

Thank you, Senator Pryor. We'll start a second round of questions.

I want to come back to the questions about the aircraft shortage projected. General Trautman, I know one of the projections for a shortfall for the Marine Corps was a minimum of 56 aircraft short of the, and required to support the three Marine air wings. Since the Marine Corps, going back to my conversation with Admiral Myers about the F-18, also is flying F-18s and is contributing squadrons to certain carrier air wings, how is that potential gap of at least 56 aircraft going to affect the Marine Corps's ability to meet its commitments?

General Trautman: It puts us in a different position, Senator. It does hit us about the 2017 time frame. This gap needs to be managed aggressively and I think the Department of the Navy, the Marine Corps and the Navy, are working together to mitigate the gap through things like the service life assessment program and the service life management programs that we have in place, so that we can make sure we get every single legitimate safe flight hour out of the existing force.

From our perspective, anything that puts pressure and that delays the arrival of F-35B increases our concern about our ability to provide the kind of aviation service to our Marine air-ground task forces that the joint forces commanders expect from the Corps.

Senator LIEBERMAN. This comes back again to the critical importance of the Joint Strike Fighter program and doing everything we can to make sure that there are not delays in delivering it, right?

General Trautman: It's absolutely essential from the Corps' perspective. We made a conscious decision over a decade ago to forego the F-18E and F.

Senator LIEBERMAN. Right.

General Trautman: It was a wise decision, I think, when you look at the relative capability sets between this fifth generation fighter, strike fighter, the F-35, and the F-18. But as that bridge gets longer and longer, it puts our force under considerable stress and increases the concern that the Commandant and I and others have about our ability to make that bridge.

Senator LIEBERMAN. Absolutely.

In that regard, Secretary Balderson, there have been reports of engine testing failure that certain engines have had when operating—I'm talking about the F-35—when operating in the more

highly demanding mode for the Marine Corps STVL aircraft. Can you give us a status report on the F-35 engine, particularly as regarding the STVL operating demands?

Mr. Balderson: Yes, sir. What occurred on two occasions in the last few months is an engine on a test stand that was undergoing testing, and it was in the lift mode, the highest stress lift mode for the STVL variant, the two engines failed. The first one failed at a point where the engine was under the highest stress. It broke a blade in the third stage of the engine.

The company, Pratt and Whitney, began undergoing—they believed they understood the root cause fairly quickly. They began ongoing testing on another engine, put it in exactly the same mode. The intent actually had been to get it up to a mode where they were able to determine that the engine was about ready to fail, but to cut it off before it failed. They got it into that mode, didn't get it shut off quickly enough, and at exactly that same mode they had an identical failure. In fact, if you look at the pictures you can see the blade broke in the same place and almost in the same shape.

The company feels pretty confident, based on the fact that they had already been working a fix and this testing was to validate the fact that they understood the root cause, they're pretty comfortable that they understand the root cause, and they're doing additional testing as we speak to verify that. That testing should be completed by the end of April.

Concurrent with that, they are developing a design fix that, assuming the root cause that they've determined proves out at the end of this month, they'll implement the design fix.

So at this point, obviously, we view any sort of test failures like this with caution and with great seriousness. We do believe Pratt and Whitney and the government team have a handle on this, and the plan now is to proceed. We're going to delay first flight of STVL a little bit just to make sure we have the root cause and the fix established. But the plan now is to delay first flight no more than a month, because the first flight of STVL is going to be in the conventional mode anyway, and one of the things that Pratt and Whitney through their testing is confident of now is that this sort of problem doesn't exist in the conventional mode. It's only in the lift mode for the STVL.

Senator LIEBERMAN. So at this point your hope is that that engine test failure will result in only a minimal delay in the ultimate availability of the STVL variant of the Joint Strike Fighter?

Mr. Balderson: Yes, sir. The current plan is to delay the first flight of the STVL 1 month in the conventional mode, and I believe I have these dates correct. The first flight in the STVL mode was supposed to have been in October of this year. We're looking to probably delay that a couple of months.

Now, prior to flying in the STVL mode, which is projected now for the December time frame, Secretary Young and Secretary Winter have asked to get together and hold a review of the test data and the technical data to make absolutely sure that we're confident that we have the fix and that they're confident that we can fly safely.

Senator LIEBERMAN. Okay. Obviously, these are very sophisticated, complicated aircraft. But we want to do everything we can,

for just the reasons General Trautman said, and I know you agree with this, to get the Marine Corps this plane on time, even beyond that if possible.

General Hoffman, let me change the subject to UAVs. The Army is planning to buy a large number of Warrior UAVs in upcoming years and intends to buy its own fleet of medium endurance UAVs because it does not believe that the Air Force will adequately support the ground forces with Air Force assets.

Last year we heard that the Air Force could end up buying the Army version of the UAV. Is that still the case?

General Hoffman: Yes, sir. In fact, we're buying two of them and we are running through the test program. There are many attributes of the Warrior that we like, like automatic takeoff and land, heavy fuel use engine, more ruggedized landing gear, and so forth.

There are some things on the early Warriors that would not serve our CONOPS, if you will, using the reachback methodology that we use right now of actually flying from the States, launch them forward, fly them from the States. But as Warrior progresses those attributes will be in Warrior as well.

So we're not afraid of the C at all. In fact, we're embracing it, and as soon as it proves itself in tests we'll probably just transition our production from the B to the C.

Senator LIEBERMAN. So you intend—right now you're on a path to become—essentially to join the Army program on this one?

General Hoffman: Yes, sir. And I would, just to qualify one comment you made earlier, I don't view any of our assets as Air Force assets. I view them all as joint assets. Wherever the theater commander wants them, that's where they go. We do not have Air Force ISR targets that we service for our own needs.

Senator LIEBERMAN. Thank you for that answer.

My time is up. Senator Cornyn?

Senator CORNYN. Let me return for a minute to the F-35 for one or two more questions. Mr. Balderson and General Hoffman, the GAO released a report last month that said the JSF costs had increased by more than \$23 billion over the last year because of a 7-year program extension, future price increases, and increases in the price of materials. However, according to the selected acquisition report released this past month by the DOD, the F-35's program costs decreased slightly over the final months of 2007 and the effort did not experience a significant cost breach during that time requiring Congressional involvement.

The report says JSF program costs decreased by \$981 million, from \$299.8 billion to \$298.8 billion, over the 3-month period.

In your view, which report more accurately reflects the reality, the GAO report or the SAR report?

General Hoffman: Senator, I think it's apples and oranges here. If you knew that you were going to die in 10 years and then you found out you were going to die in 17 years, you're going to live 7 years longer and that's going to cost more money than dying in 10 years.

What the GAO, primarily what they're talking about is life cycle costs. Because of the production rates that we're going to, we're going to be making these things 7 years longer than we originally

planned. So if you make them 7 years later, they live 7 years later. Those are operating costs primarily in the out years.

The SAR reflects our development and production of the aircraft. As we both talked about before, I think we'll have more fidelity on that cost through the summer here as we work to build the '10 POM.

Senator CORNYN. Mr. Balderson, do you have anything you'd like to add on that?

Mr. Balderson: Just I agree with that completely. Secretary Young testified recently, and I mention this because I think this is what I anticipate also. He testified that we anticipate that when this independent cost estimate is done this fall, the joint independent cost estimate, we probably will have to put modest amounts of funding in the F-35 program to keep it stable. I think that's accurate, and that will—you will in no way see the kinds of costs GAO is talking about in the development of the production, we don't think.

Senator CORNYN. Senator Lieberman asked a little bit about UAVs. I'd like to follow up on that subject. In 2001 Congress established as a goal that by 2010 one-third of the aircraft in the operational deep strike force should be unmanned. However, the unmanned systems road map just delivered to Congress does not describe how it plans to achieve this goal, nor does it include striking targets as a key UAV role or mission in the future.

I'd like to know—this will be for General Darnell, General Trautman, or Admiral Myers—how does your service—how is your service doing toward meeting the goal set in 2001 for an operational deep strike by UAVs, and do you see striking targets as a potential mission for UAVs in the future, and if so why, or why not?

General Darnell, I don't know if you're the—or General Trautman or Admiral Myers.

General Darnell: Sir, we can tell you that in the PB, in our fiscal year 2009 PB, we have 92 aircraft that we plan to buy. Of those 92, 54 are UAVs. So we feel like we're making a significant statement in where we want to go. We know our next generation bomber, our next generation bomber we've also specified can be either manned or unmanned. Over the fiscal year DP, approximately 35 percent of the vehicles that we will purchase will be UAVs.

Senator CORNYN. I think the question really related to the operational deep strike capability. Would you address that issue?

General Darnell: Senator, we look at deep strike in several different ways. You can—with a Predator UAV, you can still accomplish deep strike. Are you talking about a bomber type aircraft?

Senator CORNYN. The last UAV road map provided kinetic effects as a prime mission area, although the latest UAV road map, written in December 2007, no longer included kinetic effects as a major UAV goal or operational mission area. I'm just trying to get a grasp on what you think these UAVs are going to be used for.

General Darnell: I can tell you, Senator, as far as the Air Force is concerned, we're going to be doing a combination of reconnaissance and kinetic effects. Like I said, I'm not familiar with that report. I can tell you that our plan is to transition, frankly, to MQ9,

which is our Reaper aircraft, a much larger aircraft with much more kinetic capability.

Senator CORNYN. General Trautman, would you agree that kinetic effects, striking targets, is going to continue to be an important role for UAVs?

General Trautman: Senator, absolutely. It's a growth industry. It's inevitable, and the pace at which it comes is just a function of technology development and finding the resources to apply to the new CONOPS.

With regard to the Marine Corps's role here, we typically don't own assets that do the classic deep strike. Clearly, our UAS approach in the near term has been the tactical level UASs, Raven B, Shadow, and Scan Eagle. We have a plan for a program of record with an IOC in the mid teens, around 2015, in which we're doing an analysis of alternatives now, and one of the attributes of that system is the desire to do the kind of precision strike that you're talking about. But it's still a little ways out there for the Corps.

Senator CORNYN. Admiral Myers, would you care to add anything?

Admiral Myers: Yes, sir, and thank you for the question. The Navy's approach to UAVs is, if I could divide them up into four areas: First is a fighter or FA-XX, and we have currently the Navy UCAS demonstration program that's under way, and that will go out to a carrier. We have two vehicles, X-47. That goes out to the carrier in the '11 time frame.

Let me just give you a broad brush and then I'll deep dive into each one. In the high end, deep penetrating strike and persistent realm is the FA-XX, or NUCAS. The next level below that BAMS, Broad Area Maritime Surveillance. The next level below that is our VT UAV, which is currently in testing, that will be deployed on our LCSs, Littoral Combat Ships. Then below that is, at the extreme tactical level, the Scan Eagle or STUAS, which is essentially an extended sensor for the deploying unit that's using it.

I'll start with FA-XX. Right now, our overall road map plan for naval aviation has us recapitalizing a strike fighter type about every 10 years. So if every 10 years we're recapitalizing half of our strike fighter fleet, then that means at this point we're transitioning in the teens into the Joint Strike Fighter, IOC in 2015 for the C variant for the U.S. Navy. 10 years later in the 2024–2025 time frame, when the F/A-18E and F Block 2 aircraft start to retire, that's when we want to recapitalize with the FA-XX.

So that's our challenge in POM '10, is to make sure that that program gets started and gets moving in the right direction starting with analysis of alternatives and moving forward. In order to deliver that in the 2024 time frame, we need to move out right about now. We think that it's about a 12-year process to deliver that kind of capability.

One level below that is our BAMS, which we just recently attended a DAB and will announce more specifically the direction we're heading here in another week. BAMS is an ISR and communication relay, broad area surveillance platform that will augment our maritime aircraft, our P-8s. It is intended to deliver starting

in the 2014 time frame, and it will take about 33 percent, 30 to 33 percent of the workload of ISR off our P-8s, so therefore it has a direct corollary to reducing the inventory.

One step below that is VT UAV, and that's currently in testing. That's to augment our Littoral Combat Ships in both the MH-60 Sierra and the MH-60 Romeo variety. So what that'll do is take about, again about 30 to 33 percent of the flights off the Romeo and Sierra for the Littoral Combat Ships and perform EO and IR, electrooptical and IR type of work, and also a communications relay to enhance the capability for the Littoral Combat Ship to do all three missions, the mine warfare, anti-submarine warfare, and ASuW, anti-surface warfare.

At the tactical level, we're currently enjoying the use of Scan Eagle, but it's time to recapitalize and look at the next generation of capabilities, again at the tactical level, to be used on our surface combatants.

So right now those are some of our—kind of a broad brush of our programs. Our challenges coming into this upcoming POM cycle are to make sure that all of those programs are either funded to the level that we require or are started in a manner that they'll deliver on time.

Senator CORNYN. Thank you very much.

My time has expired.

Senator LIEBERMAN. Thank you, Senator Cornyn.

Senator Chambliss?

Senator CHAMBLISS. Gentlemen, that's pretty exciting, to think about where we're headed with the future of tac air, if one of these days we're all, all of our tac air, unmanned aircraft. It's just an entirely new generation we're thinking about. I see all four of you are proudly displaying wings on your uniforms. Are we going to replace that with a joystick or something for these guys that'll be flying those? That's truly exciting.

I don't have a dog in this tanker situation from the standpoint of a parochial issue, but I am, as we all are, very concerned about where we're going here, because we have—I think every branch has expressed a real need for this tanker issue to move forward, that we're hitting a critical time.

Now, I realize the Air Force contract is currently being reviewed by GAO and I certainly look forward to hearing what their opinion is on the issue of this particular contract. One issue that I hope you look at closely is to what extent the Air Force accepted or did not accept as compliant the commercial pricing data that the bidders and the partners provided and whether or not this data was dismissed during the Air Force's evaluation of the proposals.

Obviously, if the data was faulty it should not be accepted. But if the data submitted was accurate and did comply with what the Federal Acquisition Regulation requires, it seems to me it should be accepted as such.

General Hoffman, I wouldn't ask you to necessarily comment on that because I think this is something that I just want to get in the record. But it is an issue that we've got to be very clear on as we move forward on this.

I think, Mr. Chairman, that's all I have.

Senator LIEBERMAN. Well, thanks very much, Senator Chambliss.

I don't know if Senator Cornyn has more questions. Okay, I'll delay a little bit. I don't have any more questions, although I thought while I had you all here I would repeat something and just kind of throw a jump ball out there and see if anybody wants to respond.

This was a comment from a colleague recently—it's very different from anything that we've talked about today—who said—it probably reflects a lot of thinking from people who are just watching our military situation. The comment was this: The Army and Marine Corps are so deeply involved in Iraq and Afghanistan that, as this colleague said, if we get into another crisis we're really going to have to totally rely on the Navy and the Air Force.

You may want to contend with the first part, the first premise there. But I'm curious. This is sort of the lay person's conventional wisdom out there, and I wonder if any of you have a response to it?

General Darnell: Mr. Chairman, I would have to probably agree with that, if we're talking about another major conventional operation, at least at the outset.

Senator LIEBERMAN. Yes. In other words, that we wouldn't have the available Army and Marine Corps capabilities to go into another major conventional.

General Darnell: I testified about a month ago to the Readiness Subcommittee and my biggest concern in that discussion with the committee was the fact that we are looking at some troubling readiness indicators now and today, and my concern was we're mortgaging our capabilities for tomorrow, for the very scenario that you bring up.

Senator LIEBERMAN. Anyone else? Admiral?

Admiral Myers: Sir, some of your comments I think are appropriate if you would look at our new maritime strategy and the six tenets, where it ranges from our ability to provide humanitarian assistance and disaster relief, to partnerships at sea and sea control. The items that you just mentioned fall in the area of deep strike or deterrence. What you're essentially saying from your colleagues is that you're relying on a couple of services to provide the deterrence or the ability to strike and control overseas, and that's what your U.S. Navy is all about, is giving you and our Nation's leaders that strategic deterrence reassurance, as well as being able to partnership at sea, control, and offer the security that we need worldwide, and then all the way down to the low end of humanitarian assistance and disaster relief, which I think our new maritime strategy adequately explains.

Senator LIEBERMAN. I agree, absolutely.

General, did you want to, because you've got one foot in each side here of that question.

General Trautman: Exactly, Senator, and that's where the Marine Corps typically sits, one foot in each side.

I think that it would be foolhardy to think that just the Air Force or just the Navy could take on something larger than the opening stages of something like a major combat operation, and that's not what your colleague meant to say.

Senator LIEBERMAN. Right.

General Trautman: But America has to realize that we have to be prepared to respond across the full range of potential adversarial actions that our President may deem necessary. So it's vitally important that we keep not just the Air Force and the Navy ready and relevant, but also Marine aviation so we can make our contribution as well. So that's why we're here before you today and that's why we appreciate your interest in the kinds of things that we're talking about.

Senator LIEBERMAN. Well done.

General Hoffman: Mr. Chairman, if I could just add. I've heard that same comment and my response to that is there is no fight out there that's just waiting for any one service to go south. All our challenges and conflicts in the world are joint responses.

Senator LIEBERMAN. Well, I appreciate that. That's something that I've certainly been involved in for quite a number of years on this committee, including setting up, being involved in the original creation with then Secretary Cohen and General Shelton of what is now the Joint Forces Command. So I appreciate that answer. That was part of my answer to my colleague.

I don't have any more questions. Senator Cornyn?

Senator CORNYN. I have two.

Senator LIEBERMAN. Please. Go right ahead.

Senator CORNYN. One last question about UAVs. In March of 2007, General Moseley spelled out the case for the Air Force to become the executive agent for all medium and high-altitude UAVs. It seems like with the proliferation of UAVs, whether it's for the Future Combat Systems by the Army, the different ways that the military services use UAVs, this new capability, I'm a little concerned or at least would like your response to the question, are we continuing to operate and develop these capabilities with UAVs in a way that provides for their jointness?

I'm a little concerned that the various military services are developing the UAVs they think they need for what they do. But I appreciate General Hoffman's reminder that no service fights a fight alone, that this is going to be a joint fight.

I'd like a little bit of sort of reassurance, I guess, that we haven't abandoned jointness when it comes to development of the UAVs needed by the various branches of our military services.

Mr. Balderson: Senator, if I could. First, I think some of the tools of the trade that all services use are optimized for their unique environment that they operate in. Where we came on board with that discussion on executive agency was for theater-wide assets that can quickly flex across the battlefield and theater. If you've got weather in one-half of your theater, those assets can go to where the weather is good and contribute, not just wait for the unit, if they're tied to a unit. That was our logic behind theater-wide assets and why we thought there were efficiencies to be gained in centralized command and control, if you will, of those theater assets.

Senator CORNYN. Anybody else care to comment?

Admiral Myers: Senator, if I could add. OSD E and L presently has a AUV task force that we and the other services are contributing to and members of. We're working very closely with the United States Army in light of our latest warfighter talks to come up with a joint concept of operations which does optimize these air-

craft. Both TRADOC and Air Combat Command are working through that, and they're making good progress.

Senator CORNYN. Well, I know Secretary Chertoff of the Department of Homeland Security is acquiring UAVs, so they're proliferating, it seems like, across the United States Government. I appreciate your answer.

The last thing I would like to ask about has to do with synthetic fuels. Since last fall the Air Force has been testing whether Air Force aircraft can fly on liquid fuels made from natural gas or coal. According to the Air Force, barring any unforeseen glitches the Air Force expects to certify the synthetic fuel for use in B-52 bombers this summer. Given the interest and publicity with which the Air Force has surrounded their synthetic fuels research program and given the energy crisis that our country faces generally speaking, how much funding is—first of all, can you tell us how much funding is in the fiscal year 2008 budget request for this, and what level of capability does the Air Force's program provide for future years defense plans?

General Darnell: Senator, I will answer—I'll take that for the record on the amount that's in our program. But what we're doing is qualifying our equipment to operate. There's a larger issue here and that is where is the infrastructure that's going to produce that fuel, what are the environmental consequences of producing that fuel, and what are the permission sets that allow us to buy fuel at—right now it's above market rate.

The Secretary has a passion for this and it's not about the economy or the type of fuel we're using or the industrial base issues. It's about fuel assuredness, because he sees—he's not thinking 1 year or 2 year or 5 years or 10 years. He's thinking down the stream: Well, this Nation has to be able to assure itself that it has enough fuel for its military purposes. So it takes years to go through the qualification process. It takes years to develop the infrastructure that will produce that type of fuel.

So as the largest consumer of aviation in the Department of Defense, and DOD is one of the largest users of energy in the government, he's trying to take the lead and the initiative there to show that we can be good consumers of that fuel, and if we can certify our equipment, if you build it they will come. He thinks industry will respond. We do need some help with the permission sets that allow us to get this jump-started to where it does become an economical at least break point with standard-based petroleum.

Senator CORNYN. Well, as gasoline approaches four dollars of gallon and with the price of oil way above \$100 a barrel, it strikes me this is a great and wise program and one that could have benefits across the economy, not only our military services. So I'd be interested in what you're doing and would offer to work with you and try to figure ways we can facilitate it and enhance the program, because I think it's exactly headed in the right direction.

I thank you very much, Mr. Chairman.

Senator LIEBERMAN. Thank you very much, Senator Cornyn.

I thank the witnesses. It's been I think a very good hearing. Your answers to our questions have been responsive and thoughtful, certainly helpful to the subcommittee. The general impression—there's always good news and bad news. The good news is that

we've got a great Air Force, Navy, and Marine Corps, and the aviation components of each of those are just serving our country with extraordinary devotion and excellence. Technology is allowing you to sustain the lives of the aircraft more than had been previously so.

But each of the services is facing now a daunting—I don't know whether you call it longer term or midterm—shortage in aircraft that we've got to deal with. You know, Washington, we have a problem. Hopefully we can figure out a way to deal with it. Part of it obviously is, Mr. Secretary, that any time a program comes in over budget and late it just makes everything we're trying to do harder and harder.

So, bottom line, I assure you that Senator Cornyn and I and our subcommittee will do everything we can to try to stretch our resources as far as we can, to give you the support that you need and deserve in carrying out the responsibilities that you do every day on behalf of our country. So I thank you for that.

Senator Cornyn, do you want to add anything?

Senator CORNYN. I concur, Mr. Chairman, and thank the witnesses for your testimony. Thank you very much.

Senator LIEBERMAN. Thank you.

We'll leave the record of the hearing open for 10 days in case members of the committee have questions they want to submit to you in writing or you want to add to any of the testimony that you've offered today.

With that, I thank you for your service and your testimony. The hearing is adjourned.

[Whereupon, at 3:40 p.m., the hearing was adjourned.]