[H.A.S.C. No. 111–68]

HEARING

ON

NATIONAL DEFENSE AUTHORIZATION ACT FOR FISCAL YEAR 2010

AND

OVERSIGHT OF PREVIOUSLY AUTHORIZED PROGRAMS

BEFORE THE

COMMITTEE ON ARMED SERVICES
HOUSE OF REPRESENTATIVES
ONE HUNDRED ELEVENTH CONGRESS

FIRST SESSION

AIR AND LAND FORCES SUBCOMMITTEE HEARING

ON

BUDGET REQUEST FOR AIR FORCE MODERNIZATION PROGRAMS

HEARING HELD
MAY 20, 2009

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FISCAL YEAR 2010 NATIONAL DEFENSE AUTHORIZATION ACT—BUDGET REQUEST FOR AIR FORCE MODERNIZATION PROGRAMS

HOUSE OF REPRESENTATIVES,
COMMITTEE ON ARMED SERVICES,
AIR AND LAND FORCES SUBCOMMITTEE,
Washington, DC, Wednesday, May 20, 2009.

The subcommittee met, pursuant to call, at 2:41 p.m., in room 2118, Rayburn House Office Building, Hon. Neil Abercrombie (chairman of the subcommittee) presiding.

OPENING STATEMENT OF HON. NEIL ABERCROMBIE, A REPRESENTATIVE FROM HAWAII, CHAIRMAN, AIR AND LAND FORCES SUBCOMMITTEE

Mr. ABERCROMBIE. Well, everyone, thank you for coming. We are sorry we are starting a few minutes late. The vote apparently took place in such a way that we are about 10 minutes behind. Again, aloha to all here, and thank you very much for coming.

This afternoon, the Air and Land Forces Subcommittee meets to receive testimony regarding the Department of the Air Force modernization programs. We certainly welcome our witnesses, Mr. David Ahern, Director of Portfolio Systems Acquisition, in the Office of the Secretary of Defense (OSD).

Lieutenant General Daniel Darnell, Air Force Deputy Chief of Staff for Air, Space and Information Operations, Plans and Requirements and Lieutenant General Mark Shackelford, Military Deputy in the Office of the Assistant Secretary for the Air Force for Acquisition.

Lieutenant General Raymond Johns, Jr., Air Force Deputy Chief of Staff for Strategic Plans and Programs; and Mr. Mike Sullivan, Director for Acquisition and Sourcing Management of the Government Accountability Office (GAO), with whom I think virtually all of us are more than familiar right now. We are glad to see all of you.

I first note and I want to underline this, that we have just recently received some of the detail of the fiscal year 2010 budget request. The request did not include any information or data regarding plans, programs or budgets for fiscal year 2011 and beyond.

That is of great concern to me because of some of the decisions that we are being asked to make in this defense budget and what we will be recommending to the appropriations committee involve decisions that obviously have implications that go beyond 2011. So I am hoping that we can clear some of that up before the markup.

Overall, the Air Force has faced a number of challenges in executing its modernization programs. The F–22, the F–35, the combat

search and rescue helicopter, the KC–X tanker and the Next Generation Bomber (NGB) programs have been the most prominently reviewed or critiqued.

The current F–22 program of record is 187 F–22s. Yesterday, the Air Force Chief of Staff, General Schwartz, testified that 243 aircraft is the right number, but 187 is "the affordable number." The budget request does not include any more F–22s and line shutdown activities are proposed to begin in the fiscal year 2010.

The Air Force has just taken the lead in the Joint Strike Fighter Program Office. That program continues to have cost and schedule problems, with testing further delayed and greater development and procurement concurrency being incurred.

Yesterday, the Secretary of the Air Force, Michael Donnelly, was quoted as regarding the Joint Strike Fighter, as follows: "We need to stay on cost and schedule." A rather amazing statement, but nonetheless one that I felt we needed to quote.

We have heard that refrain before, on other major programs. Let me start with the first line of the recent GAO report, "Joint Strike Fighter development will cost more and take longer to complete than reported to Congress in April 2008."

The facts as provided by the GAO are that the Joint Strike Fighter development program in 2001 was estimated to cost $34 billion with an aircraft, average aircraft procurement unit cost of $69 million. This is 2001.

The December 2007 estimated development cost was $44 billion, a 30 percent increase, and an aircraft average unit cost of $104 million, a 50 percent increase per aircraft over 2001. The initial operation capability date has slipped two years to 2012.

I am going over some of this detail, ladies and gentlemen, on our subcommittee and for members of the audience and to our witnesses, not because I don't think you know it or this isn't part of the conversation, but this is for the public record and for public consumption, and we wanted to make sure that the public has at least all of the perspective and perception of what our perspective is in a context that may be new to them.

Last year's projection for the Joint Strike Fighter research and development was $2.1 billion. This year, the request is $3.6 billion, a 67 percent increase. This is without the cost of an alternate or competitive engine program.

I would also note that under the current procurement plan, 273 Joint Strike Fighters will be procured before flight testing is projected to be complete. I want to make sure that that number is before you, in case you want to dispute it or amplify on it. Two hundred seventy-three Joint Strike Fighters will be procured before flight testing is projected to be complete under the current procurement plan.

Also, yesterday General Schwartz was quoted as saying that he would prefer "a more rapid production rate for the Joint Strike Fighter," yet the Air Force request for the Joint Strike Fighter this year is two aircraft fewer than projected last year for this year.

Regarding other Air Force programs, the helicopter program that would have procured 141 helicopters has been cancelled—excuse me one moment—yes, the search and rescue helicopter program would have procured 141 helicopters.

That has been cancelled in favor of a new undetermined search and rescue helicopter program that Secretary Gates believes will have a more realistic requirement and, if acquired, be a joint service program.

The KC–X program that would procure 179 aerial refueling tankers to replace the 48-year-old KC–135 tankers was cancelled last year, after the attempted acquisition failed following a GAO protest. The GAO did not protest. That is a bit awkward, excuse me. Following the protest which was submitted to the GAO; is that more correct, Mr. Sullivan?

A new request for proposal will be issued this summer, that is the present plan of Secretary Gates, with a source selection plan for the spring of next year. It has not yet been announced whether the Office of the Secretary of Defense or the Air Force will execute the source selection. Perhaps you will be able to enlighten us today.

The Next Generation Bomber program, which would have replaced the aging B–52 fleet, has also been delayed. We are told that a new program may be started pending a review of the requirement and technology during the Quadrennial Defense Review (QDR) to be done later this year.

Facing funding challenges in 2010 and in future years' defense program, the Air Force has decided to propose the accelerated retirement of about 250 fighter aircraft. The Air Force indicates this will save $351 million in fiscal year 2010 and $3.5 billion across the future years' defense program.

In the aggregate, the Air Force is facing significant changes in fiscal year 2010, therefore, to its modernization programs.

Regarding now the specific issue of the Joint Strike Fighter program and the competitive engine program, overall, as I mentioned, the joint fighter testing schedule continues to slip to the right, while the Pentagon insists on maintaining the current production schedule. This creates more development and production concurrency, much like what was experienced with the Army's Armed Reconnaissance Helicopter (ARH) program.

I am using the word production concurrency here to—to me, it is kind of like the equivalent of what my mother used to say to me, if wishes were horses, we would all be riding. That is the best I can figure out what concurrency means.

It apparently means we are going to produce and at the same time be able to say, with some certainty that all the testing, safety requirements and all the expectations of the fighter will continue apace with the production schedule.

I have never seen that happen in anything in my life, but apparently they think that is going to happen with the Joint Strike Fighter.

The current Joint Strike Fighter baseline engine has barely begun flight testing, has yet to even fly in the most stressing vertical flight and landing modes and will not have its first flight in that flight regime until September.

Aircraft design and engine testing problems have thus far caused a two-year slip in the F–35B's first vertical landing. The baseline engine for the Joint Strike Fighter had two turbine blade failures within the last two years requiring redesign, re-manufacture and delaying the flight test program.

In April, the former Air Force Assistant for Acquisition, Ms. Payton, citing the Joint Strike Fighter baseline engine cost growth as "an ongoing concern." Continuing, "From fiscal year 2007 to 2008, the Joint Strike Fighter engine costs have grown causing a $3 million increase to the short takeoff vertical landing aircraft's unit fly away costs."

Without a competitive engine program, current Air Force plans call for approximately 90 percent of all Air Force demand fighters and a substantial percentage of all other service manned fighters to be dependent on one engine type from one manufacturer by 2030.

The last time the Air Force proceeded with such a plan was the acquisition of the F–15 and F–16 aircraft. That resulted in dependence on one engine type for a large proportion of the Air Force fighter fleet. Because of engine reliability and durability problems in the 1970's, the Air Force ended up with a large percentage of its F–15 fleet grounded.

As a result, in Europe, to keep up with the demands for refurbished engines due to much lower engine life than planned, the Air Force bought a small fleet of cargo aircraft and shuttled F–15 engines back and forth between bases and a centralized engine depot.

The engine problems that resulted in an alternate engine program, in the late 1970's, were not discovered until two years after initial operational capability was achieved for the F–15. Currently, initial operation capability will not be achieved for the F–35B until 2012, five years after the Pentagon quit funding the current version of an alternate or competitive engine.

The Pentagon fully funded the alternate engine program in the Pentagon's annual budget request for 10 years, fiscal year 1997 through 2006. Parenthetically, forgive me if I am giving you information you already know, but again, it is very important for the public to understand the context within which we have to make this decision.

Cost overruns—again, I want to repeat, the alternate engine or competitive engine was funded by the Air Force—by the Air Force—funded by the Congress at the Air Force request for 10 years.

Cost overruns in other areas of the Joint Strike Fighter program, not the engine or the alternate engine program, in other areas of the Joint Strike Fighter program caused the Pentagon to discontinue its budget requests for the alternate engine.

Three studies the committee asked to have done in 2007 were inconclusive with regard to the financial benefits of competition for engine development, procurement and operations and support.

However, all three reports cited numerous likely non-financial benefits of engine competition, including insurance against fleet grounding, contractor responsiveness, technological innovation, force readiness and industrial base breadth.

All of these benefits were derived from the experience of what came to be known as the "Great Engine War," GEW, the "Great Engine War." It has achieved a phrase of art in Pentagon lore.

With that as our background, we look forward to our witnesses' opening remarks, and I am sure they look forward to making them now with that background, but before we begin—and I appreciate

and thank all the members in the audience for their indulgence in this rather lengthy and, I hope, informative opening remark.

Let me call on my good friend and a friend to armed services members everywhere, the ranking member of this subcommittee, the Honorable Roscoe Bartlett.

STATEMENT OF HON. ROSCOE G. BARTLETT, A REPRESENTATIVE FROM MARYLAND, RANKING MEMBER, AIR AND LAND FORCES SUBCOMMITTEE

Mr. BARTLETT. Thank you, Mr. Chairman. There is no doubt that this budget and the decisions that come along with it will fundamentally change the United States Air Force.

In the recent series of full committee posture hearings, a consistent theme has carried through and I want to echo it here today. I feel that there has been an absence of thoughtful debate, discussion, and in some cases, analysis to support this budget request.

I see two problems here. First the budget should not drive the strategy. The strategy should be set. Then the funding requirements are laid out in the budget that follows. It appears to me that in many cases, funding limitations in the fiscal year 2010 budget top line were the sole driver in major policy decisions.

The second problem that I see is that instead of openly engaging the legislative branch on policy matters, proposed force structure changes and the shifting of requirements for major weapons system platforms, the executive branch has chosen to lock us out of those debates and tie our hands by unveiling sweeping policy changes buried under the guise of a budget request.

As a case in point, take the retirement of 250 legacy fighters. It is my understanding that this idea came up sometime last year and the details were worked out over the course of many months. Why may I ask, were we not brought into that discussion well before the budget request was formulated?

Shouldn't the members of this committee have been given the opportunity to discuss this matter on the substance of the issues and the implications of national security and homeland defense before it ended up as savings in the budget request?

The Joint Cargo Aircraft (JCA) is another example. All of you have heard my thoughts on this over the course of the previous full committee hearings. I have asked witnesses from the Army, the Air Force and the Office of Secretary of Defense (OSD) what has changed?

Why is this mission being moved out of the Army and solely over to the Air Force when not four months ago, we received the quadrennial roles in missions review report that stated that, "the option that provided most value to joint force was to assign the C–27J to the Air Force and Army."

None of them have been able to answer the question, but all of them stated that there was no new study or analysis conducted that countered the existing plan or reduced the Joint Requirements Oversight Council (JROC)-approved requirement for 78 Joint Cargo Aircraft, not the 38 envisioned in this budget.

What has happened as a result of all this is that the Congress is now left to debate the puts and takes in the budget when there has been no vetting of the underlying threat assumptions, policy or

strategy. Furthermore, we have not been provided a five-year funding plan, although it is required by law.

We have not been provided an annual aircraft procurement plan and certification as required by law. How is it that we are being asked to authorize funding for the advanced procurement of aircraft and ships and ground vehicles, when we cannot see the Department's procurement plan for the fiscal year 2011?

We can't see the strategy. We can't see the assumptions. We can't see the plan for the out years. All we can see is a budget request that terminates the Next Generation Bomber, terminates the combat search and rescue helicopter. It terminates production of the F–22. It terminates production of the C–17 and it terminates the Army's involvement in a Joint Cargo Aircraft.

What are we supposed to tell the American people? We and you are supposed to function as a team, perhaps analogous to the husband and wife team. If we related to our wives as you have related to us, I don't think we would have happy marriages. Indeed, we might not even have a marriage.

This body, not the executive branch, is charged with the constitutional mandate to raise and support armies and navies. I am extremely troubled that these decisions have been made in a vacuum and appear, at least on the surface, to be informed by nothing other than top line budget pressures.

I am very interested to hear from our witnesses today. Perhaps they can shed some light on these decisions. Gentlemen, thank you for taking the time to be with us today. I will look forward to your testimony, and thank you, Mr. Chairman.

Mr. ABERCROMBIE. Thank you, Mr. Bartlett. Gentlemen, I think you can see that Mr. Bartlett and I prepared our remarks separately, as we always do. We talk all the time, but our remarks are not coordinated on purpose so that there is no conspiratorial accusations able to be rendered.

But you can see that we both have zeroed in on as particularly where the advance procurement is concerned, what we consider to be fundamental policy questions well within the jurisdiction and purview of the subcommittee and by extension, the full committee.

These are serious policy implications and I hope they can be addressed forthrightly today. Without objection, all witness prepared remarks will be included in the hearing records. So, if you can summarize your views and/or take the opportunity perhaps to respond even—not necessarily in detail to the opening remarks that will be welcome.

We will proceed first then with Mr. Ahern. Am I pronouncing your name correctly, sir?

Mr. AHERN. Yes, sir. That is fine.

Mr. ABERCROMBIE. Thank you. And we will, when the statements are finished, we will proceed in regular order today in terms of seniority. Mr. Ahern, if you please. Thank you, for your appearance today and thank you for your service to the Nation.

STATEMENT OF DAVID G. AHERN, DIRECTOR, PORTFOLIO SYSTEMS ACQUISITION, OFFICE OF THE UNDER SECRETARY OF DEFENSE, ACQUISITION, TECHNOLOGY AND LOGISTICS

Mr. AHERN. Thank you, and good afternoon, Mr. Chairman Abercrombie, ranking member Bartlett, distinguished members of the subcommittee. Thank you for the opportunity to appear before you. I will be brief in order to move to the committee's questions.

As you know, on April 6th, Secretary Gates announced key decisions he would recommend to the President in regard to the fiscal year 2010 defense budget. As part of his remarks, the Secretary stated that one of his principal objectives was to rebalance the Departments' programs, to institutionalize and enhance our capabilities to fight the wars we are in today and the scenarios we are most likely to face in the years ahead, while at the same time providing a hedge against other risks and contingencies.

In terms of tactical Air Force structure, the Department position is that the force structure we have programmed meets the requirements for the national military strategy. The capabilities contained within the Air Force and across the services to include strike fighter aircraft, unmanned aircraft systems, aerial refueling tankers and intelligence, surveillance, and reconnaissance (ISR) assets combine to form a robust program prepared to deter and defeat a wide range of threats to our security.

In terms of the F–22, the Department believes the program force of 187 F–22 aircraft, combined with a larger force of F–35 aircraft, provide the necessary mix of strike fighter aircraft to meet the military strategy. The Department's analysis showed that while we have adequate air-to-air capability, we need a significant amount of air-to-ground capability that the F–35 provides.

One key area in regard to the F–22 is that the Department must ensure that the program force can prevail against advanced threat. The Air Force plans a $7 billion modernization effort across the Future Years Defense Program (FYDP) to provide important improvements for the F–22 fleet.

For the Joint Strike Fighter, the budget request includes $10.8 billion to continue development and to support the procurement of 10 conventional, 16 short takeoff and vertical landing (STOVL) aircraft and the first four carrier variants.

The Secretary has also stated his intention to increase the number of F–35 aircraft across the FYDP. That creates a more efficient ramp rate as we prepare to enter full rate production. Recognizing the committee's interest in the F–35 alternate engine, I can tell you that the F–35 acquisition strategy contains provisions for a second engine program provided funds are available.

Consistent with our past positions, the Department did not include funding in the budget for the F136 engine because there is not a compelling business case to fund completion of the development effort. The Department does, of course, continue to execute appropriated development funds for the 136 engine.

Among the Secretary's decisions, was that of canceling the Combat Search and Rescue Replacement Vehicle Program known as CSAR-X. The services in the U.S. Special Operations Command possess a wide spectrum of overlapping and complementary personnel recovery capabilities.

A deep penetration mission to recover downed crews in a complex threat environment requires a joint solution. Since this mission drives many of CSAR-X requirements, it is imperative we reassess that mission in the context of joint force capabilities.

The Joint Cargo Aircraft program is important to help address the aging force structure supporting the Army's time-sensitive mission-critical airlift mission. The decision to transfer the Army JCA mission to the Air Force was based on an agreement between the two services, a real breakthrough in jointness.

The reduction in the total quantity of JCA aircraft is an acknowledgement that the Department can expect to meet more requirements through better management of our intra-theater airlift assets.

Moving now from intra-theater to strategic airlift, from a fleet capacity perspective there is no indication that the Department needs additional strategic airlift beyond the 205 C–17s and the 111 C–5s already programmed.

As to the KC–X program, now that the Deputy Secretary and the Under Secretary for Acquisition Technology and Logistics have been confirmed, the Secretary will meet with them along with the Air Force Secretary and the Air Force Chief of Staff to finalize an appropriate course of action with regard to the KC–X.

The Secretary has stated his intention to consult with Congress and to brief them before finalizing the Department's approach. We anticipate being able to solicit proposals from industry this summer with award of a contract by late spring, 2010.

We are grateful for the continued support of Congress, which has been critical to ensuring our airmen are the best trained and best equipped air force in the world.

Thank you for this opportunity to testify in the Department's plans to continue to equip them for today's wars and tomorrow's challenges. I look forward to answering any questions you may have. Thank you.

[The prepared statement of Mr. Ahern can be found in the Appendix on page 55.]

Mr. ABERCROMBIE. Thank you, very much.

General Darnell, I have you next. If you want to change the order, you can. Is it all right?

General DARNELL. That is just fine. Thank you.

Mr. ABERCROMBIE. Thank you, and thank you for your service as well, General Darnell.

STATEMENT OF LT. GEN. DANIEL J. DARNELL, USAF, DEPUTY CHIEF OF STAFF FOR AIR, SPACE AND INFORMATION OPERATIONS, PLANS AND REQUIREMENTS, HEADQUARTERS U.S. AIR FORCE

General DARNELL. Sure. Good afternoon, Mr. Chairman, ranking member Bartlett and distinguished members of the committee. Thank you for calling this hearing and for the opportunity to discuss our Air Force programs.

The Air Force continues to contribute to operations across the globe to provide support to the combatant commanders, ensuring that they have the means necessary to accomplish their assigned

missions. As you know, that level of continuous effort takes its toll on the readiness of our air assets.

We are here today to discuss those effects and our plans to work within the fiscal year 2010 budget to ensure we find the correct balance of maintaining and procuring the necessary assets to meet current and future Air Force requirements. I thank the subcommittee for allowing me to appear before you today and for your continued support of the Air Force.

My opening comments are brief, but I respectfully request our combined written statement be submitted for the record. I look forward to your questions.

[The joint prepared statement of General Darnell, General Shackelford, and General Johns can be found in the Appendix on page 68.]

Mr. ABERCROMBIE. Thank you, General Darnell.

General Shackelford.

STATEMENT OF LT. GEN. MARK D. SHACKELFORD, USAF, MILITARY DEPUTY, OFFICE OF THE ASSISTANT SECRETARY OF THE AIR FORCE FOR ACQUISITION

General SHACKELFORD. Yes, sir. Chairman Abercrombie, ranking member Bartlett, distinguished members of the committee, thank you for calling this hearing and for the opportunity to provide you with an update on Air Force modernization efforts and other matters that are important to our Air Force and the Nation.

The Secretary and the Chief of Staff of the Air Force have made recapturing acquisition excellence a top Air Force priority. Earlier this month, they approved the Air Force Acquisition Improvement Plan, which identified the following five initiatives: revitalize the Air Force acquisition workforce; improve the requirements generation process; instill budget and financial discipline; improve Air Force major systems source selections; and establish clear lines of authority and accountability within acquisition organizations.

We are developing more detailed implementation plans for the individual actions within each of these initiatives and will remain flexible with the ability to adjust as suggestions and initiatives proposed by Congress and the Office of the Secretary of Defense come our way.

I will conclude my opening remarks by saying that we are committed to recapturing acquisition excellence by rebuilding an Air Force acquisition culture that delivers products and services that are essential to Air Force modernization programs as promised on time, within budget and in compliance with all laws, policies and regulations.

Thank you for inviting me today. I look forward to answering your questions.

[The joint prepared statement of General Shackelford, General Darnell, and General Johns can be found in the Appendix on page 68.]

Mr. ABERCROMBIE. Again, thank you for your service, General Shackelford, and finally, General Johns. I just wanted to mention for purposes of the member's attention and the emphasis that if you have questions with regard to requirements, they should go to—first you can send them to anybody.

But I think General Darnell is the key person here; General Shackelford, of course with acquisitions, and now General Johns, who will be speaking to us in the area of long-range planning.

Well, thank you. Welcome and thank you for your service as well, General Johns.

STATEMENT OF LT. GEN. RAYMOND E. JOHNS, JR., USAF, DEPUTY CHIEF OF STAFF FOR STRATEGIC PLANS AND PROGRAMS, HEADQUARTERS U.S. AIR FORCE

General JOHNS. Thank you, Mr. Chairman. Mr. Chairman, Mr. Bartlett, I am grateful for the opportunity to appear before this distinguished committee to speak on behalf of the United States Air Force and the dedicated airmen who are defending freedom in air, space and across cyberspace.

I am proud of the fighting spirit of these brave young Americans who carry the great traditions of our Air Force. Our airmen stand watch every minute of every day as they do so with pride and honor. I thank this subcommittee for all that you have done for the airmen and for their families because their families also serve our Nation.

I am honored to be here and I stand ready to answer your questions.

[The joint prepared statement of General Johns, General Darnell, and General Shackelford can be found in the Appendix on page 68.]

Mr. ABERCROMBIE. Thank you, very much.

And now, Mr. Sullivan. Again, Mr. Sullivan has been involved in his professional capacity with acquisition and sourcing management for the GAO, and we are happy to have you back again, Mr. Sullivan. And thank you for the perspective that you have been able to provide both this committee and the full committee over the years.

Mr. SULLIVAN. Thank you, Mr. Chairman, Representative Bartlett, members of the committee. I am very pleased to be here today.

Mr. ABERCROMBIE. Can you pull the microphone a touch.

Mr. SULLIVAN. Yes.

Mr. ABERCROMBIE. A little closer. Thank you.

STATEMENT OF MICHAEL SULLIVAN, DIRECTOR FOR ACQUISITION AND SOURCING MANAGEMENT, GOVERNMENT ACCOUNTABILITY OFFICE

Mr. SULLIVAN. Thank you. I am very pleased to be here today to discuss the status of the F–35 Joint Strike Fighter Acquisition program. I would like to make a few brief points in my opening statement and ask that my written statement be submitted for the record.

Mr. ABERCROMBIE. Without objection.

Mr. AHERN. First, the F–35 is critical to our Nation's plans for recapitalizing the tactical air forces and it will require continued long-term commitment to very large annual outlays. Second, cost to develop the F–35, which has already increased by 30 percent as the chairman noted earlier in his statement from $34.4 billion to $44.4 billion, is now projected to increase an additional $2.4 billion according to the program office.

And as much as $7.4 billion according to a Joint Estimating Team (JET) comprised of OSD, Air Force and Navy cost estimators assuming the joint team's estimate development costs would now be projected at $51.8 billion, a 50 percent increase from the original baseline.

The main reason for these costs and schedule overruns continues to be problems with manufacturing development aircraft and engines. Design changes, parts shortages, out of station work and supplier problems have caused significant manufacturing inefficiencies and increased labor hours that have led to higher costs and have caused the program to adjust manufacturing and delivery schedules four times so far in development.

My third point, the Joint Strike Fighter flight test program which was reduced last year to pay for development cost overruns has once again been extended this time by a year. This lessened the overlap between development and operational testing which is a good thing. It gets rid of some of that concurrency that you were talking about, Mr. Chairman.

But the plan is still very aggressive, very little white space, very little room for error. Flight testing of the first vertical lift test aircraft has been slowed by engine problems. And the first flight of the first carrier variant test aircraft has been delayed. As the program stands now, it will have procured 273 F–35s before flight testing is finished.

My fourth point, the program is aggressively ramping up its procurement rates in the next five years in order to recapitalize the aging tactical Air Force fleet. This means the Department will now spend an estimated $54.3 billion to procure 383 aircraft by 2014 before the development program is completed.

There are also plans to procure an additional 28 aircraft between 2011 and 2015; however, we have not seen the annual schedule for those buys because these aircraft will all be procured before development and testing is complete. The government plans to procure them using cost reimbursable contracts placing most, if not all, of the financial risk on the government.

Fifth, the program has not funded its alternate engine program, as you cited, Mr. Chairman, which was part of its original acquisition strategy since 2007. And it has no funding in its current budget request.

Our past work examining the costs and benefits of a competitive engine program found that the program would have to achieve about 12 percent savings across the engine's lifecycle through competition in order to recoup its initial investment in a competitive engine's source and that—sorry, sir, I don't know how that happened—and past programs, most notably the F–16 competitive engine program that you cited earlier which spurred the "Great Engine Wars" achieved much higher savings than that.

In fact, I believe the "Great Engine Wars" achieved an overall lifecycle savings of 21 percent. In addition there is great consensus that non-financial benefits such as increased engine performance over the lifecycle, increased reliability, contractor responsiveness, and improved industrial base health could also be achieved with this alternate program.

The F–35 program is at a crossroads with continuing manufacturing problems, increasing costs and slowing deliveries of test aircraft. The flight test program remains about two percent complete today.

While the Department must move forward with the program to recapitalize our aging tactical air fleet the rate at which it is accelerating its orders before flight testing is complete increases risks that the aircraft will not meet requirements, will need additional work after they have been bought and will eventually cost much more than expected.

In March, we recommended that the Department reexamine its plan to ramp up procurement under these conditions and to analyze the risk it is accepting by procuring as many as 273 aircraft under cost reimbursable contracts. The Department agreed with that recommendation.

We believe that with an improved delivery schedule and contracting strategy the program can more effectively meet the needs of the war fighter.

Mr. Chairman, thank you for your time. I will do my best to answer any questions the committee might have.

[The prepared statement of Mr. Sullivan can be found in the Appendix on page 90.]

Mr. ABERCROMBIE. Will you be submitting your summary for the record? Did I understand that correctly?

Mr. SULLIVAN. Yes, we have a written statement——

Mr. ABERCROMBIE. Yes. That we have.

Mr. SULLIVAN [continuing]. That will be submitted for the record. We also have—we were asked to provide some PowerPoint slides as an attachment.

Mr. ABERCROMBIE. Yes, that is in our—that which you have just read, can you submit that for the record as well?

Mr. SULLIVAN. Yes.

Mr. ABERCROMBIE. Good. Thank you. Before we begin, Mr. Ahern, I want to make sure that I understand something that was in your statement. I want to make sure I am reading it correctly. On page four, if you can look, it is our page four. I am presuming you have the same material in front of you that we have given out to the committee.

I will read it to you. This is regard to the F–22, "analysis also showed that while we have adequate air-to-air capability, we also need a significant amount of fifth generation air-to-ground capability."

It may be that I am not quite clear as to what the implications of the phrase "fifth generation" are. The reason I am asking is there is no mention of the F–22's air-to-ground capability, particularly with regard to the Joint Direct Attack Munitions, the JDAMs, or the Small Diameter Bombs, the SDBs, which I believe fulfill that air-to-ground capability.

Now it may be that you are saying that you need more than that but it goes unmentioned. I just want to make sure, do you consider that the F–22 air-to-ground capability—did you consider that when you were talking about the Tactical Air (TacAir) decisions with regard to the question of air-to-air capability and air-to-ground capability? I want to make sure that I am on the right page here.

Mr. AHERN. Yes, sir. When I wrote that statement, of course, I had assistance. It came primarily from conversations on the joint air dominance study that has been shared with members of the committee's staff as I understand it.

Mr. ABERCROMBIE. Mm-hmm.

Mr. AHERN. And it has a force mix of F–22s and F–35s and it was a stressing scenario where there was both air-to-air and air-to-ground targeting if you will, sir.

Mr. ABERCROMBIE. Yes.

Mr. AHERN. And the essence that I took away—but I will be glad to come back and revisit it and I think maybe I should—was the F–22 is predominately the air-to-air dominance——

Mr. ABERCROMBIE. Yes.

Mr. AHERN [continuing]. And the JSF was predominately, but I am not saying exclusively, the air-to-ground. I would, I am sure there are other intricacies of the study that I failed to ask. When I wrote it that was what was on my mind from my familiarity with that study.

Mr. ABERCROMBIE. Okay. Yes, not so much to get into an argument about it, but I want to—because one of the advantages of the F–22, at least the way it is presented to me, is it does have that capability with air-to-ground.

Mr. AHERN. Yes, sir, and in my oral statement I mentioned, and I am sure that my compatriots from the Air Force today would also talk about the modernization of the F–22 through the Future Years Defense Plan (FYDP) and beyond that it is exactly in the—part of it is exactly in the areas that you are talking about.

Mr. ABERCROMBIE. Okay. We don't have to pursue further. Thank you very much.

I will go first then to Mr. Bartlett.

Mr. BARTLETT. Thank you very much.

Mr. Ahern, I think that you said in your testimony that you had concluded that with better management of your in-theatre assets that you could meet the Army's demand for light cargo planes with just 38 planes rather than the 78 that the original studies said they needed.

I believe that the original study said that the Army needed 78 of these planes and then since the Air Force also had a need for light cargo planes it was decided, against Air Force wishes is my understanding, that the Air Force should join this program.

It should be a joint procurement and that the number of planes that the Air Force needed for their responsibilities were yet to be added to the 78 that the Army needed. And my question, sir, is what study can you cite that indicated that not only did we not need the 78 that the original study said the Army needed, and whatever additional airplanes the Army needed which, sorry, the Air Force needed which had not yet been added to that procurement?

That now you could meet both needs with just 38 aircraft. I might remind you then at least three prior hearings here we have asked the witnesses, "Was there a study that indicated that the original need for 78 could now be reduced to 38?"

And each one of them told us with some conviction that they knew of no such study. Was there in fact a study, sir, that they

did not know about that you cited when you made the claim that you had decided you could now meet the needs of the Army with just 38 planes?

Mr. AHERN. I am not—I think my statement, I would have to go back and read it is that the requirement for the current submission was 38 aircraft, but that there was an intent to study the full range of the requirements in-theatre in conjunction with the Air Force taking on that mission.

But that there was an indication that there were assets in-theatre that could support that time-sensitive, mission-critical time-sensitive demand, sir. I did not—I do not want to say that the 38 is lying flat forever. My understanding is that is the initial request and that will be studied during the QDR to determine if that is the right amount.

Mr. BARTLETT. Yes, I have your statement here, "The decision to reduce the JCA procurement from 78 to 38 aircraft was made after considering a full range of options that included procuring as many 92 Joint Cargo Aircraft and as few as zero."

I believe this study was made prior to the present surge in Afghanistan. I think it would be hard to argue that the requirements are now less than they were then. And I might remind you that the Air Force had yet to add their need to the 78 documented need for the Army.

Sir, this is just one of a number of different instances where we believe that the number that is requested in the budget does not represent the need, but represents rather what can be afforded. Are we wrong?

Mr. AHERN. Not from what I understand is the way the budget was constructed, sir. But I would like to take your question and get back to you with the analysis that was done to get to the original force structure for the JCAs and the work that has been done subsequently.

Mr. BARTLETT. Is there anybody who believes that the in-theatre Iraq and Afghanistan need is now less than it was then? See we are kind of confused as to why an earlier study would validate a need of 78, which did not include the Air Force's need, and now just because there is less money available suddenly the need in an expanded requirement is less than half of the original need, considerably less than half when you include the yet-to-be-determined number of planes that the Air Force would need.

Mr. AHERN. Yes, sir.

Mr. BARTLETT. Is this just a statement to justify this without any study to confirm it?

Mr. AHERN. No, sir, not on my behalf, not on the Department's, as again——

Mr. BARTLETT. Then there was a study you are telling us?

Mr. AHERN. I am saying as part—there certainly have been studies previously. I need to take that question forward as the program was taking shape in determining the number for this year, sir, I would like to take that question. But my understanding was that with that came a commitment to look at the puts and takes, the additions and the subtractions, as part of the QDR.

If there were more as the Air Force took over the mission from the Army, that the 38 was the right number for the fiscal year

2010—or, excuse me, for this initial commitment, but going forward it certainly could be changed. But there was a recognition that there were C–130's in-theater that could support that mission with the Air Force taking it on from the Army.

Mr. BARTLETT. Sir, in the prior hearings I don't think anybody said that 38 was the right number. They all said that they knew of no reason, no study that would reduce the required number from 78 to 38. In fact, there was a repeated statement that we are going to procure at least 38.

Are we to imply from that that this is still under discussion in the Department? That you have not yet reached a final decision as to what the needed number is?

Mr. AHERN. As I understand it, yes, sir, that is true. As the Air Force and the Army—and I will defer to my Air Force brethren on my left—as the Air Force takes on the mission from the Army in that specific area, as they develop their concept of operations and their plans, yes, sir, I would expect that that number of JCAs would change.

[The information referred to can be found in the Appendix on page 115.]

Mr. BARTLETT. Thank you very much.

Mr. ABERCROMBIE. We will pursue this, then, Mr. Ahern, okay, in time to come.

Mr. AHERN. Yes, sir.

Mr. ABERCROMBIE. Thank you.

Mr. Marshall is next, to be followed by Mr. Hunter.

Mr. MARSHALL. Thank you, Mr. Chairman. Mr. Ahern, I want to pick up where Mr. Bartlett left off.

The Institute for Defense Analyses (IDA), at our request, did a study of lift and in its study considered 36 different mixes. The study's unclassified report published March 13th of this year seems to indicate that for low-intensity conflicts, the wars that we are in right now and we think probably we will be in for the foreseeable future, the right mix of lift includes not 38, but my recollection is 98 JCAs.

Now, obviously, you can vary that in lots of different—you know, you could make a number of different changes, but there is a big difference between 38 and 98, and I—the reason, I think, the administration is hearing so many concerns from Congress, it is not just Mr. Bartlett and myself, it is many others, with regard to JCAs. We have been listening to the JCA pitch now for a number of years.

It is very credible, and it is supported by independent studies. Now, with regard to independent studies, generally, sir, the 2005 mobility capability study came up with 292 as the lowest permissible figure for strategic lift and, lo and behold, that is precisely what the Pentagon decided to adopt.

Now that 2005 study was one that many of us thought was fatally flawed because those conducting the study were required by the Department of Defense (DOD) to assume certain things that anybody, with a wit of sense and a knowledge of history, would conclude aren't going to come true. And if those things don't come true, then the figure would be higher than 292.

So in your opening remarks and in your written statement, the suggestion that there is nothing out there that indicates to us that perhaps the total lift needs to be beyond 292, I am talking about C–17s and C–5As—C–5s, pardon me, is not true.

We don't know the exact number, but we do know that it is well above 292 just based on that study. And one thing that concerns me is that the mobility capability requirements study (MCRS) you say in here, an early indication from the MCRS analysis suggests thus and such.

To my knowledge, this committee has not been privy to the MCRS analysis nor to any, you know, early peek into that analysis and some here worry that the analysis may be driven too much by a need to reach the right answer.

So we would like to know a little bit more about how that analysis is being conducted and how independently the judgment is being made from senior officials who are concerned about bottom line numbers and whether things are affordable.

Could you describe that process and the independence of whoever it is that is involved in doing the MCRS from a directive that a certain result needs to be obtained and you just need to find out how to get us to that result?

Mr. AHERN. Sir, I would like to take that question. I definitely talked to Program Analysis and Evaluation (PA&E)—I was familiar with the MRCS studies from my work earlier with the C–5. And when one of the questions that came to me was to look at airlift, I went to the PA&E to see where they stood on the MCRS 2016. They gave me an overview of what they were doing and provided me the thinking that I wrote up.

In the detailed work on the study, sir, I didn't ask them that question. I would like to ask them that question and get back to you on that.

Mr. MARSHALL. That is certainly okay with me. You know, we need to be very comfortable that whoever is conducting this study is actually trying to determine what the requirements are as opposed to coming up with a formula that will reach a result, which has effectively already been dictated. You know, that is backwards.

If it is bad news, it is bad news. If it is bad news for the Department, if it is bad news for the country we need to hear that bad news.

[The information referred to can be found in the Appendix on page 115.]

Mr. ABERCROMBIE. Thank you, Mr. Marshall.

Mr. AHERN. Yes, sir.

Mr. ABERCROMBIE. Mr. Ahern, I assure you, as you can tell, members of this committee do their homework and they also listen to what is presented to them by the Pentagon over time. Sometimes, you know, be careful what you wish for 1 year because somebody on this committee will remember you wished for it and then if the wish changes, there has to be some accounting for it.

The main reason that we are pushing as hard as we are right now is we are getting into markup stage pretty quick here and we are going to try and stay on a schedule with regard to the 2010 defense bill and, hopefully, the appropriations that go with it, to

try and finish on time. That is the goal of, I think, all sides here. This is not a partisan issue.

So that is the reason we are pressing as much as we are, to try and get some answers or some perspective that will help us make the decisions. So we will be following up particularly on this joint cargo—or the cargo aircraft, I think, is going to be a key element in the decisions we have to make.

Mr. Hunter has returned, so I think I said it was Mr. Coffman, but it will be Mr. Hunter next.

Mr. HUNTER. Thank you, Mr. Chairman.

First to General Johns, I think, that is who I am——

Mr. ABERCROMBIE. Mr. Kissell, excuse me, Mr. Hunter, Mr. Kissell will follow Mr. Hunter.

Mr. HUNTER. I think I am addressing this to General Johns. With our stable of bombers we have right now, and this could be an easy yes or no, does any air defense system in the world give you pause with our ability to strike deep?

General JOHNS. Sir, right now I believe we can accomplish the missions set before us. As we looked at the Next Generation Bomber and the future of long-range strike, we look to the future to say how can we ensure that the combatant commanders and leaders of our Nation have the ability to hold any target at risk and strike it and resolve it, as they need to be?

So I think we are good right now, but again that is why the discussion in the QDR, as we go through that, as to what does the future hold in these?

Mr. HUNTER. Is there anything that you see being worked up right now that would give you pause in five years or 10 years, based on our current fleet?

General JOHNS. No, sir, I am comfortable within that timeframe for sure.

Mr. HUNTER. Got you, thank you. Next, to switch gears here, General Darnell, I think is the right general here, can you tell us about how the Air Force—because this is something that I talk to everybody about, is that the Golden Hour in Afghanistan, we didn't have it. We weren't meeting that standard, and I know Secretary Gates said he is on it, and that was one big thing he was pushing for.

Can you tell us what the Air Force is doing with rotary wing aircraft in terms of casualty evacuation (CASEVAC) and medical evacuation (MEDEVAC) in Afghanistan?

General DARNELL. I would be happy to, Mr. Hunter. We have deployed more aircraft forward. We have quadrupled the number of Air Force combat search and rescue aircraft that are forward. What we are finding is we are flying in an environment which it doesn't really matter whether it is counterinsurgency or whether it is high end, asymmetric, they both involve very kinetic situations.

One advantage the Air Force has is we trained to the high-end mission in combat search and rescue. We outfit the aircraft appropriately, forward-looking infrared (IR), weather mapping, as well as we have personnel on board, which—pararescue in particular, as well as gunners who are prepared to defend the aircraft.

Mr. HUNTER. Are you dual-hatting combat search and rescue rotary wing aircraft for search and rescue and for MEDEVAC, CASEVAC?

General DARNELL. We are.

Mr. HUNTER. And would you say that the majority of your search and rescue fleet in Afghanistan is being used for MEDEVAC, CASEVAC purposes to meet that Golden Hour standard right now?

General DARNELL. Yes, that is accurate.

Mr. HUNTER. Okay, so let me switch over to Mr. Ahern. Is it wise, do you think, that the Secretary stopped the CSAR-X program, the acquisition of that, when it seems to me like the Air Force is pressed right now to perform MEDEVAC, CASEVAC because of the lack of ability for the other services to provide it for themselves, in that kind of environment. Mr. Ahern.

Mr. AHERN. Yes, sir, I understand the question, but I need to take it. I am not in—I don't understand exactly the—I understand the question, but I am frankly not able to address it. I will take it.

Mr. HUNTER. Generals, did any of you up there want to address this, the fact that you are canceling your search and rescue when you don't have enough birds to provide dedicated MEDEVAC, CASEVAC birds, while at the same time providing search and rescue birds, because you have to have search and rescue all over? Wherever you are flying anything you have to have that ability.

And I would think that you would want dedicated search and rescue and not have to dual hat, not have to say, hey, we are not going to go pick up these guys because you are able to do it, because you have gunners and you have the ability to do it, in a kinetic firefight situation, which a search and rescue would be or a MEDEVAC would be, but would you want the ability to have enough airplanes to do it—to do either one or to do both at the same time?

General DARNELL. Mr. Hunter, I will tell you, as far as numbers are concerned, we were looking for 141. Our intent, though, was not to separate out the missions themselves. We would still be happy to perform MEDEVAC, if required. And as I pointed out earlier, I think in the Secretary's comments regarding a joint program, I think he is looking for a utility aircraft that just about any service can fly.

Our point in the Air Force is we are the only service that trains to these kinetic situations and working well with other combat support aircraft. And I will give you a good example. We just had a pickup about 50 miles north of Bastian. It was a young Marine in a vehicle that was hit by an improvised explosive device (IED).

It was not a very simple scenario. It was a scenario that we trained to in our weapons school at Nellis, we had F–15s and B–1s involved dropping GBU–38s. The combat search and rescue aircraft that flew in, the crew was experienced in working in that kind of environment, did not have time to wait until the scenario calmed down.

They went in, in the middle of the firefight basically, and picked this young Marine up. The response from the Marine doctors was he would not have survived had they not done that.

So it is our point in the combat search and rescue mission is we train to it, we equip to it——

Mr. HUNTER. I am not arguing that you aren't the best equipped to do it.

General DARNELL. Right.

Mr. HUNTER. My argument is do you want the ability to do both, and I am out of time. Thank you very much.

General DARNELL. And we can do both, and I understand your point.

Mr. ABERCROMBIE. Well, we are going to have to pursue this also, General Darnell. You can see the questions here need to be answered. What we have right now, to follow up just momentarily, Mr. Kissell, before we get to you, and you need to get back not just to Mr. Hunter but to us on this, Mr. Ahern.

And you, General Darnell, because the requirement aside, as I said in my remarks, all we have from Secretary Gates right now is they are supposed to be more realistic requirements, whatever they are—I think Mr. Hunter has pretty well enunciated what they are—and, if acquired have a joint service program.

We have got other situations where services are being severed from that and they become an exclusive service. Now, it may be that the joint—because of the nature of, say, the rescue helicopter, both for MEDEVAC purposes and other rescues, or as Mr. Hunter said, simultaneous. It may be that this requires joint, but all we have is the assertion and there are clear legislative implications for us in that. So we need to get something definitive pretty quick.

I don't mean to—I hope I have amplified correctly here.

Mr. HUNTER. Yes, Mr. Chairman. Thank you.

Mr. ABERCROMBIE. Yes. So this is not an academic question. This is something that is in real-time decision making for us, right?

Mr. HUNTER. The reason why is because the Marine Corps might be meeting the Golden Hour. The other areas might not right now.

Mr. ABERCROMBIE. Yes.

Mr. HUNTER. Because you don't have enough birds there. You don't have the right personnel to do it.

Mr. ABERCROMBIE. Thank you. So let us—you don't have to come further today, but if you can put that into the mix of discussion you have in getting back to us, we would be grateful.

[The information referred to can be found in the Appendix on page 116.]

Mr. ABERCROMBIE. Mr. Kissell and then Mr. Coffman will——

Mr. Kissell will yield to Mr. Massa, and then Mr. Coffman will be next.

Mr. MASSA. Thank you, Mr. Chairman. Thank you, Mr. Kissell. Generals, collectively, my personal appreciation on behalf of those I represent in the United States Congress for all you do, both in the acquisition and operational side.

However, I take the microphone today for the record to express a truly troubled point of view over not only what I have heard in this hearing, but what I have heard over a long series of hearings that frankly——

Mr. ABERCROMBIE. Eric, excuse me. Can you speak a little more into the mike? Lift the mike up a little bit maybe? There you go.

Mr. MASSA. I am very troubled. I am very troubled because throughout the course of this hearing and the courses of hearings that I have had the opportunity to sit it over the past several weeks, I have heard, and I will put this as candidly and yet as professionally as I can, a series of testimonies that can only lightly be described as incredible Pentagon doubletalk.

When I have a series of general officers appear before this committee, and I parenthetically tell you that I am not a military expert. I am a country guy from western New York State.

But when I continuously hear people tell me that we can do more with less, that the number of airframes available to afford deployed commanders, that commitments and requirements that were absolute just a year ago, can be erased with a fluke of a phrase saying, "We don't need them anymore."

That somehow the United States Air Force is willing to say we need to upgrade the F–22 fighter, which arguably by the testimony of those who have appeared before us is the absolute air dominant aircraft today.

While we are accepting incredible risk in the procurement of an airplane that in my opinion and historical analysis will tell you will never be delivered along the timeframes currently being discussed today, that is the F–35, I scratch my head in bewilderment.

We in the United States Congress are burdened with the reality of a long historical knowledge, and while those who come in front of us change and rotate and may never come back again, we sit here and listen over and over and over again to program after program after program, which I guarantee you today will not deliver as you have testified this afternoon.

The F–35 and the numbers at the prices that you have discussed today simply will not happen. It won't. And I suggest for the record that you know it, and we know it, and the people that sent you over here know it.

And yet last year with equal passion and forcefulness, your contemporaries appeared before the people of the United States of America and said, "We absolutely must have this tactical airlift aircraft. We absolutely must have a dual engine procurement strategy for the F–35."

And now, we sit here and we are told "Well, absolutely not. It is not necessary. We are going to do it through some incredible force of magic where fewer airframes will deliver more ordnance, more combat flexibility and more operational capability to the generals and admirals at sea and ashore for our forces deployed."

And gentlemen, I am sorry. More cows back on my dairy farms don't give us more milk. It just doesn't happen that way. If it is an issue of funding, then the Pentagon should come before this committee as a representative of the people's will and say "We are getting shortchanged and we need to document this."

If it is not an issue of funding, then someone needs to look at me and say, "You know, we really got it wrong last year." Blatantly, either out of omission or commission, but by golly, how about some straight talk for the American people instead of a whole bunch of five-sided Pentagon jargon.

I just register for the record the fact that I am deeply concerned about the veracity of the testimony that I have heard, not only at

this committee and this hearing, but in all of the acquisition hearings. I close my statement and have no questions, but it is awful hard for me to take some of this seriously at this time.

Mr. Chairman, I yield back my time.

Mr. ABERCROMBIE. Thank you, Mr. Massa.

Mr. Coffman. Mr. Coffman, you can have 1 minute more.

Mr. COFFMAN. Thank you, Mr. Chairman. Just a question on the Airborne Electronic Attack programs, you may have covered this. General Darnell, with the B–52 stand-off jammer program cancelled in December of 2005 and without a core component jammer program, which was also cancelled this year, how will the Air Force compensate for the lack of this capability?

General DARNELL. Mr. Coffman, we look at Airborne Electronic Attack as—there are several different elements associated with it. We are looking at a concept of operations (CONOPS) right now where expandable jammers, which have thus far tested very well and have done very well, as in a close jamming capability.

We also look at the fact that the Active Electronically Scanned Array (AESA) radars, the electronic scan radars in both F–35 and F–22 are going to have the capability to deal with that environment as well. We have made a commitment to upgrade the EC–130.

I will be honest with you, that is—my son flies EC–130's, so I am painfully aware of all of the challenges that we have had with that program, and we are looking very closely to ensure that sustainability is met.

Mr. COFFMAN. General Johns, what is the long-term Air Force strategy for Airborne Electronic Attack?

General JOHNS. Sir, it is to continue with the programs that General Darnell talked about and look at the balance between what can you do stand-off, what do you need to do in a penetrating environment, because if you are forced to stand-off at greater distances, then is the effectiveness of a stand-off capability reduced?

So we are going through the discussion to say where is the trade between penetrating capability for—stand-in jamming versus stand-off jamming and that is continuing to go beyond what General Darnell has talked about to the future of how we migrate the systems from where we are today.

Mr. COFFMAN. Thank you, Mr. Chairman. I yield back the balance of my time.

Mr. ABERCROMBIE. Thank you, very much.

Ms. Giffords.

Ms. GIFFORDS. Thank you.

Mr. ABERCROMBIE. To be followed by Mr. Bishop.

Ms. GIFFORDS. Thank you, Mr. Chairman and thank the witnesses today for your service and for being here. As you probably know, yesterday we had Secretary Donnelly and General Schwartz in our full committee hearing. And I was happy to hear about their genuine concern for an issue that I think is important to the Air Force, the military in our country, which is the transition to renewable energy.

So I was really pleased to see that we are heading in the right direction and the Air Force has certainly been a leader in that regard and looking forward to seeing more in terms of the successes

at Nellis Air Force Base, down in areas like Davis-Monthan Air Force Base, AZ (D-M) and Luke, for example.

But the other area that I was less happy to hear about, and I am sorry that Congressman LoBiondo is not here at the moment, because he has really been a leader in this area, is the fighter recapitalization for the Air Guard.

This is an issue that many Members of Congress are concerned about right now and as you continue to come before us, we are going to continue to really press you all to get some hard answers. Our Air Guard is really approaching a precipice. In the past, the Air Force has told the Guard and this committee that there is a plan for fighter recapitalization.

Last week when we asked Secretary Gates, he said we needed to wait a few more months and yesterday, General Schwartz asked us to be patient. Well, now we have essentially waited several years and we have been patient. So have our Guardsmen.

But I think about the 162nd Air National Guard unit in Tucson, which is the largest Air Guard wing in the country. It is the largest international schoolhouse for the F–16 and under current plans the 162nd will lose its aircraft in just six years.

At 15 of the Guard's 23 fighter wings, the fighter aircraft will become unflyable in the next 10 years. And in just eight years, 80 percent of all Air National Guard aircraft will become unflyable. And looking at that waterfall chart, I am sure you have seen it, but I can give you a copy if you haven't, it is a pretty scary scenario.

By 2017, aircraft assigned to Air Guard units in Alabama, Texas, Colorado, Iowa and Indiana will all be unflyable. Under current plans, the Air National Guard, the sole guarantor of our Nation's air sovereignty, will have no aircraft left to defend our Nation's 10 largest cities.

So there is really no ambiguity in these numbers. There is no mystery. Given the looming impact of the shortfall in the Guard community and the dangers that this gap will have on our overall Nation's security, I believe that this issue is too perilous to ignore. Secretary Gates last week said that the future for many Guard units will be the Reaper Unmanned Aerial Vehicle (UAV). And simply, I couldn't disagree more.

I won't believe that our Air Guard units can defend our Nation with an aircraft that cannot operate in its own airspace. We cannot perform the defense of our homeland with unmanned drones.

So I am curious if you all can be more precise, if you can give us a specific date when we will have the plans, and if you can talk, again, very specifically, about the Air Forces' vision for recapitalizing and modernizing the Air Guard.

Not all at once.

General DARNELL. Congresswoman Giffords, our chief spoke yesterday about F–22 upgrades. He spoke about the Golden Eagle upgrades as well for—and I am talking specifically to Air Sovereignty Alert (ASA). Two units of the 18 have upgraded and are upgrading to F–22. We have four that will be Golden Eagle equipped. We have 15 equipped. And then the remaining 12 will depend somewhat on the 35 ramp.

Right now, we have 80. If we could find the money to get to 110 it would certainly make that problem a lot easier to solve. The

Chief also spoke about some of the Guard units are going to have to open the aperture just a little bit on missions and I think he was just being very honest.

And I know General Johns has got a couple of things he wants to add as well, but in the ASA side of the house, as I spoke to in a committee hearing previously, which you attended, we and DOD will ensure that combatant commander requirements for defense of the Nation are met whether it is with Air National Guard aircraft or a combination of active duty.

That is not the intent right now. The mission is an Air National Guard mission and our intent—it is predominately an Air National Guard mission. Our intent is to keep it that way.

General JOHNS. Ma'am, regarding the recapitalization effort, the waterfall chart that you talk about says if I fly the aircraft 300 hours a year, by the time it gets to 8,000 hours that is when we think that the aircraft will no longer be useful. And I think that is the genesis of the chart.

So we are working through that. For example, the Tucson unit itself, the Tucson unit is key. Look at all the training they do globally. I mean, and as we sell more F–16s to the world, their support and importance continues on.

Now they do some of the training with other nations' aircraft. Okay, we understand that, plus we have a lot of organic aircraft that are there. So the mission and our commitment for them continuing on is there.

So the question is as we look at the total requirement, how do we flow the active duty aircraft to the Guard unit? How do we make sure, as General Darnell said, the ASA mission is key? We will never defer from the mission and the defense of our homeland.

So we are working through that, but again there are many moving pieces as we look at all the different Guard units around the country and to see where is the best alignment as we go forward to make sure that every morning when they get up and they put this Air Force uniform on, that they are proud to serve their Nation and proud to serve their Air Force and that is what we are striving to.

And I feel, well because my son is a Guardsman, so I get that every night.

Ms. GIFFORDS. So, General Johns, in terms of a specific date when we can really sit down and look at the plan, can you give us—you know, you talked about plans that are developing and also when I think about whether or not it is feasible under any scenario that a contractor can produce or the Air Force can procure enough F–35s to fill the needs, I mean is that something that we can see in the next couple of weeks? The next couple of months?

General JOHNS. Ma'am, I would like to if I could make a condition. I would like to get through the QDR to see what is the national requirement, the Air Force requirement, and then come back to you with that overarching, you know, approach and then say how does it waterfall and cascade throughout the Air Force?

So I would say in the fall, and I apologize. If I could give you a specific date I would, but I don't want to offer something and not be able to deliver on it. So it would be in the fall.

Ms. GIFFORDS. In the fall.

General JOHNS. Yes, ma'am.

Ms. GIFFORDS. September timeframe?

General JOHNS. Ma'am, probably more toward November timeframe.

Ms. GIFFORDS. Late fall. Early winter.

General JOHNS. Yes, ma'am.

Ms. GIFFORDS. All right. Well, we are looking forward to working with you.

General JOHNS. Thank you, ma'am.

Ms. GIFFORDS. This is obviously a very serious issue and, you know, we have some patience, but we are kind of running out of patience.

General JOHNS. Yes, ma'am.

Ms. GIFFORDS. It is very important. Thank you.

[The information referred to can be found in the Appendix on page 115.]

Mr. ABERCROMBIE. Mr. Bishop.

Mr. BISHOP. Thank you. I have six questions I would like to get through and then one for Chairman Abercrombie afterwards. So——

Mr. ABERCROMBIE. Delighted.

Mr. BISHOP. General, well, I am assuming Darnell, first. I want to talk about the 250 planes that will be retired, if I could.

The 388th Wing is one of, if not the first, one of the first that was blended with the 419th Reserves. The question I have is the primary aircraft authorization (PAA) assumes that there will be about 24 planes retired from the 388th in some way.

Was consideration of the integration of the Reserve and—sorry I am giving this feedback here. Was integration considered as you went through coming up with how many planes would be retired from that particular group?

Does this in some way mess up future integration problems when you have the chance of taking planes away from a wing like that?

General DARNELL. Mr. Bishop, I am not exactly sure what you are driving at, but I think we did look very closely at that.

Mr. BISHOP. I guess the bottom line, was integration a consideration when you came up with the number of planes that would be taken out?

General DARNELL. Yes, it was. And obviously if there had been no probability of success, we wouldn't have done that.

Mr. BISHOP. Can I also ask, and this may be going deeper in the weeds than at this level we should do. As you are looking forward to how you reshape these things, are you gaining some flexibility? A retired general said you had to have 24 planes in a squadron. It couldn't happen with anything less.

Are you going to give some flexibility to Air Combat Command maybe if the wing lead is to try and say if maybe a squadron could be dealt with, with fewer than 24?

General DARNELL. Yes, sir. In fact, we currently have many of our units that are 18 PAA versus 24.

Mr. BISHOP. Yes, that would be very helpful because if, for example, a squadron was simply lopped and then you had deployment. You had a squadron tasked. That would have a negative impact obviously on the training ability for those kind of wings to do that

kind of work. I would hope that that would be one of the options that were there.

As we retire more F–16s who have been carrying so many of the sortie missions, are we not putting more pressure on the existing ones? We are already well past the design capacity of these planes. By having fewer planes out there, are we not making those that remain even more stressed as we go through the needs of the Air Force?

General DARNELL. Sir, we acknowledge that when you have fewer tails that you are going to fly—with the same requirements, you are going to fly more hours on the remaining aircraft. We have not—at this point we have not reached a point where that is of concern to us. We are looking at extending the life of the airplane to 8,000 hours.

Currently, the F–16 was originally designed for four. We are going to do fatigue testing, which will start within the next year-and-a-half on the F–16 to give us some sense for whether we need to, for instance, Service Life Extension Program (SLEP) the airplane.

And there are pros and cons associated with the SLEP. I am not saying that is the absolute right thing to do, but we are going to start fatigue testing on the F–16s, just as we are currently doing on the F–15.

Mr. BISHOP. If I could skip with an unfair question on F–22s for just a second. If 187 is now the accurate number, was there a new study that was found to validate Secretary Gates' conclusion that that was the right number or is this a byproduct of money?

General DARNELL. Sir, I am not aware of a new study. Mr. Ahern may be able to speak to that, but as——

Mr. BISHOP. Maybe—I am sorry. I think you just answered the question and you did it very well. And maybe one of the things I could tell to Chairman Abercrombie is when Secretary Gates was here, we talked about here—he talked about how this had to be a zero sum game within the defense budget.

And cannibalizing another area of defense for another area of defense doesn't make a whole heck of a lot of sense. This should not be a zero sum game within this particular budget area, which was not the question I had for you. The question was that wonderful statement——

Mr. ABERCROMBIE. For purposes of perspective however, I agree with you.

Mr. BISHOP. I think we both agree and we both realize the problems we are up against in trying to change that. I just want to know if wishes were horses, we would all be riding. Is that a copyrighted statement? Or is that something——

Mr. ABERCROMBIE. If wishes——

Mr. BISHOP [continuing]. I could be using?

Mr. ABERCROMBIE. If wishes.

Mr. BISHOP. That is what I said. If wishes were horses, we would all be riding?

Mr. ABERCROMBIE. Yes.

Mr. BISHOP. So I can start using that or have you copyrighted it. I don't——

Mr. ABERCROMBIE. No.

Mr. BISHOP [continuing]. Want to have to contribute to your campaign for——

Mr. ABERCROMBIE. It comes from my mother, and my mother was a very generous-hearted person.

Mr. BISHOP. Gentlemen, I appreciate your service here. I also think the Air Force is underfunded.

Mr. ABERCROMBIE. If wishes were F–22s, we would all be flying apparently.

Mr. BISHOP. Then I will pray for more wishes tonight in some particular way. Thank you for what you are doing.

Mr. ABERCROMBIE. Thank you. I am—Mr. Hunter, we have a couple of minutes left out of the first round before I get to my questions, and I understand you had something you wanted to go a little further in and so did Mr. Marshall so we have probably got three or four minutes. And then Mr. Kissell gave his time away.

But we will go to Mr. Hunter and then Mr. Marshall. And if there is any time left we will give Mr. Kissell a shot, and then I have a few questions, and we will go to a second round.

Mr. HUNTER. Thank you, Mr. Chairman, for your indulgence.

I asked General Schwartz this, and I would like to ask you also. AC–130's, the AC–130 gunship that is still what it is called right, the AC–130 gunship, when I was in Fallujah in 2004 the AC–130 would circle, and that would be the time for us to go out, resupply the guys, get our own resupply, do whatever we had to do because the bad guys just hid.

They didn't want to be out, and they could hear it. And that was it, I mean it was amazing. And as you know it is not an every night occurrence that the AC–130 flies for you.

And I know it is a special operations asset as it is now, but I am sure that other units that aren't specialized, that aren't necessarily Special Operations Command (SOCOM) or Marine Corps Forces Special Operations Command (MARSOC) assets, regular Marine Corps infantry units, if there is such a thing, they are all fantastic in the Marine Corps, infantry units, but there is 10th Mountain, certain Ranger groups, they would love to have an asset like that.

Has it been looked at to provide that asset? Because I know that there is money in here to upgrade AC–130 and maybe to have more but has it been looked at, to acquisition some more for the regular guys so you have enough pilots and you have enough aircraft to be able to put them in Regional Command (RC) South, for instance, even if a more specialized group in RC East wants it, too, at the same time. Or a different agency wants to use it? I mean has it been thought about at all?

General DARNELL. Mr. Hunter, I am not aware of any, right now of any expressed concern on the part of SOCOM or Air Force Special Operations Command (AFSOC) that we don't have adequate numbers and can't——

Mr. HUNTER. No, I am saying you have plenty for them. I am talking about different war fighters, the ones that aren't SOCOM or MARSOC, or more just the regular Marine Corps, regular Army. I am talking about them because I have had questions asked of me by ground commanders, combatant commanders, "Wow, it would sure be nice to have this." If they had one thing—in fact, I have asked them "If you could have one thing what would it be?"

General DARNELL. Yes.

Mr. HUNTER. "AC–130 gunship." Or—go ahead.

General DARNELL. Our CONOPs right now with the AC–130 does not mean that they are dedicated strictly to SOCOM. I mean it is we have a lot of the strictly conventional units, you know, and I will speak to Army, quite frankly——

Mr. HUNTER. But they get to use it when the other guys aren't if there is not a SOCOM or other agency requirement that night then the other guys get to use it. I mean that was the position we were in. We got to use it when it wasn't being used——

General DARNELL. Right.

Mr. HUNTER [continuing]. Because you didn't have enough.

Mr. ABERCROMBIE. Could you look into it?

General DARNELL. Yes, sir.

Mr. ABERCROMBIE. You have got the question.

General DARNELL. We are speaking to the tyranny of numbers, and I understand the points you are getting at.

Mr. ABERCROMBIE. Yes, well, it is a good follow on to what Mr. Bishop's point was, is that we are going to have to take into account when we make our recommendation, we are going to try and do this from the point of view of strategy and strategic interests as opposed to budget per se.

Obviously we are not going to be reckless with that. We may have to do reallocations within what we get. We obviously have to talk, Mr. Skelton and Mr. Murtha, et cetera, and to the ranking members as well.

But that is what we are trying to get at. We are trying to get the right mix, the right way, right now.

General DARNELL. Yes, sir.

Mr. ABERCROMBIE. And if you could give at least a perspective, you are not expected to usurp Secretary Gates' prerogatives or anything of that nature.

[The information referred to can be found in the Appendix on page 116.]

Mr. ABERCROMBIE. We will go to Mr. Marshall.

Mr. MARSHALL. Thank you, Mr. Chairman. When Ms. Giffords pursued her line of questioning concerning National Guard, and I wanted to ask the gentlelady if she would yield me some time so that I could jump in, but her time had already expired. And so I couldn't.

The line of questioning reminded me of some conversations that I had about four or five years ago with some Naval National Guard Air units. And evidently Guard unit was deployed to the Roosevelt and conducting missions off the Roosevelt along with active duty. And the Navy graded landings, graded the performance of the maintenance teams, et cetera.

And the Guard unit—it should come to no surprise to the Air Force guys, and you will hear why—but the Guard unit was far and away superior to the active duty units in those measurable characteristics. And I think we can all generally agree that, typically, a 40-year-old pilot's judgment is likely to be better than a 25-year-old or 28-year-old pilot's judgment, certainly experience is there. That is generally true of Guard units.

And what really struck me was that these Navy guys were saying, "You know, the Air Force gets this. The Air Force understands that a very valuable asset for the Air Force is its Guard units, with experienced pilots, experienced mechanics. Don't have to pay as much and, frankly, in performance with the exception," they said, "of taking Gs, in certain circumstances a younger pilot is a better choice.

But other than that across the board everything you would be looking for, and frankly when I fly I kind of like see a lot of gray hairs in the cockpit, everything you are looking for you get from Guard units, more so than you do from active duty units.

And where, you know, the constant lament where the Army is concerned whenever the Army is, you know, this JCA thing or other things, the Army will constantly point out that, "Gosh, you know who we have flying our planes. We have got warrant officers, and they have got some gray hairs, and they are pretty dry behind the ears, and their performance as a result is going to be better on average."

And so I just add to what Ms. Giffords was saying that Air Force doesn't need to lose sight of the credit that Air Force has gotten from others over the years, recognizing that a valuable asset here are these Guard units with their experience, with their crews.

And also by the way on the Roosevelt trip, the Guard units, the maintenance teams for the Guard units were the ones that kept all the planes flying. And the Guard units had their older planes, they had older platforms, many more hours on them, the Guard units were supplying the active duty units with planes to fly.

That is how good they are so we obviously just need to keep an eye on that and make sure that we take advantage of that asset, the asset of the individuals. That is all I wanted to say.

Mr. ABERCROMBIE. Thank you very much, and well said at that.

Mr. Kissell, did you have something you would like to pursue?

Mr. KISSELL. Mr. Chairman, just one question. General Shackelford, if you could answer this, to go to a phrase earlier discussed, if wishes were F–22s would we wish for F–22s that had ground capabilities? Because I had not heard of this approach until today as a matter of fact.

And I am just wondering, are we just looking for a justification for the F–22s? Obviously they are a superior fighter, are we just trying to find a way to say, "Okay, we are using them for something." Is this really a good purpose for using them?

General SHACKELFORD. Mr. Kissell, thank you very much for the question. If I may I would like to point out that the F–22 has had a basic air-to-ground capability from the beginning that would be two 1,000 pound bombs carried internally which is the mode of operation for the F–22.

The mission of the F–22 is largely in the air-to-air arena but we use the term air dominance. And air dominance goes beyond pure air-to-air to countering advanced surface-to-air missile systems using weapons like the Joint Direct Attack Munition or the Small Diameter Bomb.

As we have looked at the F–22 as it has originally come off the production line, we have wanted to expand its air-to-ground capa-

bility to bring these newer weapons into play. And this results in what I would call a pre-planned product improvement program.

This is what is otherwise called modernization of the F–22, which brings in incremental additional air-to-ground capability that is tied both to going from the 1,000 pound JDAM to up to eight Small Diameter Bombs, with the ability to self-target by an upgrade to the radar that allows grand mapping.

The original radar was optimized for air-to-air. But an upgrade to the radar, which allows us to do ground mapping of sufficient accuracy that we can self-target these Global Positioning System (GPS)-guided weapons. And to go beyond simply dropping one at a time to dropping multiples by taking advantage of better integration of the avionics.

So the F–22 uses these weapons in the suppression or really destruction of enemy air defense role for the advanced Integrated Air Defense System that is optimized to fly against with its high-altitude, super-cruise, low-signature capabilities.

So that it can in effect take down some of those higher threat systems before other forces come along. So that has been part of the philosophy for the F–22 for at least the last seven or eight years and is now working its way into the baseline for the system through these incremental modernization upgrades.

Mr. KISSELL. Will we able to use that capacity with support for our ground troops?

General SHACKELFORD. That capacity would certainly be available for support for the ground troops were it called for by the combatant commander. Now the F–35 has similar capabilities in larger numbers with better air-to-ground sensors optimized for air-to-ground, optimized for more persistent air-to-ground role, additional internal fuel, additional weapons load, particularly after you get past the few days of a high threat conflict into something where you can put external stores on the F–35.

And in effect the F–35 would be the weapons system of choice for that type of support of ground forces type of mission. But the F–22 would be capable of doing it, too.

Mr. KISSELL. And when would the F–35 be available?

General SHACKELFORD. The Air Force initial operational capability comes along in the 2013 timeframe.

Mr. KISSELL. Thank you, General.

Thank you, Mr. Chairman.

Mr. ABERCROMBIE. Thank you, Mr. Kissell.

Mr. LoBiondo.

Mr. LOBIONDO. Thank you, Mr. Chairman very much. I also wanted to compliment you on going through your opening statement and the detail that you did to help clarify the situation we are in. And gentlemen, thank you for being here. Thank you for your service to our country.

I apologize that I had to leave for part of this. I know that a couple of my colleagues, Congressman Marshall and Congressman Giffords, brought up a topic that is near and dear to me. And I apologize if I am covering some repetitive ground.

But through hearings from Secretary Gates and every opportunity we have had, we can't quite get an answer of what is going

to happen with our Air Guard units if the F–35 slips. We have got a QDR coming up.

We understand that there is a lot that is hinging on that. There is always a reason why we can't get an answer. If you are looking at a cost benefit analysis, everything I have seen suggests that the Air Guard is some of the best bang for the buck that the United States of America gets anywhere.

So we should in fact be doing anything and everything we can to ensure that we don't have any slippage. And I just—I mean, I don't understand if we have a two- or a three-year shift to the right, which is not too farfetched on the F–35 that what do we do?

We have Air Guard units that have jets that you can't put online because just the airframes can't take it. What do we do? When do we get an answer of what the plan is? I don't know, General Darnell, if you want to take a shot at that?

General DARNELL. Congressman LoBiondo, I answered a question, a similar question earlier to Congresswoman Giffords, and I will speak to the ASA portion of this, and I will allow General Johns to carry it from there.

We, obviously as General Schwartz said, we are converting of the 18 alert sites, two are going to be F–22 equipped, four F–15 equipped with Golden Birds and then the remaining 12 are a question right now.

We are fatigue testing an F–15 and fatigue testing the F–15 fleet to see if we can extend the airplane out further. We are looking at right now 12,000 hours for the F–15 to see if that is achievable.

Some might be concerned about the long drawn issues we had before. We are doing inspections every 400 flight hours on the aircraft to ensure that we are not getting ourselves in a situation that could be just as catastrophic as that Guard mishap at St. Louis.

And thus far, the inspections are not—have not been concerning at all. In fact, we are finding we are being overly conservative. When we are able to complete the structural testing on the F–15 as well as the F–16, which we are going to do, and I know a lot of your ASA units, particularly there in Atlantic City, are F–16, then our intent is to try to get out the 8,000 hours with the airplane.

We will know how realistic that is after the fatigue testing is complete and should be able to at that point, give us some sense for whether a SLEP or a combination of SLEP and new aircraft are required.

Now obviously, those answers are going to be a lot further out than you would prefer. I know Congresswoman Giffords in talking with General Johns, General Johns committed to her that we would like to be able to come back to you with a plan by November of this year and that is what we intend to do.

Mr. LOBIONDO. Well, I certainly hope so and——

Mr. ABERCROMBIE. Well, General, I am sorry but that is not responsive to Mr. LoBiondo's question. Maybe you will need some time on it. What I mean by responsive is to understand what you said, I think we all do.

General DARNELL. Yes, sir.

Mr. ABERCROMBIE. But the question was—is what is your plan? Do you have a plan and what is it with—if this F–35 slippage takes

place or any of the other slippages take place with regard to the real-time necessities of having the Air Guard readiness addressed?

General DARNELL. Yes, sir. And I ended my statement with——

Mr. ABERCROMBIE. Because if you say November, that doesn't do us any good with this markup that we are coming into.

General DARNELL. Yes, sir. Well, I will allow General Johns to add, but I am not aware of a definitive plan right now.

General JOHNS. Sir, regarding the plan, the chart that has been used, the waterfall chart——

Mr. ABERCROMBIE. In other words, what do you want us to do?

General JOHNS. Yes, sir. Right now as we go through 2010, I am comfortable to say we are going to go through 2010 and be okay. There is time for us to effect whatever outcome we need to do as we look at the F–35 coming onboard, as we look at the aggregate requirement for fighter attack platforms for our Nation that the Air Force provides.

Mr. ABERCROMBIE. But the problem with that, General, is that—I am sorry, I am taking a little of Mr. LoBiondo's time here but we have talked about this, he and I for quite a bit, and we can do this together.

The problem here is is that we don't have any projection from you past next year. I mentioned that in the beginning of my remarks, which is the ordinary way that we do this. If fact, I think it is legally required of us.

And what we are expected to—the way Mr. Skelton is expecting us to recommend to the full committee is what is the—what are the likely requirements that we are going to have in terms of funding in numbers, the numbers of airframes and funding requirements for the future?

If we don't have a plan, we can't give it to them. I understand what you are saying tactically speaking or budget year speaking that, well, we can get through 2010 and then we are going to take it up.

But I can't give Mr. Skelton and the rest of the committee that answer. Am I correct, Frank, where we are going?

Mr. LOBIONDO. You are exactly on the mark.

General JOHNS. I apologize that we aren't going through the rest of the FYDP and that is the situation we are in is——

Mr. ABERCROMBIE. Is that because of the quadrennial review? Every time we don't get an answer, they bring up the quadrennial review. This is going to be, I think, my fifth one. They are useless. They are utterly useless.

I came in to this thing when I was a rookie, and I came on this committee, I thought, oh, this is going to be a General Powell who is going to be a 96 percent—he could have told us we were all going to get those horses and wishes would come true and everybody would have believed it.

He had I think a 96 percent approval rating and the other 4 percent were going to be committed, so he could have done anything but that quadrennial review was a bunch of words on paper that never went anywhere. And every other one that has come in has been the same.

General JOHNS. Yes, sir.

Mr. ABERCROMBIE. I can't go to—really, honestly, we can't go to Mr. Skelton and say we are depending on the Quadrennial Defense Review, because we would all have to sit here and pretend that we thought that was going to mean something.

General JOHNS. Yes, sir. So my comment to come back to you, and I apologize was——

Mr. ABERCROMBIE. You don't have to apologize.

General JOHNS. Toward November, toward the end of the review, we will take whatever information is available to us as—and I apologize, doesn't help you for 2010, but then formulate that as to what is the best way to go forward to one, we insure that we always defend our Nation, two, that we ensure that we get maximum——

Mr. ABERCROMBIE. Well, can you—if you can give us, give Mr. LoBiondo and give us your best guesstimate as to what a plan would be to address the Guard question, the Guard readiness question, then we will try to incorporate it and what we will do and make our best judgment on it.

General JOHNS. Yes, sir.

Mr. LOBIONDO. Mr. Chairman, if I might just for a moment, let me put a little bit different spin on all this than the critically important perspective that the chairman has put on it. On Saturday, I had an opportunity to go into the 177th. No ribbons, no cameras, no hullabaloo.

There were a group of Air Guard young men and women who just, I got together with to answer some questions, just to tell them thanks. Again, we were completely—wasn't anything that was any media event. And they were an incredibly motivating young group of people. The questions that I got from more than one, and actually a number of them was, "Do I have a future in the Air Guard?"

Now, if we get into this territory, and I assured them that they did, I don't think the Air Force is prepared to not have an Air Guard. And if you have got young people who are so incredibly talented, so incredibly motivated that they are not doing what their peers are doing on weekends off and playing, but they are serving their Nation, and they are questioning whether they made the right decision, this is a problem.

They know some of what is going on here. They don't know all the details, and I want to encourage them. I want to thank them. I don't want to mislead them. And at some point we are going to have something tangible that these young men and women can be assured that they have made the right decision.

And whether it is the 177th that I represent or pick any other unit that is out there, that it is critically essential to the homeland security of the United States and to the national defense of our country, so this is getting down to a real personal level. And I did not expect those questions, Mr. Chairman.

I expected some of the other questions, some of the general questions, but when they said, "Gee, we are really wondering if we made the right decision, can you assure us?" So, you need to be thinking about this as well as we come up with something that I can say to them that is credible. Mr. Chairman, thank you very much.

Mr. ABERCROMBIE. You are welcome. Mr. Marshall has the last comment, and then I know Mr. Ahern is looking forward to our dialogue.

Mr. MARSHALL. Continuing along the same line, sounds to me like the Department has decided to retire platforms that largely will be replaced by the F–35, that the Department has a notion of the ramp-up for the F–35 that may be overly optimistic.

That is certainly the perception we are getting from the testimony that we have heard and the comments that we have gotten from industry and the history so far with the development of the F–35. And Mr. Sullivan would have some expertise to be able to comment on that.

So it sounds to me like the retirement part of this is sort of tied to the development of the F–35 on a certain schedule and at the moment you are simply not able to answer some of these questions concerning the impact of retirement on some of these guard units and other matters.

It seems to me that perhaps we are getting a little bit ahead of ourselves with regard to retirement, just as we may be getting a little bit ahead of ourselves with regard to actually acquiring a whole bunch of these F–35s, in the sense that we haven't even finished our development testing.

But we are certainly getting ahead of ourselves with retirement when your testimony is, if I understand it correctly, that many of these platforms don't need to be retired. They—we can continue to use them for a while. Don't know how long. But we are going to go ahead and test and make sure they are safe and we can continue to use them.

So maybe the wiser course here is for you to suggest to us how we might, in our bill, not just take what you proposed which is the authority to retire 250, but ramp up retirement. The idea is that ultimately we will get to 250, but we don't get to 250 until you have shown us how there is actually feasibly going to be platforms available so that there is not an unacceptable interruption in the availability of platforms for these Guard units and others.

In other words, it is not just 250, trust us. It is yes 250, but it is on a certain schedule that assumes certain things about the development of the F–35, failing which, we halt retirements so that there isn't a gap that is caused by some sort of problems with the development of the F–35 that we can't anticipate right now.

And frankly, what we have heard so far is that the F–35 development is not going to proceed at the rate that we would like to see it proceed. There is history that certainly suggests that.

So perhaps you all could suggest to us some sort of schedule that is—where the two are tied together. And I frankly think the committee would be a lot more comfortable with this and giving the authority to retire if there were a link and a stepped-up schedule.

Mr. Chairman, I thank you.

Mr. ABERCROMBIE. Yes. You don't have to answer that question. That is a suggestion and I would iterate it as well that perhaps we can put some language together which will be in the bill, not in the report, about this, to be able to address that. Thank you, all.

Mr. Ahern, I would like to take my turn now and go through a few things if we can. I have a letter here, which I don't believe you

have, to Secretary Gates in April with regard to the Joint Strike Fighter program and the funding for the alternate engine. That is okay, you needn't look for it. I don't believe you have it. I am just referencing it for you.

I suspect it is wandering around in the vicinity of Secretary Lynn at the moment, I should imagine. I am not so concerned that it—Mr. Bartlett and I sent this letter six weeks ago, that it hasn't been answered because of the obvious changes that have taken place in the Department with the inauguration of a new president and a new—the wheel turning in perhaps even another direction at the time.

However, last year before this subcommittee, then Secretary Young committed to us to obligate the authorized and appropriated funding for the Joint Strike Fighter alternate engine. Contrary to that commitment, and that was a commitment and it was commanded, if you will, by the defense bill on a bipartisan basis. We don't do things in this committee where at all possible on a partisan basis, and I would say that is true 99 percent of the time.

Contrary to that commitment, the Office of the Secretary of Defense has not released the fiscal year 2009 funding for advance procurement. Now as I say, this is a letter, this is a copy of the letter which I will be happy to send to you, but take my word for it. It is simply asking why advance procurement funding had not been released.

Are you sufficiently aware of the situation to be able to say to us today, what is the status of that funding?

Mr. AHERN. The funding——

Mr. ABERCROMBIE. We are still in this fiscal year after all, and there is still time to get this moving and under way——

Mr. AHERN. Yes, sir. That——

Mr. ABERCROMBIE [continuing]. Over and above the projection for 2010 about the alternate engine.

Mr. AHERN. Yes, sir. That money was not released because there was not procurement funding follow planned for the eventual procurement of the engines for which that advance procurement was planned.

Mr. ABERCROMBIE. I was afraid that that was going to be your answer. I wasn't trying to trap you, but you realize the logic of what you just said. It means that we are not going to fund anything that doesn't have exactly that.

I can see General Johns swallowing hard right at the moment because that means you can't do any long-range planning. All the rest of what we talked about today, we don't have—exactly the same situation prevails for these other platforms.

Mr. AHERN. By that I mean in for other platforms—or for most situations, Advanced Procurement (AP) is followed by or there is identified funding in the FYDP, and there was a FYDP at that time. There was the fiscal year 2009 FYDP, which was——

Mr. ABERCROMBIE. Nice try, Mr. Ahern, but you understand that you don't—we have just discussed here in other venues exactly the same situation. Does that mean we shouldn't do—you are not going to release funding for any of these other, in these other directions?

Mr. AHERN. I am not sure that the——

Mr. ABERCROMBIE. You don't have the——

Mr. AHERN. This is a unique—this sounds like a unique case to me, at least at the time that it came up, the AP in 2009.

Mr. ABERCROMBIE. I will repeat what I said in the beginning. "We have just received the details of the fiscal year 2010 budget request. The request did not include any information or data regarding plans, programs, or budgets for fiscal year 2011 and beyond."

There are a number of requests for advanced procurement in there. We don't know what is going to be procured. We don't know—just what you just said. You said you can't release the funding for the alternate engine because we don't have what we just don't have for everything else.

Mr. AHERN. I take your point.

Mr. ABERCROMBIE. I am not trying to push you in a corner.

Mr. AHERN. No. Yes, sir. I am not perceiving—I take your point, sir.

Mr. ABERCROMBIE. Okay.

Mr. AHERN. I was addressing the specific——

Mr. ABERCROMBIE. If you don't want to do it——

Mr. AHERN [continuing]. Replacement of the AP 2009.

Mr. ABERCROMBIE. All I am saying is Secretary Gates doesn't want to do it, or Mr. Lynn or whoever, then say so. I don't want to have somebody tell me, "Well, we don't have everything worked out in 2011 and beyond," and I say, "We don't have anything else worked out for 2011 and beyond either."

Mr. AHERN. Yes, sir, I understand that. I was addressing the specific case of the 2009 AP for the second engine. I understand what you are saying.

Mr. ABERCROMBIE. Okay, because at some point, we are going to have to put this in the bill or something. I would like to have the opportunity maybe to sit down with you, if you are going to make the recommendation or somebody else, the Secretary for that matter, and talk about this alternate engine.

Mr. AHERN. Yes, sir.

Mr. ABERCROMBIE. I think we can work it out so that it is not in addition to and that we are not in a position for somebody to win, somebody else has to lose. I think if we look at this in terms of some reallocation of funding, some reallocation of—or reconsideration of numbers, with regard to advanced procurement with the F–35 and so on, that this could be worked out on a reasonable basis.

The thing that drives me in this is the GAO—does everybody have the same material we have? I have got the—anyway, we can—I will provide them to you. Okay, you do have the backup slide here. This is the F–15 and Joint Strike Fighter engine programs compared in terms of this engine difficulty that occurred and the timeframe.

I mean, when I look at this, it makes my heart beat faster because I don't want to chair or recommend to the subcommittee or the full committee funding and policy that I have trepidation it is not going to be able to be fulfilled.

That is why we are trying to do the alternate engine or the competitive engine. We are not trying to get into a contest of wills with

the Secretary, or most certainly not with the Air Force. We are trying to make this succeed.

I hope it is clear that the motivation here is to make sure that you get the Joint Strike Fighter that you want to have in all of its permutations, all of its iterations, if you will, that works and that maximizes the opportunity for it to work in a timeframe that, in turn, maximizes your opportunity to carry out its strategic requirements, the long-term necessities that you have outlined for us.

The amount of money is not that great comparatively, and if we work this right, I think we can do this and still accommodate everybody. As we are well aware, the numbers change all the time. Two hundred and thirty-one becomes 187, you know, 98 becomes 38, or 92 becomes 38, that kind of thing.

So I am just putting on the table for your consideration, that let us not get off into arguments about definitions of advanced procurement funding and so on. Let us figure out how we can do this. I believe you are going to find a very strong school of thought in the Congress for funding the alternate engine. Let us not make this barbed wire that people have to throw themselves on. Let us talk about it in a way to see whether we can accommodate everybody's interests.

The fact is that about almost 70 percent of the alternative engine development cost has already been obligated, and I think it is worth the investment, and I hope that the Secretary will give us the opportunity to perhaps have a little discussion about whether or not that makes sense.

I can send some other questions on to you, but in that context, then maybe I can ask General Darnell and General Shackelford—this is not news to you about the "Great Engine War" and so on. I take it you are all familiar with it, right?

General DARNELL. I am familiar with it, yes, sir.

Mr. ABERCROMBIE. Did you have to go through some of it yourselves?

General DARNELL. We both were flying at the time. I was flying F–15s at the time.

Mr. ABERCROMBIE. Okay, so is my—I hope you will agree that my recitation, my summary recitation of what happened during the 1970's and so on was correct. I am not trying to create a myth here. That is the information I have is that these difficulties were encountered. And I am not saying that it is necessarily an analogy, but it is a parallel situation I want to avoid if I can. That is the reason.

Were you involved when the F–15 engines had to be shuttled around because of the readiness problems and the maintenance problems?

General DARNELL. Mr. Chairman, I was flying F–15s at the time when that was going on, yes.

Mr. ABERCROMBIE. Okay. In terms of long range or maybe, General Shackelford, you are the more appropriate person to ask here, in terms of acquisition cost. Has the general recitation here about acquisition cost increases reflect the realities that you have encountered? Are those numbers real?

General SHACKELFORD. And sir, you are referring to the cost of the engines?

Mr. ABERCROMBIE. Changes—yes, the cost changes and so on with regard to the F–35 over and above the engine?

General SHACKELFORD. Yes, sir. What I would like to comment on, sir, with respect to the engines is that the comparison of cost increases for the F135 versus the F136, not really an apples-to-apples comparison. As you are aware——

Mr. ABERCROMBIE. I am sure they are not.

General SHACKELFORD. Right.

Mr. ABERCROMBIE. I didn't—if you thought I was making an apples-to-apples comparison I apologize. That was not the intention.

General SHACKELFORD. Yes, sir, I understand. Just to point out that there are other items in the F135 funding line that aren't directly part of the engine technology itself, the—

Mr. ABERCROMBIE. Yes, that is right.

General SHACKELFORD [continuing]. Common equipment, the common exhaust system and whatnot, which is part of that cost increase, as well as the redesign on the aircraft as a result of STOVL weight problems here a few years ago.

Mr. ABERCROMBIE. Yes.

General SHACKELFORD. As we look at——

Mr. ABERCROMBIE. I am well aware that the weight problems created its own—you can—I can draw a parallel there to the Presidential helicopter.

General SHACKELFORD. Yes, sir.

Mr. ABERCROMBIE. Just weight problems alone caused—which I don't know, as a layperson I certainly anticipated. I can say that with some authority, because I got the transcript out of even our closed briefings and closed discussions that we had, to make sure I wasn't dreaming up that, oh, yes, I knew all that or I brought that up, and then it turned I was dreaming that I did or only wished that I had said it.

But even to myself, not an aeronautical engineer or a pilot, it was clear to me, you start changing the weight around in some significant way, you are going to change everything that has to do with design and flight testing and everything else because it changes the physics.

General SHACKELFORD. Yes, sir.

Mr. ABERCROMBIE. Okay. I will send you some questions, General Shackelford, if it is okay, with regard to your prepared statement on the cost of the alternate engine through fiscal year 2015, because there are some differences that occurred there—I mean from information we got in the past—so I am trying to get an accounting for that, okay?

General SHACKELFORD. Yes, sir.

Mr. ABERCROMBIE. Take a look at it, so that I have the right numbers in mind. Right now, just for background information, there is three flight test aircraft delivered to date. If you have different information, you stop me, okay.

Three flight test aircraft delivered to date, 10 flight test aircraft in the works, 28 production aircraft authorized and appropriated through fiscal year 2009, and 30 aircraft in fiscal year 2010 request, 10 for the Air Force; is that all accurate?

General SHACKELFORD. Yes, sir, that is correct.

Mr. ABERCROMBIE. Okay, very good.

General SHACKELFORD. I am sorry, sir, did you say all for the Air Force, the 30?

Mr. ABERCROMBIE. Ten.

General SHACKELFORD. Ten of them are for the Air Force.

Mr. ABERCROMBIE. Ten, right.

General SHACKELFORD. Yes, sir.

Mr. ABERCROMBIE. Okay.

General SHACKELFORD. Thirty total.

Mr. ABERCROMBIE. Mr. Sullivan, you were inches from a clean get away, the Joint Strike Fighter procurement plan including the international purchases would increase—would—can these numbers be correct? Would increase from 17 to 32 aircraft from fiscal year 2009 to 2010? Is that—are you familiar with that number? Does that make sense to you?

Mr. SULLIVAN. Fiscal year 2009 to 2010? Yes, that is correct, sir.

Mr. ABERCROMBIE. Okay. I am looking for some flexibility here as we go forward in terms of possible reallocation of funding. To the best of your judgment, Mr. Sullivan, and the best of your capacity to answer, is there an industry or government standard regarding preferred year-over-year increases in production and what factories affect the preferred rate of increase?

Mr. SULLIVAN. In terms of—you are referring to the speed in which they ramp up their production rate?

Mr. ABERCROMBIE. Yes, is there some kind of formula that you——

Mr. SULLIVAN. I don't know of any. I don't think there is any industry standard or anything like that, but there are formulas that they use that are based on learning curve analysis.

And I think that on the Joint Strike Fighter program probably the learning curves were more steep and are less steep now, as they reexamine where they are in the program, because they don't know as much as they thought that they would know at this point, I guess, is kind of a rambling answer but that is the best way I can say it.

Mr. ABERCROMBIE. Would that have something to do——

Mr. SULLIVAN. They miscalculated the learning curve at the outset, and they have adjusted them now, and as a result they are getting a lot of cost increases due to, you know, they are having to add labor hours to the estimate.

Mr. ABERCROMBIE. And this is not beyond normal expectation right?

Mr. SULLIVAN. No this is not——

Mr. ABERCROMBIE. This is not an easy deal.

Mr. SULLIVAN. It is not an easy deal.

Mr. ABERCROMBIE. I made an analogy today, again, in layman's terms, I mean this is not a simple V8 engine. You know, put in the 1955 Chevy right? This is a V12 with a whole computer set.

Mr. SULLIVAN. That is correct.

Mr. ABERCROMBIE. To have to be dealt with right?

Mr. SULLIVAN. Yes, sir, in fact if you wanted to make—if you wanted to compare it to the auto industry or something, the auto industry or some industry that is high volume pretty much knows what they are doing.

They have learning curves as well but it is based on really, you know, actual data, and they don't change much so they can do learning curve analysis, figure out what the first one is going to take to build, figure out what the millionth one is going to take to build because they know what their learning will be——

Mr. ABERCROMBIE. See compared to the F–15 this F—the Joint Strike Fighter is an incredibly more sophisticated, and the demands on this airframe are going to be infinitely greater.

Mr. SULLIVAN. Yes, I think one of the points that we have been trying to make the past several years and are making again this year, is that the Joint Strike Fighter is so complex that those learning curves are harder to come by.

Mr. ABERCROMBIE. Sure.

Mr. SULLIVAN. You know, one of the beauties of the F–15 and the F–16 was that they were kind of an incremental approach to developing the aircraft. They bit off a little bit of capability at a time so their learning curves were much steeper than what the Joint Strike Fighter is.

The Joint Strike Fighter has well overestimated from the outset how much learning they would accomplish at this point.

Mr. ABERCROMBIE. So in that context then you were critical, others were critical of the management plan approved in 2007 which reduced the Joint Strike Fighter development flight tests in order to replenish the management reserves.

You raised concerns about the cutback in flight testing, and implications for finding and resolving those performance problems. I think you have already stated some of the specific concerns that you had with the plan and the time.

How do you regard that now? I think you have stated it in general terms but how do you regard the question of flight tests, assets and planning right now with regard to the time table for that that at least is implied in the 2010 proposal with regards to increase production, et cetera?

Mr. SULLIVAN. We—right now we think that the mid-course risk reduction plan that they undertook last year, that the schedule as a result of that and where they are today is still is very risky.

If you look at the test program itself, flight test, no white space in there. There is no room for error. There is very little time to do the flight testing, bring the data back, do the analysis, discover, trial and error, things like that.

They have a—it is a very, very aggressive schedule now to complete flight testing and they have reduced—of course they have reduced the resources that they were going to have by two aircraft.

Mr. ABERCROMBIE. General Johns, what is the reason for that? Why? What is a necessity is it because numbers were put on paper years ago or that there is some—is it policy driven? That we want to get this in the air so—we want to get it to our people, and so we just write down the number and say well, we are going have to do that?

Why not take longer to do the testing or build that in? You are the long-range guy that is why I am asking you.

General JOHNS. Yes, sir. As we look at it I am going to defer this to General Shackelford because it is part of the acquisition strategy, but how do you manage——

Mr. ABERCROMBIE. He was just looking at you by the way, saying I hope he defers this over to me. I can't wait.

General JOHNS. We are dear friends, but sir, again the whole point is how do you manage that as you said the white space, the concurrency to come up with a successful program? So let me go——

Mr. ABERCROMBIE. The point, the reason I am asking it is in some of—maybe you folks don't know me as well, but we are not looking here to trap anybody or anything we are just looking to be—how can we be helpful and make it work?

And if you are told, you know, something we really wanted to do this, and we really had our hearts set on doing this but you know what? The schedule is working out differently because getting a hold of the physics of this thing and the testing patterns and so on this is not a—this is not a Model A Ford we are dealing with, and we are going to have to take more time.

Nobody is going to get upset with you. We will just have to figure out how we do this and get appropriate funding. Am I making sense?

General JOHNS. Yes, sir and before I defer to General Shackelford, but as we tested the F–15 again we had technology, we had an industrial base——

Mr. ABERCROMBIE. Yes, right.

General JOHNS. And it has since moved along so to say well this is more sophisticated, but so is our industrial base and the ability to handle it. So I can't say, you know——

Mr. ABERCROMBIE. Okay. Fair enough.

General JOHNS. Here is some growth in that area.

General SHACKELFORD. Sir, if you will indulge me for a second I will go back a little bit——

Mr. ABERCROMBIE. I will.

General SHACKELFORD [continuing]. In history to when we were starting out with the F–35 program there was an understanding there was going to be a great deal of concurrency in the program.

Typically that comes along as you balance the needs of the test program versus the contractors' need to man up to a certain level and then have efficiency within their manning that goes from building developmental aircraft into production aircraft and that is often what leads to several annual buys of low rate initial production as you are trying to move into the production profile that you would like to get to.

Within the context of looking at the F–35 as the recapitalization focus for the various more legacy weapon systems, in order to bring that weapon system on quickly the desire has been to ramp quickly up in the production profile such that we could come down whatever learning curve exists.

Also, to reach a more economic order quantity, if you will, to get the unit cost down as we are buying them from year to year. So there are competing pressures to complete that development and at the same time get into production.

To mitigate that type of concurrency on the F–35 program a great deal of upfront investment was made in design tools for instance such that we have at this point in time a greater level of

confidence in the design of the aircraft than we would have for legacy systems go back to F–16 or F–15 days.

As we look at where we stand in production right now the change traffic is stabilizing. The build process as noted by Mr. Sullivan has found some issues, not the least of which came along when the issue of the design of the wing root was discovered to be an issue a couple of years ago and led to a redesign.

But as we have gone through the last six months or so of getting these aircraft stabilized into production, and these are the development aircraft, we are seeing a greater level of maturity, a better level of fit as the parts go together.

The maturity of the physical aircraft gives us reason to believe that we are going to get beyond the production issues cited by Mr. Sullivan fairly quickly.

Mr. ABERCROMBIE. Okay.

General SHACKELFORD. When you move over to the software side about 74 percent complete for the entire weapon systems software at this point in time with the sensors and that software flying on the cooperative avionics test bed.

Or in the, granted, very elaborate laboratory infrastructure that was put together for the program, also that we could have greater confidence earlier that moving forward with production would be a reasonable risk.

In the annual production buys as we go through the low rate initial production the program has to meet certain entrance requirements that are entrance criteria that are established by the defense acquisition executive.

These would be key things that he doesn't give them permission to press ahead with the negotiation of the contract for the next production lot unless they have chinned the bar, so to speak, on certain technical characteristics, the STOVL engine would be an example of that.

That was part and parcel of that delay, but got us to the point where the confidence of those who are closest to the program is high enough that they believe they have reasonable risks in terms of pressing forward with the further work in that area.

So the whole program was built with that philosophy in mind and that sets it aside really from legacy programs realizing that those legacy programs are 30 or 40 years ago, that the state of the art in technology now is better. Certainly there is risk, but to the extent that we can identify where that risk is and do the best we can to mitigate it, that is folded into the program plan for F–35.

Mr. ABERCROMBIE. That is fine. Thank you. Mr. Sullivan, in your statement you highlight the—what I presume is still a fact, that the DOD plans to use cost reimbursement type contracts for the procurement of the production aircraft. Is that still the case?

Mr. SULLIVAN. All right, I believe the Department strategy is still to—the aircraft that have been procured so far are under cost reimbursable and I think it would go as much as 273 aircraft through Lot 7, whatever that is I believe that is on——

Mr. ABERCROMBIE. That is your understanding, Mr. Ahern?

Mr. AHERN. No, sir, it is not. I work very closely with General Shackelford and the rest of program office, and I am quite con-

fident that we will be moving toward fixed price incentive fee contracts in Lot 5 or no later than 6.

I can't amplify very well on what General Shackelford has said about the way this program is run, and I don't want to give you the impression that I sleep well every night knowing nothing else is going to happen to the JSF.

But there are really good indicators of this carefully orchestrated program that was based on that upfront investment that really focused on very sophisticated design tools and modeling.

And an example of that that comes to mind is as Mr. Sullivan said the STOVL has just finished the pit test, and is en route, and will be en route to Pax River to actually go through the landings. That pit test turned out to be just slightly better than the model. No issues with it at all, that is in the—with the engine down, and that is a real credit to the model.

There is another example of it. They have just finished some of the static testing on one of the ground aircraft, and I believe the phrase is it was going to 150 percent of its design, and it turned out to go to where the model said it would be.

The three aircraft that are flying now, the last time I asked anyway, they are running about 75 percent returning to the ground without any discrepancies on them at all. So in comparison to my experience, and just to put it in context, I was a naval aviator in the 1960's and the 1970's and in the 1980's.

Mr. ABERCROMBIE. Yes.

Mr. AHERN. We didn't have anything comparable to this. It is not to say that we don't have challenges in the JSF going forward, but the rate that we are on, and as I pointed out the Secretary, just did add aircraft to the plan going forward.

The rate that we are using going forward year-over-year is .75 more, which seems to be an achievable rate that goes to what General Shackelford and General Johns said. We want to get down the learning curve as fast as we can, and we are progressing in that fashion because I checked this.

I mean that is one of my jobs. They will ripple out one cost or pull out two costs or pull out three, and our challenge is to the program and to Lockheed Martin to bring those costs down, and it is happening.

And we will continue on that line but to follow—to answer the first question no, sir, we are going toward fixed price incentive probably in Lot 5 or Lot 6.

Mr. ABERCROMBIE. Okay.

Mr. AHERN. Well, if——

Mr. ABERCROMBIE. With regard—I am sorry.

Mr. SULLIVAN. If you—if they are going to a fixed price by Lot 7 that would be at least 273 aircraft that they are going to procure in a cost reimbursable environment. When you procure aircraft in a cost reimbursable environment it is tacit acknowledgement, if you will, that they don't know how much the aircraft are going to cost. That means they could not negotiate with the contractor a fixed price.

Mr. ABERCROMBIE. So from a financial point of view, accountability point of view then it is we who assume the risk there.

Mr. SULLIVAN. But as the government assumes all—most all of the financial risk on that and the—this is not uncommon in Low Rate Initial Production (LRIP), you know, you can buy under cost reimbursement as many as 10 percent of an aircraft buy.

However on this program, the only reason we raised this is because 10 percent of this program is a significant number of aircraft that, you know, not only do you not understand the cost yet but they have not been flight tested.

You have got two percent of the flight tests done, and we understand that the program has done a significant amount of work to reduce risks in ground testing and with all of the labs they have. And we applaud that, and we think that that is good, but flight testing is flight testing.

Mr. ABERCROMBIE. It has also been paid for.

Mr. SULLIVAN. It is on—it has also been paid for. That is right.

Mr. ABERCROMBIE. One of the reasons that has taken place is that it was funded.

Mr. SULLIVAN. That is right.

Mr. ABERCROMBIE. To do exactly that.

Mr. SULLIVAN. And it has reduced risks but we still believe you fly before you buy.

Mr. ABERCROMBIE. Yes.

Mr. SULLIVAN. So you are in a position where you have as many as 300 aircraft that the government is going to take ownership of—no idea how much they are going to cost and whether they are going to work.

Mr. ABERCROMBIE. I don't necessarily even object to that by the way. I am not citing that as if that is some kind of a showstopper for this. That doesn't necessarily bother me because if it is the defense of the Nation, and you get what you want to get out of it, then maybe that is the price you pay, so that doesn't necessarily disturb me.

But can I ask, then, any of you or perhaps Mr. Ahern, I am sorry, do you want to take——

Mr. AHERN. Yes, sir, and I don't want to be argumentative with my friend, Mike.

Mr. ABERCROMBIE. I don't know whether you heard what I said that I don't necessarily object to that. I am not raising the cost reimbursement. Maybe—that is fine with me if that is what it takes in order to get the plane done.

Mr. AHERN. I think it is very important that we get the fixed price contracts. It is in a—not only in this program, but in every program in our portfolio——

Mr. ABERCROMBIE. When you can.

Mr. AHERN. As soon as you know well enough on the cost——

Mr. ABERCROMBIE. Yes.

Mr. AHERN. You need to yes, sir, and I think——

Mr. ABERCROMBIE. Sure.

Mr. AHERN [continuing]. By Lot 5 and that is—I apologize for whispering behind me.

Mr. ABERCROMBIE. No, no, it is all right.

Mr. AHERN. I was just thinking the 270 number and I think we will be in the fixed price for the jets and the 135 around Lot 5.

Mr. ABERCROMBIE. Okay. Even so it is a considerable amount of money. Yes, sir?

Mr. SULLIVAN. Just briefly, I mean this was one of the recommendations that we made in our report in March was——

Mr. ABERCROMBIE. Yes. Yes.

Mr. SULLIVAN [continuing]. That they report to the Congress the—they have to analyze the risk that is involved here and write a report that shows their path to getting to a fixed price contract.

Mr. ABERCROMBIE. Right.

Mr. SULLIVAN. You know, we share your opinion on that. It is not necessarily in and of itself bad. It is an indicator though that this program's costs are still not yet——

Mr. ABERCROMBIE. If in order to get it right, yes, if in order to get it right it requires cost reimbursement that is, you know——

Mr. SULLIVAN. Yes.

Mr. ABERCROMBIE. You present—you are the professionals. You are the ones that have to make those recommendations, and your people have to fly these planes. I mean in the end human beings are going to be doing the testing, and you have the responsibility for putting them into those planes along the way.

And nobody wants to be reckless about it. In some respects the reason I am—this is a predicate to what I want to say about or ask about the competitive engine. What is your assessment of the competitive engine over and above whether we should have it or not. What is your assessment about the progress of the competitive engine?

Is that also making progress?

Mr. AHERN. Yes, sir, from what I understand it is making progress. It is——

Mr. ABERCROMBIE. It is not an orphan in other words?

Mr. AHERN. No, sir it is not an orphan.

Mr. ABERCROMBIE. You guys are paying close attention to it?

Mr. AHERN. Absolutely, because you all—the Congress has appropriated a significant amount of money, and we have put a significant amount of money into the 136 engine, and it is absolutely making progress.

Mr. ABERCROMBIE. Okay. So——

Mr. AHERN. And it is not an orphan.

Mr. ABERCROMBIE. Right. So, okay, my point here, I guess, would be as you move toward the time when you can get a fixed cost, because your confidence level is that high, I am hoping that you will conclude or that the Secretary will conclude that perhaps if we continue along with the alternate engine it is not an expense which is excess, and it is one that is reasonable within the present cost reimbursement universe as we move toward something fixed.

Just appreciate it if you would take it into account and perhaps take another look? That is the——

Mr. AHERN. Yes, sir, and I take that responsibility seriously.

Mr. ABERCROMBIE. I am sure you do.

Mr. AHERN. It is part of my job and right now—because it was involved in the 2007 study and familiar with what the IDA did and the Cost Analysis Improvement Group (CAIG) study and of course the GAO study.

And I looked at it again this year. Not only for this hearing but in the budgeting since—overall, and it remains, although there has been additional investment in that second engine, the compelling business case to make that upfront investment to garner the benefits down in the competition area, down in the intangibles, is still not there, sir, that I can see.

Mr. ABERCROMBIE. Well, and I appreciate that. Although you—and by way of full disclosure I have never—I have said publicly and privately in many contexts that a business case, per se, in the ordinary understanding of what a business case is doesn't apply where defense is concerned. And that is not a criticism of what you just stated, so much as it is a perspective that I hold.

I believe the people of the United States will pay for their defense, and if that requires—precisely because it does involve the strategic interests of the country, as well as the military personnel expected to carry out the necessary requirements of implementing that—those strategic interests or their pursuit.

If that takes more funding than it would to build a city bus, or for that matter a commercial airliner, as opposed if something—if an airframe or an instrument of the Air Force requires more spending in order to maximize our capacity to produce what we want to produce, I think we are willing to pay for it.

So I never—at least in my own approach to this committee, I have never tried to operate as if it was my dad's food brokerage business writ large. It—I believe that there is another element to it with regard to our obligations, our constitutional obligations as a committee to fund the military of the United States that may involve expenditures that under ordinary circumstances General Motors or Chrysler, if they are still in business, would be doing.

So I understand what you are saying, but from a policy perspective it may be that I ask you once again then, that that is not necessarily the first consideration that I have in my recommendations. I think what we are doing, or our attempt here, is to supplement and complement what you are doing, and that that was in line with what the Air Force had in mind, at least through the first 10 years of this project's existence.

And there is a feeling, or a thought, in the committee that the change from having the alternate engine as part of the budget picture had more to do with budget considerations than it did with strategic considerations, or even requirements and acquisition considerations that was part of the driving force.

You know, you don't have to comment on that one way or the other. I am just giving you an observation that has reflected in the opinions that I get from members in the committee. So I have my constituency here also that I have to address.

The bottom line for all of us is, is we want to provide the best possible foundation financially and, in terms of defense policy as written in the defense bill, for you to be able to carry out your very important mission, which I know all of you are completely devoted to.

Mr. Bartlett, you are the, as usual, the essence of patience and forbearance. At this stage do you have anything else? Or I think we can bring the events to a close.

Mr. BARTLETT. Mr. Chairman, I would like to spend just a moment if I might to help clarify for those who might be listening to this hearing or reading it in the future, as to why we, in a budget-constrained world, have been pursuing the development of two brand-new fighter aircraft.

Could you tell us for the record the fundamental differences between the Joint Strike Fighter and the V–22 that made it seem necessary that we—I am sorry, the F–22, made it seem necessary that we develop both of these planes that may not be clear to the casual observer?

General DARNELL. Mr. Bartlett, I will take a stab at that. Sir, the F–22 is designed, really, to be our air dominance aircraft when you compare the two. It has an air-ground capability and quite frankly——

Mr. BARTLETT. By air dominant you mean that it could contend in a aerial fight with the best aircraft in the world?

General DARNELL. Not only that, sir, but it can—it is also designed to penetrate IADs—an Integrated Air Defense System.

Mr. BARTLETT. And why is it better than the Joint Strike Fighter in doing that?

General DARNELL. Sir, it is primarily because of its speed is the biggest reason.

Mr. BARTLETT. Its speed would enable it to outrun missiles that were fired at it?

General DARNELL. Sir, if you choose to disengage from a target area, yes, it allows you to do that.

Mr. BARTLETT. And how about altitude?

General DARNELL. It can super cruise at very high altitude, which the F–35 cannot. Now, when you look at the F–35, though, I think General Shackelford really covered it pretty well earlier. I mean it is meant to be persistent in a battle area. It has got sensors on it that the F–22 does not for air-to-ground. That is what it is designed to do. It is an exquisite platform that has capabilities that the F–22 doesn't have.

Mr. BARTLETT. Where in the world might we need the increased air dominance of the 22, certainly not in Afghanistan and Iraq?

General DARNELL. No, sir. It is designed for a high-end scenario. It is designed for a major combat operations that might involve peer competitors.

Mr. BARTLETT. Who in the world builds aircraft that are competitive with the Joint Strike Fighter and the 22?

General DARNELL. At this point, no one.

Mr. BARTLETT. The—a recent Secretary of the Air Force, Secretary Roche, told us that the best fighter aircraft in the world was the latest SU version, and I think there has been one since then.

General DARNELL. Sir, the—he may be speaking to the SU–35. I am not sure what he is speaking to——

Mr. BARTLETT. That is the number? Okay.

General DARNELL. Yes, sir. Which does not have the stealth characteristics; it is not even close. Now, both the Chinese and the Russians are working on a fifth, what we call a fifth generation aircraft with the stealth characteristics that we have in F–22 and F–35. There—is it still—and I would have to bring one of my intelligence

folks in to give you an accurate estimate, but in my opinion they are not close to fielding either one of those aircraft yet.

Mr. BARTLETT. So in terms of penetration, we still are dominating. What about in terms of speed and maneuverability and——

General DARNELL. In terms of speed and altitude we are still dominant. In terms of maneuverability I think, quite frankly, with the SU–35 the margin is closing, but the F–22 is still a much more agile and maneuverable aircraft.

Mr. BARTLETT. The 35 is a competitive aircraft? Some would say in some respects a superior aircraft. That is what the Secretary told us. He was wrong?

General DARNELL. Sir, he may have been alluding to our fourth generation capability in our current F–15 fleet. Frankly, I think it is equal or superior to that aircraft.

Mr. BARTLETT. Okay, so until the 35 and 22, the Russian plane was probably superior?

General DARNELL. Yes, sir. At least equal or superior.

Mr. BARTLETT. Okay. And they are now developing a new plane that will again challenge us for the next generation.

General DARNELL. That is under development, yes, sir.

Mr. BARTLETT. Okay. Thank you very much. That would be interesting, Mr. Chairman, to get on the record why we should be developing in this budget-constrained world two fighter aircraft.

Mr. ABERCROMBIE. When you say the Russian plane, if I can follow just for a moment, the Russian plane and/or the Chinese variation, in what way—what do they mean by a next generation or fifth generation, whatever generation it is for them, is that in terms of speed, in terms of distance that it can fly, in terms of maneuverability, what—on all fronts?

General DARNELL. Yes, sir. If they were to build a fifth generation compatible or comparable aircraft, they are striving to have the same capabilities we do with our fifth generation capable aircraft, so speed and stealth being the primary attributes.

Mr. ABERCROMBIE. What about distance? What distance can they fly, and how do you differentiate the, by the way, the F–22 and the F–35?

General DARNELL. The SU–35, which is not one I consider fifth generation, but it is the best they have got, has a range which exceeds our current F–15 and F–16 fleet. I think it would be—I think the range would be comparable with our fifth generation aircraft F–22 and F–35.

Mr. ABERCROMBIE. When we say range, by the way, I want to make sure does that depend on whether—how much fuel is being used? What is being required of the plane? I mean if it is one thing that just goes up in the air and flies as long as it can——

General DARNELL. Right.

Mr. ABERCROMBIE [continuing]. That is different than going up and maneuvering.

General DARNELL. Right. And internal capacity, I mean, they build very large aircraft. Their fighter aircraft tend to be—have gotten bigger over the years and their internal capacity has increased as a result.

Mr. ABERCROMBIE. So, with that projection, the F–22, now, if there are things you can't talk about just say so.

General DARNELL. Yes, sir.

Mr. ABERCROMBIE. But again, because this is for the record as Mr. Bartlett says and so people can understand it, then finally does the—compared with what they are doing how do your projections of what you think you can talk about with regard to either the Chinese or the Russians or whoever it may be, how does the development projected as you understand it compare to the F–22 and the Joint Strike Fighter?

General DARNELL. The——

Mr. ABERCROMBIE. Presuming the Joint Strike Fighter is able to succeed in all its iterations?

General DARNELL. Yes, sir. I think quite frankly, sir, and again we can have our intelligence folks come over and talk to you——

Mr. ABERCROMBIE. That is a separate issue. I am asking you professionally in terms of what you think those planes can do.

General DARNELL. Yes, I don't—as far as their fifth generation capability, they are probably double-digit years away from equaling our capability.

Mr. ABERCROMBIE. Okay. The reason I go into that in some detail, just to amplify a bit Mr. Ahern, that is what I meant about the business case. I don't think that this is a business case. I understand why the Secretary might want to make that point or you would make that point because you are trying to be prudent with dollars.

I mean that is—I take that as a given. I don't think that our people in the Pentagon that are profligate in that regard and don't show any concern in that respect. And perhaps some of the arguments that have been made in public or with regard to particular platforms in the past because there have been failures or missteps or a combination of these factors, where it made it seem there was waste or indifference to it.

I don't think that is the case here and that is certainly not the position that we are taking. My point simply is if that is whatever it takes to accomplish what General Darnell has been describing in general terms then that is what we have to do.

And so if in order to accomplish that we have to expend funds that wouldn't fit an ordinary case about what is the most efficient way of doing something, sometimes the most efficient way of accomplishing something, especially like the Joint Strike Fighter which you are going to—its variations are going to be asked to do different things, right?

That is an extraordinarily complicated, detailed and lengthy process that is going to require a whole lot of cooperation and teamwork to get accomplished. So we are well aware of that and we want to try to maximize your opportunity to accomplish that as soon as possible.

But more importantly the correct way, the way you are comfortable with professionally and saying, "Yes, I would like to be in that plane. I am comfortable in that, and I feel totally comfortable in asking someone who has to accept my orders to take that plane and do what needs to be done." So that is the whole motivation.

On that note I thank you very, very much for your candidness. And by the way, Mr. Ahern, thank you for being as straightforward today in a lot of these areas where you said you would be getting

back to us. We appreciate that because that means the questions are being taken seriously and the implications are understood.

We want to be partners in this. This is not a contest, I can assure you. And I hope that by—and in short order we will be able to put together a defense bill we can all look to and be proud of. Thank you very much, everybody. Aloha.

[Whereupon, at 5:18 p.m., the subcommittee was adjourned.]

A P P E N D I X

MAY 20, 2009

PREPARED STATEMENTS SUBMITTED FOR THE RECORD

MAY 20, 2009

HOLD UNTIL RELEASED BY THE
HOUSE ARMED SERVICES COMMITTEE

STATEMENT OF

MR DAVID G. AHERN

DIRECTOR, PORTFOLIO SYSTEMS ACQUISITION

OFFICE OF THE UNDER SECRETARY OF DEFENSE
(ACQUISITION, TECHNOLOGY, AND LOGISTICS)

BEFORE THE

HOUSE ARMED SERVICES COMMITTEE

SUBCOMMITTEE ON AIR AND LAND FORCES

May 20, 2009

HOLD UNTIL RELEASED BY THE
HOUSE ARMED SERVICES COMMITTEE

Air Force Modernization Programs
Mr. David G. Ahern
Director, Portfolio Systems Acquisition
Office of the Under Secretary of Defense
(Acquisition, Technology, and Logistics)

Good afternoon Mr. Chairman, Congressman Bartlett, and Members of the Committee. Thank you for the opportunity to appear before you today to discuss the Fiscal Year 2010 President's Budget request as it affects Air Force acquisition programs.

On April 6, 2009, Secretary Gates announced key decisions he recommended to the President with regard to the Fiscal Year 2010 defense budget. In his statement, the Secretary said his recommendations were the product of a holistic assessment of capabilities, requirements, risks and needs for the purpose of shifting the Department in a different strategic direction. Further, he made clear that virtually all of his decisions and recommendations were made regardless of the Department's top line budget number.

Secretary Gates' decisions and recommendations were structured to attain three principal objectives:

- First, to reaffirm our commitment to take care of the all-volunteer force, America's greatest strategic asset;
- Second, to rebalance the Department's programs in order to institutionalize and enhance our capabilities to fight the wars we are in today and the scenarios we are most likely to face in the years ahead, while at the same time providing a hedge against other risks and contingencies;

• Third, to reform how and what the Department buys, meaning a fundamental overhaul of our approach to procurement, acquisition, and contracting.

The sections that follow address the specific topic areas in your invitation letter. As you will see, the Department of Defense budget for Fiscal Year 2010 as it pertains to Air Force acquisition programs generally, and the specific programs you asked us to address, are focused on that second objective. Specific programs may have been increased or decreased; restructured, accelerated, or cancelled. But the budget, taken holistically, rebalances programs to enhance our capabilities today and the scenarios we are likely to face in the future, consistent with the Secretary's objective.

Fighter Force Structure and F-22 Production Termination

The programmed Air Force tactical air force structure meets requirements for the National Military Strategy, prudently balancing security needs and fiscal realities. The program addresses the threats we face now and expect to face in the future and reflects a key emphasis on unconventional warfare and homeland defense, while maintaining the capability to defeat any opponent in a major regional conflict. The capabilities contained within the Air Force and across the Services combine to form a robust program, prepared to deter and defeat a wide range of threats to our security. The Fiscal Year 2010 President's Budget provides an array of warfighting capabilities across the air combat portfolio, to include strike fighter aircraft, unmanned aircraft systems, aerial refueling tankers, intelligence, surveillance, and reconnaissance assets, and munitions.

The Department believes a programmed force of 187 F-22A aircraft, combined with a larger force of F-35 aircraft; provide the necessary mix of 5th generation strike fighter aircraft to meet the future requirements of the National Military Strategy. The Department has conducted extensive analysis on this issue including the Joint Air Dominance study provided to Professional Staff Members of this subcommittee in 2008. We considered various fleet sizes of F-22 in combination with various mixes of JSF variants. Detailed modeling indicated that the programmed buy of F-22 aircraft was appropriate for dealing with an advanced opponent in scenarios requiring significant air-to-air capabilities. Analysis also showed that while we will have adequate air-to-air capability, we also need a significant amount of 5th generation air-to-ground capability. To counter highly advanced surface-to-air missile systems, the JSF brings the world's most advanced sensor suite that allows it to find, fix, and target these threats. We concluded that 187 F-22s are sufficient and that the key factor in the analysis was the balance afforded by providing the Air Force, Navy, and Marine Corps with 5th generation capabilities – in the form of JSF – rather than concentrating 5th generation capabilities in any one Military Service.

The determination of force structure requirements involves an element of risk, qualified by assessing factors such as threat projections, force structure capability, warfighting requirements, and the projected fiscal environment. One key area of risk in regard to the F-22 that the Department had to address was in making sure that the programmed F-22 force can prevail against an advanced threat. The Fiscal Years 2010-2015 Future Years Defense Program (FYDP) allocates approximately $7 billion to

provide crucial improvements for the F-22. Included in this investment is funding for the next-generation data link, improved Small Diameter Bomb employment capability, improved targeting, and capability to employ enhanced air-to-air weapons. There is also funding to study the feasibility and cost of upgrading Block 30 F-22s to the most capable Block 35 configuration. The Department also believes that the F-35 offers an excellent hedge against any risk by providing a lower cost 5th generation strike fighter aircraft that will posses similar, and in some cases better capability, to meet the National Military Strategy.

The Department is retiring 250 of the oldest legacy tactical aircraft in the Air Force inventory, and while the Air Force will have fewer manned tactical aircraft in the future than it has today, it will not have a capability shortfall. The overall capability of the Air Force will increase and be more suited to our future needs. The 5th generation aircraft we are procuring are significantly more capable than the legacy aircraft they replace and far superior to anything any projected future threats are looking to field. By 2025 the Air Force will have over 1000 5th generation manned fighters. This compares to the relative handful any potential adversaries will have fielded by then. The Air Force is also investing heavily in unmanned MQ-9 Reapers, ramping up to 44 vehicles per year. By 2016 the Air Force will have procured sufficient MQ-9s to provide at least 50 continuous Combat Air Patrols. These unmanned, high-endurance platforms are well suited in important and unique ways for irregular warfare operations. Finally, the Department will review the size and mix of the Air Force TACAIR inventory in the upcoming Quadrennial Defense Review.

Joint Strike Fighter and Alternate Engine

The F-35 acquisition strategy contains provisions for a competitive engine program, provided funds are available to execute that strategy. Currently, the F135 engine is completing the development phase and beginning initial low rate production to support the F-35 aircraft production and test schedule. The F135 experienced two separate low pressure turbine blade failures, the first in the September 2007 and the second in February 2008. Root cause analysis determined the problem. The appropriate fixes were identified and are being incorporated into the remaining test and all future production engines. The engines were certified for Short Take-Off and Vertical Landing testing in January 2009, and the program recently completed hover pit testing as it prepares for full vertical landing flight tests later this year.

The Department did not include funding in the Fiscal Year 2010 President's Budget for the F136 competitive engine. The decision to not include funding for the F136 is consistent with the Department's position on this issue for the prior three budget submissions. The decision this year was reviewed by the Department's leadership as well as the Administration. The determination of whether to fund the competitive engine, as it has in the past, was weighed against the budget priorities of the Department as a whole, the optimum use of taxpayer's dollars in executing and preparing for the National defense, and the benefits to the F-35 program. The Department continues to execute appropriated development funding to ensure that a competitive engine program remains viable while there is funding is available. Since there is no follow-on procurement funding in Fiscal Year 2010, the Department has delayed execution of advance procurement funding appropriated in the Fiscal Year 2009 Appropriations Act. The

Department's policy is to execute advance procurement funds only when associated follow-on procurement funding or a programmed plan that contains full procurement funding is available.

The decision to increase the six-year F-35 production profile by 28 aircraft was driven by the need to create a more efficient ramp-rate from year to year as we prepare to enter full-rate production in the 2015 timeframe. Accelerating the 28 aircraft deliveries into the Fiscal Years 2010-2015 FYDP lowers the unit cost, expedites delivery of aircraft to the warfighter, and has the added benefit of saving approximately $500 million over the life of the program. More importantly, appropriately managing the investments in this ramp-rate is critical to meeting our warfighter requirements at the lowest possible cost to the taxpayer. The current state of the flight test schedule was considered in making this decision. The developmental flight testing begins in earnest this year, with operational testing not scheduled to begin until 2012. While flight testing is an important part of the program, it is not the only indicator of performance verification. Design maturity, manufacturing quality metrics, and software stability are providing confidence through initial structural testing, limited flight envelope testing, and predicted versus actual performance in the large number of labs and simulators. The Department believes that the investment now, to achieve a more efficient production ramp, will yield savings over the long term and ensure the Services receive the warfighting assets they need to execute their operational requirements.

Cancellation of the CSAR-X Program

The Secretary of Defense, in consultation with the Joint Staff, Military Services, and combatant commanders, examined the pre-existing CSAR-X program of record, its

requirements, and its recent acquisition history. During the review, the Department considered either continuing the program or terminating. As a result of that review, the decision was made to terminate the program. CSAR-X was to provide an enhanced capability to conduct long-range penetration missions for personnel recovery in combat scenarios. All Services and the U. S. Special Operations Command currently possess a wide spectrum of overlapping and complementary personnel recovery capabilities. This overlay provides a robust national combat search and rescue capability which serves the combatant commanders well. A deep penetration mission to recover downed crews in a complex threat environment requires a joint solution. Since this mission drives many of the CSAR-X requirements, it is imperative we reassess the mission in the context of joint force capabilities. Development of single-service solutions with single-purpose aircraft, especially considering joint force capability needs for personnel recovery, is not a sustainable approach.

During the Secretary of Defense's recent review of the pre-existing CSAR-X program of record, the Air Force was a full participant and was fully engaged in the decision-making process for CSAR-X.

The Department will reassess this important mission in the context of joint force capabilities. The assessment will provide the basis to affirm or adjust current DoD policy with regard to personnel recovery; will inform the Department regarding what capabilities are essential to a follow-on program for Air Force combat search and rescue aircraft; and will provide a basis from which to ensure that the national combat search

and rescue capability provides for recovery of any downed, injured, or isolated Service member, including combat environments.

The CSAR-X performance requirements, taken in aggregate, establish demands for a significantly larger payload to be transported a significantly longer distance in significantly more challenging environmental conditions with critical improvements in several others aspects, such as survivability. The program would have required a lengthy and costly engineering and manufacturing development, to be repeated in a second capability increment, to deliver the full capability. The program strategy relied on extensive redesign of an already-existing aircraft design, including new drive systems, new cockpit avionics, extensive armament and survivability improvements, and very robust mission avionics and equipment.

The Fiscal Year 2010 President's Budget includes, in appropriate Air Force accounts, a $90 million increase in funding to address the risk of sustaining the aging HH-60G Pave Hawk fleet, which provides our current search and rescue capabilities. The Air Force is completing HH-60G Pave Hawk planning that will be reviewed soon by the Department.

Joint Cargo Aircraft

The Joint Cargo Aircraft (JCA) program is an important Department acquisition program to help address the aging force structure supporting the Army's Time Sensitive/Mission Critical (TS/MC) airlift mission. The changes reflected in the Fiscal Year 2010 President's Budget and accompanying policy changes will maximize the robust capabilities of our existing C-130 fleet and ensure that we meet all our intra-

theater airlift requirements. The decision to transfer the Army JCA mission to the Air Force was based on an agreement between the two services that the Air Force would accept responsibility for direct delivery of Army Time Sensitive/Mission Critical cargo via JCAs and the Air Force's existing fleet of over 400 airlift C-130s. Adjusting roles and missions and assigning the Air Force greater responsibility for delivering Army time sensitive, mission critical cargo will reduce the burden on other Army platforms that currently support TS/MC cargo missions (such as the CH-47). The reduction in the total quantity of JCA aircraft is an acknowledgement that the Department can meet all of its warfighter requirements through better management of all intra-theater airlift assets.

The decision to reduce JCA procurement from 78 to 38 aircraft was made after considering a full range of options that included procuring as many as 92 JCAs and as few as zero. The Fiscal Year 2010 President's Budget codifies a real breakthrough in jointness whereby the Army and the Air Force agreed to transfer the mission of delivering Army TS/MC cargo to the Air Force. General Casey, the Army Chief of Staff has stated that the Army needs the capability to re-supply its forces, saying, "We do not have to fly the planes to get that." Flying fixed-wing aircraft "is not our [the Army's] core competency."

The Department understands there will be an impact to the National Guard and to the states that would have received JCA aircraft. We will continue to work with the National Guard Bureau on how to best minimize the impact to basing and personnel. The Department will provide an updated basing plan for the JCA once this analysis has been completed.

Strategic Airlift

Preliminary results from the Department's ongoing mobility study are due in June 2009. While important, the Mobility Capability and Requirements Study (MCRS) represents but one input to the decision process. The Department's decision to end C-17 procurement was based on comprehensive assessments of the strategic airlift fleet capacity, mix, and viability.

From a fleet capacity perspective, there is no indication, either from prior studies, or the ongoing mobility study, that the Department needs additional strategic airlift capacity above that which is already programmed (205 C-17s and 111 C-5s). An early indication from MCRS analysis—which has been in progress for nearly a year—supports the conclusion that additional strategic airlift is not necessary to meet the mobility demands of the defense strategy into the next decade.

Additionally, the Department's analysis of C-5 fleet viability does not support the need to retire C-5s and replace them with other aircraft (e.g., C-17s) within the next 15 to 30 years. The Department has determined that the C-5 fleet will remain viable through 2025 to 2040.

Finally, additional procurement will not be needed to replace existing C-17s for many years. C-17s have been designed to remain operational for twice their estimated service life of 30 years or 30,000 flight hours. The current average age of the C-17 fleet is between 9 and 10 years and 8,000 to 9,000 hours. Additionally, at current use rates, the oldest C-17 is not expected to reach 30,000 flight hours before Fiscal Year 2019.

Before a decision is made concerning additional procurement, the Department will likely consider Service Life Extension Programs, which could add 15,000 to 30,000 hours of service life to existing aircraft.

KC-X

Now that the Deputy Secretary of Defense and the Under Secretary of Defense for Acquisition, Technology, and Logistics have been confirmed, the Secretary of Defense will meet with these two senior leaders together with the Secretary of the Air Force and the Chief of Staff of the Air Force to finalize the appropriate course of action with regard to the KC-X acquisition strategy. The Department intends to consult with Congress and brief them before finalizing our approach. Once the Secretary makes his decision, we anticipate being able to solicit proposals from industry this summer with award of a contract by late spring 2010.

Conclusion

The Secretary said that this a reform budget, reflecting lessons learned in Iraq and Afghanistan yet also addressing the range of other potential threats around the world, now and in the future. It reflects the tough choices the Department has made about specific systems and defense priorities based solely on the national interest. Certainly you can see the implications of that reform and those tough choices in the budget request for Air Force acquisition programs.

We are grateful for the continued support of Congress which has been critical to ensuring our airmen are the best trained and best equipped Air Force in the world. Thank you for this opportunity to testify on the Department's plans to continue to equip them for

today's wars and tomorrow's challenges. I look forward to answering any questions you may have.

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HOUSE ARMED SERVICES COMMITTEE
SUBCOMMITTEE ON AIR AND LAND FORCES
U.S. HOUSE OF REPRESENTATIVES

DEPARTMENT OF THE AIR FORCE

PRESENTATION TO THE HOUSE ARMED SERVICES COMMITTEE
SUBCOMMITTEE ON AIR AND LAND FORCES
UNITED STATES HOUSE OF REPRESENTATIVES

SUBJECT: AIR FORCE PROGRAMS

COMBINED STATEMENT OF:

Lieutenant General Daniel J. Darnell, Air Force Deputy Chief Of Staff For Air, Space and Information Operations, Plans And Requirements (AF/A3/5)

Lieutenant General Mark D. Shackelford, Military Deputy, Office of the Assistant Secretary of the Air Force for Acquisition (SAF/AQ)

Lieutenant General Raymond E. Johns, Jr., Air Force Deputy Chief of Staff for Strategic Plans And Programs (AF/A8)

MAY 20, 2009

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HOUSE ARMED SERVICES COMMITTEE
SUBCOMMITTEE ON AIR AND LAND FORCES
U.S. HOUSE OF REPRESENTATIVES

I. Introduction

Chairman Abercrombie, Ranking Member Bartlett, and distinguished members of the committee, thank you for calling this hearing, and for the opportunity to provide you with an update on the Air Force Modernization efforts and other matters that are important to our Air Force and to the Nation. Your Air Force is fully engaged in operations across the globe, engaged in overseas contingency operations (OCO) and providing support to the Combatant Commanders to enable them to successfully execute their missions. As we prepare for the upcoming year, we will be assessing how the Fiscal Year (FY) 2010 budget aligns with the standing operational requirements along with the upcoming needs of the entire Air Force. We frame our decisions and recommendations using the SECAF/CSAF top 5 priorities list to ensure we are aligned with the desires of our senior leadership. The fourth priority is modernizing our air and space inventories, organizations and training, and we are prepared to discuss our rapidly aging aircraft fleet that drives our urgent need to find a balance between the acquisition of new inventory and the ongoing effort of sustainment of our current fleet. We look forward to a discussion on how best to interlace the requirements and the available resources that have been allocated in order to execute the National Military Strategy.

II. Winning the Fight

When it comes to winning today's fight your Air Force is "*All In.*" When we say "*All In,*" that covers a lot of ground. We, along with our sister Services, partner with the Joint and Coalition team to bring airpower wherever it is needed. The current operations in Iraq, Afghanistan and the Horn of Africa highlight over 18 consecutive years of planning, resourcing and executing combat missions. Since OCO began in 2001, your Air Force has flown over 80% of the Coalition's combat sorties in support of Operations IRAQI FREEDOM (OIF) and

ENDURING FREEDOM (OEF). These missions provide the Joint and Coalition team with global airlift; aero-medical evacuation; air-refueling; command and control; close air support (CAS) to ground operations; strike; intelligence, surveillance and reconnaissance (ISR) and electronic warfare. We have flown over 385,000 mobility sorties dedicated to moving equipment and troops to and from the CENTCOM Area of Responsibility (AOR).

The total Air and Space effort takes its toll on our equipment and people as we continue to maintain the high operations tempo over time. We currently have over 208,000 Airmen contributing 24/7 to Combatant Command operations, including approximately 36,000 Airmen who are deployed to locations worldwide. When adding humanitarian relief missions, both globally and at home, and Air Sovereignty Alert (ASA) operations, the effects on the Air Force assets are tangible and measurable and are reflected in some of the problems we see in maintaining the current fleet. In direct support of the ASA mission, your Air Force has flown over 54,410 total sorties under Operation NOBLE EAGLE (ONE), including 39,390 fighter sorties, 11,290 air refueling sorties, and 1,826 airborne early warning sorties. As a testament to the total force, the Air National Guard has flown more than 70% of these sorties and currently operates 16 of 18 Air Sovereignty Alert sites.

As we continue to accomplish our current mission sets and plan for future threats, we must remain mindful of the increasing age and costs of operating our air fleet. When approaching critical budget decisions, we face the same challenge of balancing between risk and operational necessity as we do when apportioning sorties. Our Air Force leadership is scrutinizing programs and budgets to find acceptable solutions to meet growing demands that are competing for limited amounts of funding.

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III. Combat Aircraft

The following information provides updates on Air Force combat aircraft modernization:

A-10

The A-10 provides the Joint Force Commander lethal, precise, persistent, and responsive firepower for CAS and combat search and rescue (CSAR). It has performed superbly in Operations DESERT STORM, ALLIED FORCE (OAF), OEF and OIF. However, the age of the A-10 and high operations tempo have taken a toll on the fleet. In the fall of 2006, the Air Force Fleet Viability Board (FVB) recommended that the Air Force upgrade 242 thin-skin center wing A-10 aircraft with thick-skinned wing replacements; this program is currently designing the new wing and installs will begin in FY11. Last fall, approximately 240 A-10s were grounded due to wing cracks. An inspect and repair program was implemented that has reduced the number still grounded to approximately 60; we anticipate these will all return to flying by the end of June 2009.

The Air Force is currently upgrading 347 A-10s to the "C" configuration through the Precision Engagement (PE) modification and anticipates completion by the end of FY11. This modification enables J-Series weapons, such as Joint Direct Attack Munitions (JDAM) and Wind Corrected Munitions Dispenser (WCMD); integrates a digital data link and advanced targeting pods with video downlink; replaces monochrome cockpit displays with color multi-function displays; installs new pilot throttle and stick controls; adds a moving map capability and a mass-memory upgrade; and doubles current DC power. Additionally, we have integrated beyond line of sight radios into the A-10 for faster communication with ground units, forward controllers, and command and control (C2) centers.

F-15 A-D

The F-15 A-D is an air superiority fighter with an average age of over 25 years, and the Air Force is managing the fleet through scheduled field / depot inspections under an individual aircraft tracking program. In early 2008, the F-15A-D fleet returned to flying status after engineering analysis and inspections confirmed each aircraft was safe for flight. Of the 407 aircraft in the inventory, only nine were grounded due to the longeron crack. The Air Force repaired five, and four were retired due to their proximity to planned retirement. The five aircraft were repaired in 2008 at a cost of approximately $235,000 each using organic materials and labor at Warner-Robins Air Logistics Center.

Based on the recommendation of Boeing and depot engineers, the Air Force has instituted recurring inspections of F-15 longerons every 400 flight hours to detect cracks before they become catastrophic. Analysis confirms that this interval is very conservative and will avoid a mishap such as the one that occurred on 2 November 2007. Additionally, the Air Force will conduct a full-scale fatigue test, aircraft teardown, and improved structural monitoring to help establish the maximum F-15 service life and more effectively manage structural health of the fleet. We expect these efforts to successfully enable the 176 F-15C/D long-term "Golden Eagles" to operate safely and effectively through 2025.

F-15E

The F-15E fleet, with an average age of over 16 years, was not affected by the longeron crack and continues to provide support for on-going operations in Afghanistan and Iraq. Like the A-10, the F-15E performed superbly in operations DESERT STORM, OAF, OEF and OIF. The Air Force has been working hard to improve the F-15E's ability to rapidly engage and destroy time sensitive targets by adding secure radios and data links for faster communications with

ground units and forward controllers; by integrating the latest precision weapons that not only hit a target accurately but are designed to reduce collateral damage; by adding a helmet mounted cueing system that will reduce the F-15E's time to engage a target by up to 80%; and by adding a state-of-the-art, Active Electronically Scanned Array (AESA), radar system that not only addresses sustainment issues with the current system but will give the F-15E advanced capabilities to identify and engage targets, share real-time information with other aircraft, and protect itself from enemy threats. The Air Force plans for the F-15E to be an integral part of the Nation's force through at least 2035.

F-16

Our multi-role F-16s, the majority of the fighter fleet, are undergoing a structural upgrade program to replace known life-limited structural components. Due to the use of more stressing mission profiles, this upgrade program is required to maintain the original design airframe life of 8,000 flight hours. Wing pylon rib corrosion, a known problem with the F-16 aircraft, is an issue we monitor closely through inspections every 800 hours. This corrosion can prevent the F-16s from carrying pylon mounted external fuel tanks which limits their effective combat range. In partnership with industry, the Air Force has recently developed and certified an effective repair allowing repair of affected aircraft at the unit in a single day instead of requiring a lengthy wing overhaul at the depot.

In other inspections, maintainers have found bulkhead cracks in approximately 37.5% (149 of 397) of our Block 40/42 F-16 aircraft. Eight-four aircraft have been repaired and five aircraft have had the bulkheads replaced with 19 more in progress. As of 12 May 2009, three Block 40/42 F-16 aircraft were in non-flying status awaiting bulkhead repair or replacement. An additional 57 aircraft continue to fly with increased inspection requirements to measure crack

growth. We will continue to monitor this situation closely. Similarly to the F-15, the Air Force will start conducting a full-scale durability test for the F-16 in FY11 to help establish the maximum service life and more effectively manage structural health of the fleet.

The Common Configuration Implementation Program (CCIP) is a top F-16 priority and will enable the maintenance of a single operational flight program configuration on the Block 40/42/50/52 F-16s. The Block 50/52 modification is complete and the Block 40/42 modification will be complete in FY10. It combines several modifications including a new mission computer, color displays, air-to-air interrogator (Block 50/52 only), Link-16, and Joint Helmet Mounted Cueing System. The F-16 is expected to be a capable element of the fighter force well into 2024.

Fifth Generation Fighters

Fifth generation fighters like the F-22A and the F-35 are key elements of our Nation's defense and ability for deterrence. As long as hostile nations recognize that U.S. airpower can 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.

Both the F-22A and the F-35 represent our latest generation of fighter aircraft. We need both aircraft to maintain the margin of superiority we have come to depend upon, the margin that has granted our forces in the air and on the ground freedom to maneuver and to attack. The F-22A and F-35 each possess unique, complementary, and essential capabilities that together provide the synergistic effects required to maintain that margin of superiority across the spectrum of conflict. The OSD-led 2006 QDR Joint Air Dominance study underscored that our Nation has a critical requirement to recapitalize TACAIR forces. Legacy 4th generation aircraft

simply cannot survive to operate and achieve the effects necessary to win in an integrated, anti-access environment.

F-22A Future Capabilities & Modifications

The F-22A Raptor is the Air Force's primary air superiority fighter, providing unmatched capabilities for air supremacy, homeland defense and cruise missile defense for the Joint team. The multi-role F-22A's combination of speed, stealth, maneuverability and integrated avionics gives this remarkable aircraft the ability to gain access to, and survive in, high threat environments. Its ability to find, fix, track, and target enemy air- and surface-based threats ensures air dominance and freedom of maneuver for all Joint forces.

Similar to every other aircraft in the U.S. inventory, there is a plan to regularly incorporate upgrades into the F-22A to ensure the Raptor remains the world's most dominant fighter in the decades to come. The F-22A modernization program consists of two major efforts that, together, will ensure every Raptor maintains its maximum combat capability: the Common Configuration program and a pre-planned product improvement (P3I) program (Increments 2 and 3). We are currently in year six of the planned 13-year program.

As of 1 May 2009, the Air Force has accepted 139 F-22A aircraft, out of a programmed delivery of 183. Most of these aircraft include the Increment 2 upgrade, which provides the ability to employ Joint Direct Attack Munitions (JDAM) at supersonic speeds and enhances the intra-flight data-link (IFDL) to provide connectivity with other F-22As. The Air Force will upgrade the F-22A fleet under the JROC-approved Increment 3 upgrade designed to enhance both air-to-air and precision ground attack capability. Raptors from the production line today are wired to accept Increment 3.1, which when equipped, upgrades the APG-77 AESA radar to enable synthetic aperture radar ground mapping capability, provides the ability to self-target

JDAMs using on-board sensors, and allows F-22As to carry and employ eight Small Diameter Bombs (SDB). The Air Force will begin to field Increment 3.1 in FY11. Future F-22As will include the Increment 3.2 upgrade, which features the next generation data-link, improved SDB employment capability, improved targeting using multi-ship geo-location, automatic ground collision avoidance system (Auto GCAS) and the capability to employ our enhanced air-to-air weapons (AIM-120D and AIM-9X). Increment 3.2 should begin to field in FY15.

The current F-22A modernization plan will result in 34 Block 20 aircraft used for test and training, 63 combat-coded Block 30s fielded with Increment 3.1, 83 combat-coded Block 35s fielded with Increment 3.2, and 3 Edwards AFB-test coded aircraft. Consideration is also being given to upgrade the 63 Block 30s to the most capable Block 35 configuration.

F-22A Procurement Plans

The F-22A production program has delivered 22 "zero defects" aircraft to date and is currently delivering Lot 7 aircraft ahead of scheduled contract delivery dates at a rate of about two per month. Lot 7 Raptors are the first lot of the three-year multiyear procurement contract awarded in the summer of 2007. The Air Force completed F-22A deliveries to Elmendorf AFB, Alaska and we are currently underway with deliveries to Holloman AFB, New Mexico with expected completion in January 2011.

When the plant delivers the last Lot 9 aircraft in December 2011, we will have completed the program of 183 Raptors. The average unit cost for the 60 aircraft in the multiyear procurement was $142.6M. Should the Congress decide to fund the 4 additional Lot 10 Raptors in the Overseas Contingency Operations Supplemental Request, the unit flyaway cost without tail-up costs will be approximately $153.2M. The unit flyaway cost is estimated to be $10.6M higher due to higher material costs for a much smaller lot buy, loss of the multiyear procurement

savings in parts and labor, inflation, and in-line incorporation of pre-planned product improvements, including SDB capability, ability to retarget JDAMs, and the ability to map ground targets with the synthetic aperture radar. This average does not include tail-up costs of $147M.

F-35

The F-35 program will develop and deploy a family of highly capable, affordable, fifth generation strike fighter aircraft to meet the operational needs of the Air Force, Navy, Marine Corps, and Allies with optimum commonality to minimize life cycle costs. The F-35 was designed from the bottom-up to be our premier surface-to-air missile killer and is uniquely equipped for this mission with cutting edge processing power, synthetic aperture radar integration techniques, and advanced target recognition. The F-35 also provides "leap ahead" capabilities in its resistance to jamming, maintainability, and logistic support. The F-35 is currently in the 8th year of a 13 year Engineering and Manufacturing Development (EMD) phase.

The F-35 is projected to meet all Key Performance Parameters (KPP) and as of 10 May 2009, AA-1 has completed 84 test flights, including a deployment to Eglin AFB. The first system design and development (SDD) Short Take-Off and Vertical Landing (STOVL) aircraft, BF-1, has completed 14 flights. The second SDD STOVL aircraft, BF-2, had its first flight in February 2009. The Cooperative Avionics Test Bed (CAT-B) continues to provide unprecedented risk reduction at this stage in a major weapon system not seen in any legacy program. In December 2008, the Defense Acquisition Executive (DAE) approved full funding for 7 Conventional Take-Off and Landing (CTOL) aircraft and engines, plus sustainment and associated equipment as part of the Low Rate Initial Production (LRIP) Lot 3 acquisition decision memorandum. In addition, the DAE approved full funding for seven STOVL aircraft

plus sustainment and associated equipment contingent upon successful completion of the F135 Pratt & Whitney lead engine Stress Test, Flight Test Engine 6 Proof Test and receipt of full STOVL flight clearance, which occurred on 30 January 2009. The FY10 President's Budget provided funding for 10 CTOL, 16 STOVL and 4 CV aircraft for Operational Test.

Joint Strike Fighter Alternative Engine Program

Presidential Budget 10, released earlier this month, cancelled the alternate engine program for the Joint Strike Fighter, and removed all further funding for the development and procurement of this second engine. The Air Force and Navy are executing the funding appropriated by Congress in the 2009 budget to continue the F136 program.

The cost to continue F136 engine development is approximately $1.8B through FY15. In addition, the Department of Defense will have to fund the production of GE engines to get the suppliers on equal footing in the amount of approximately $2.8B. Continued funding for the F136 engine carries cost penalties to both F135 and F136 engines for reduced production line learning curves and inefficient economic order quantities. The department has concluded that maintaining a single engine supplier provides the best balance of cost and risk. Our belief is the risks associated with a single source engine supplier are manageable due to improvements in engine technology and do not outweigh the investment required to fund a competitive alternate engine.

Unmanned Aircraft Systems (UAS)

MQ-9A Reaper

The MQ-9 Reaper is a "Hunter-Killer" remotely piloted aircraft capable of automatic cueing and prosecuting critical, emerging time-sensitive targets with self-contained hard-kill capability. SDD for the first increment began in FY05 and additional SDD efforts are currently

on-going. An interim combat capability aircraft deployed to CENTCOM in September 2007 and, even though not yet at IOC, more have continued to deploy. There are now 12 U.S. and two United Kingdom MQ-9s supporting OEF operations. The MQ-9 has military-standard 1760-based stores management capability, an FAA-certified engine and GBU-12/AGM-114 Hellfire weapon capability now, and an anticipated 500-lb JDAM (GBU-38) capability in July 2009. As part of the FY10 President's Budget, the Air Force requests funding to procure 24 MQ-9As.

Missile Programs

Joint Air-to-Surface Stand-off Missile (JASSM)

The JASSM is the Nation's only stealthy, conventional, precision, launch-and-leave, stand-off missile capable of being launched from fighter and bomber aircraft. The JASSM achieved an initial operational capability on B-52, B-1, F-16 and B-2 and puts an adversary's center-of-gravity targets at risk even if protected by next-generation air defense systems.

The Air Force postponed the JASSM FY09 production contract due to unsatisfactory flight tests of the Lot 5 JASSM production missiles. Of the 10 flight tests, we considered six to be complete successes. To address issues discovered during the JASSM test program to date, we are taking a pause in FY10 missile production in order to incorporate reliability improvements on Lot 6 missiles, and will conduct a 16 shot flight test in the late summer/early fall 2009 timeframe to verify JASSM is on track to achieve our established reliability goal of 90%. .

As part of the FY10 President's Budget, the Air Force is not requesting any funds for procurement of missiles, but rather is requesting procurement funds only to continue reliability and retrofit activities.

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Legacy Bomber Fleet

The Air Force bomber fleet exemplifies how we continue to sustain and modernize legacy aircraft as they are passed from one generation of crew force to the next.

B-1

The B-1 provides the Joint Force Commander massive firepower potential coupled with a significant loiter capability perfectly suited for the inconsistent tempo of today's ongoing operations. Added to this is the B-1's unique supersonic dash potential which allows a single aircraft to perform as a roving linebacker over large portions of the overall AOR. Once solely a nuclear deterrent, the Air Force has re-focused the B-1's capabilities through modernizing its current conventional lethality.

A perfect example of the B-1's potential was realized by adding an Advanced Targeting Pod to the platform's sensor suite. In an exceptional display of acquisition effectiveness, in 2007 the Air Force and our corporate partners responded to AFCENT's highest Urgent Operational Need requirement by energizing a fast-track development and procurement timeline. With the help of supplemental funding, by June 2008 the 34th Bomb Squadron from Ellsworth AFB, South Dakota was able to deploy a full complement of Sniper-equipped B-1 bombers to support both OEF and OIF operations without a single break in daily combat operations. The program continues in 2009 to outfit the remaining fleet and incorporate laser-guided weapons as well as integrating pod data directly into the avionics system, allowing for direct machine-to-machine transfer of targeting data. As stated by the Combined Force Air Component Commander, "The Sniper pod on the B-1 Bomber is amazing."

This new capability means the B-1 is even more in demand for current operational taskings. The non-stop overseas contingency operations are taking a toll on the overall fleet.

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Currently in FY09, the Air Force is addressing five different issues which would have meant potentially grounding aircraft if they were not addressed. As a baseline to many of these sustainment modifications, the Air Force also embarked on its largest cockpit and communications modernization for the B-1 since its inception. Begun in 2005, the B-1 Fully Integrated Data Link (FIDL) program infuses a tactical Link-16 data link and a Joint Range Extension (JRE) Beyond Line of Sight (BLOS) data link into an entirely overhauled modern cockpit. This system of modifications removes legacy monochrome displays and incorporates a series of color multifunction displays capable of displaying a wide array of fused data at all crew stations. Although the B-1 FIDL program has suffered several setbacks, through the continued persistence of Air Force and Congressional support the program is now turning the corner and progressing toward completion. This upgrade will not only help protect the B-1 parts from obsolescence, it will evolve an already capable conventional platform into a networked provider of precision firepower.

B-2

The B-2 Spirit Advanced Technology Bomber provides a lethal combination of stealth, range, payload, and precision engagement. The B-2 remains the world's sole long-range, low observable bomber, and the only platform capable of delivering 80 independently targeted GBU-38s.

B-2 availability has steadily increased over the past five years, due in large part to focused efforts to enhance low observable maintenance such as the highly successful Alternate High Frequency Material program. However, it still faces increasing pressures to upgrade avionics originally designed over twenty years ago. The three-increment Extremely High Frequency Satellite Communications and Computer Upgrade program (EHF SATCOM and

Computer Upgrade) seeks first, in Increment 1, to upgrade the Spirit's flight management computers as an enabler for future avionics efforts. Increment 2 integrates the Family of Beyond-line-of-sight Terminals (FAB-T) along with a low observable antenna to provide secure, survivable strategic two-way communications, while Increment 3 will connect the B-2 into the Global Information Grid. Increment 1 of EHF SATCOM and Computer Upgrade is currently in Engineering and Manufacturing Development (EMD) and on track to begin procurement in FY11 for fleet installation beginning at the end of FY13.

The B-2 is also replacing the original radar antenna and upgrading selected radar avionics as part of the Radar Modernization Program (RMP) to change the radar operating frequency. RMP recently recovered from development challenges and has been approved to enter production. The LRIP contract for the first six production radar kits was signed on 29 December 2008, with the second and final buy for the remaining seven shipsets slated for later this year. Seven radar shipsets were also bought during development and are currently being installed in fleet aircraft to round out the 20 aircraft B-2 fleet; the developmental units will be retrofitted to the final production configuration. Thanks in large part to Congressional support, the RMP acquisition strategy was modified to include both life-of-type component buys to avoid diminishing manufacturing issues during the production run, and advance procurement to recover five months of the schedule lost while resolving the RMP integration issues during development.

B-52

The B-52 Stratofortress is our Nation's oldest frontline long-range strategic bomber, with the last airframe entering service with the United States Air Force in 1962. Given the expected service life of the aircraft, the B-52 airframes will be the longest operationally employed

powered war machine in history, far surpassing the lifespan of any other single model land, sea or air weapon system. For more than 40 years B-52s have been the backbone of the strategic bomber force for the U.S. The B-52 is capable of dropping or launching the widest array of weapons in the U.S. inventory, including gravity bombs, cluster bombs, precision guided missiles and JDAMs. Updated with modern technology, the B-52 will be capable of delivering the full complement of Joint developed weapons and will continue into the 21st Century as an important element of our Nation's defenses.

The Air Force has invested in B-52 modernization programs to keep the platform operationally relevant by adding satellite and nuclear survivable and secure wideband high data rate communications; Sniper and LITENING Advanced Targeting Pods; aircraft computer and data transfer unit upgrades; and integration of smart weapons to improve conventional warfare capability.

Together with the B-1 and the B-2, the B-52 serves as a key component of the United States' long-range bomber force. It has earned respect as a highly capable conventional and nuclear combat platform during the Cold War, the Vietnam War, DESERT STORM, OAF, OIF, OEF, and frequently deploys to Guam to provide a continuous bomber presence mission in the Pacific. The B-52 continues to serve the Nation well as it has during its long and distinguished history, and we have provided significant support across the Future Years Defense Program in recognition of its value.

IV. Mobility Aircraft

The following information provides updates on Air Force mobility aircraft modernization:

KC-135 Tanker Replacement Program (KC-X)

The KC-X remains the Air Force's highest procurement and recapitalization priority. Air refueling is critical to the entire Joint and Coalition team's ability to project combat power around the world. The current fleet of Eisenhower-era KC-135s averages over 48 years old.

KC-X tankers will provide increased aircraft availability, more adaptable technology, more flexible employment options, and greater overall capability than the current fleet of KC-135R/T tankers. The KC-X will be able to refuel receptacle and probe-equipped aircraft on every mission and to receive fuel in-flight plus carry cargo, passengers, & conduct aeromedical evacuation. The KC-X will also be equipped with defensive systems to enhance its utility to the warfighter.

The KC-X program is based on a planned purchase of 179 aircraft and is the first of up to three recapitalization programs to replace the entire legacy fleet. The Air Force has budgeted approximately $3.5 billion per year for a projected annual production rate of 12-18 aircraft. But even with this level of investment, it will take several decades to replace the 400+ KC-135s. Given the age of the fleet and the time required to recapitalize, it is absolutely critical for the Air Force to move forward now on this program.

The Air Force and the Department of Defense have been considering options for conducting a new source selection since the previous competition was terminated by the Secretary of Defense in September 2008. It is the Air Force's desire to begin the competition in Summer 2009 and award a contract in early 2010.

Strategic Airlift

The C-17 and C-5 fleets remain Air Force priorities to meet warfighter requirements for strategic airlift.

C-5 Modernization Programs

The C-5 modernization effort is a two-phased program. The Avionics Modernization Program (AMP) provides modern, sustainable aircraft avionics, allowing the aircraft to efficiently access international airspace. This will allow the Air Force to more efficiently conduct peacetime operations and meet closure times for our Nation's war plans. All C-5B/Cs have entered or completed AMP modification and the first C-5A completed modification on 16 Feb 2009 and is assigned to Lackland ARB, Texas. Currently, the C-5 AMP effort continues at two modification centers at Dover AFB, Delaware and Travis AFB, California and will modify all 111 C-5 aircraft by 2015.

The Reliability Enhancement and Re-engining Program (RERP) builds upon the C-5 AMP modification. C-5 RERP replaces the propulsion system and improves the reliability of over 70 systems and components. Following a critical Nunn-McCurdy breach, the Defense Acquisition Executive (DAE) certified a restructured C-5 RERP modernization of the entire C-5B/C fleet. Since the certification, the program has completed a Milestone C Defense Acquisition Board as well as an Interim Program Review in January 2009, earning DAE approval to continue low rate initial production (LRIP).

The restructured program successfully completed developmental test and evaluation, meeting or exceeding all of its KPPs. As part of this testing, the fully modernized aircraft, known as the C-5M, accomplished a non-stop flight from Travis AFB, California to Mildenhall AB, United Kingdom via the polar route, without aerial refueling. The flight began at a gross weight of 807,000 pounds, well above the normal maximum of 769,000 pounds, established a continuous climb to an initial altitude of 33,000 feet, carried 120,000 pounds of cargo, and flew 4,770 nautical miles in approximately 11 hours. This is a vast improvement over legacy C-5A/B

fleets, which would require aerial refueling to carry the same amount of cargo over the same distance.

The Air Force delivered the first C-5M to an operational unit on 9 February 2009, piloted by General Arthur Lichte (Commander, Air Mobility Command) with former Secretary John Young (USD (AT&L)) and former Secretary Sue Payton (Assistant Secretary of the Air Force for Acquisition) as proud passengers. The production program is delivering on cost and on schedule. These efforts will fully modernize 52 C-5s that meet the warfighters' requirements.

C-17 Production

The C-17 continues to be a highly successful program and proven airlift workhorse for our Nation's defense. The Air Force recently took delivery of its 187th aircraft, on-cost and on-schedule. Congress provided $3.3B to the Air Force in FY08 for 15 additional C-17s, bringing the current program of record to 205 aircraft. Combined with the C-5 program, this meets our current strategic airlift requirement.

The Joint OSD/US Transportation Command-sponsored Mobility Capabilities Requirements Study (MCRS-16) is due out at the end of 2009 and is expected to offer additional insights into future airlift needs. The Air Force will continue to execute to the program of record while simultaneously developing the transition to sustainment plan. The Department of Defense has indicated no desire to purchase additional C-17 aircraft. When Boeing decides to close the C-17 production line, ongoing planning activities will posture the Air Force for long-term C-17 fleet sustainment. As part of the FY10 President's Budget, the Air Force requests funding to shutdown the C-17 production line.

Tactical Airlift

The legacy C-130, C-130J, and C-27J aircraft provide tactical airlift for the warfighter. Whereas our strategic airlift fleet provides mostly long-distance cargo transportation, the tactical airlift fleet serves our shorter-distance intra-theater missions.

C-130 Avionics Modernization Program (AMP)

The C-130 AMP program modernizes the Air Force's 221 of the Air Force's legacy C-130 combat delivery aircraft to increase reliability, maintainability, and sustainability. It provides the aircraft with a common avionics suite and standardized cockpit configuration that will satisfy all mandated Communication, Navigation, Surveillance/Air Traffic Management System (CNS/ATM) and Air Force Navigation safety requirements, allowing these aircraft to safely and effectively operate worldwide in today's and tomorrow's airspace. In addition to meeting these requirements, AMP will also lower the cost of ownership and increase survivability of the C-130 combat delivery fleet.

Boeing, AMP's prime contractor, is performing well against the recently reestablished baseline. To date, three test aircraft have been modified with C-130 AMP. Since the first flight in September 2006, the three AMP equipped aircraft have flown 324 flights totaling over 931.6 flight hours (as of 1 May 09) with a 97% effectiveness rating. No serious technical issues have been noted. The program received Milestone Decision Authority approval in FY08 to procure the first two AMP LRIP kits.

Continued C-130J Production

The C-130J is a key component of the intra-theater airlift modernization effort. AMC identified a need for 143 combat delivery C-130Js to meet intra-theater airlift requirements. Through the Defense Appropriations Acts and Global War on Terror Supplementals, Congress

has funded 90 C-130Js, 10 WC-130Js, seven EC-130Js, two HC-130Js, and 11 MC-130Js. Of the 34 C-130J aircraft funded by Congress in FY09, the Air Force has placed 30 on contract and expects to place the remaining four on contract by September 2009. The C-130J Multi-Year Procurement (MYP) Contract ended in FY08 and all aircraft currently being procured are using annual procurement contracts. As of 6 May 2009, the Air Force has fielded 70 total C-130J aircraft. As part of the FY10 President's Budget, the Air Force requests funding to procure four MC-130Js, five HC-130Js, and three C-130Js.

C-27J

The C-27J was previously an Army-led, Joint Army and Air Force program to procure a small cargo aircraft supporting the delivery of time sensitive / mission critical cargo and personnel to Army forces. The program and the Direct Support mission it supports will transfer to the Air Force. The two existing aircraft procured by the Army along with the 11 others on contract will be transferred to the Air Force and the number of aircraft will be capped at 38, down from 78. As part of the FY10 President's Budget, the Air Force requests funding to procure eight C-27J aircraft.

Combat Search and Rescue Replacement Vehicle (CSAR-X)

The Combat Search and Rescue Replacement Vehicle (CSAR-X) program is the Air Force's next generation CSAR aircraft and one of the Secretary of the Air Force's top acquisition priorities. In response to the Secretary of Defense's announcement to cancel the CSAR-X helicopter program, we are terminating the existing Boeing contract and will rescind the current Request for Proposal. The Air Force intends to use the funds in the FY10 President's Budget to procure and modify two UH-60 aircraft with current CSAR capability for operational loss replacement. The Air Force will also work with the Department of Defense to support a re-

evaluation of the "combat search and rescue requirements in the context of joint force capabilities" as directed by the Secretary of Defense. A portion of the FY10 budget will be used to support this re-evaluation and any follow-on studies and analysis, develop an acquisition strategy, and support subsequent acquisition activities.

V. Closing

Your Air Force stands ready to win today's Joint fight and plan for tomorrow's challenges. We are committed to working together to determine the right procurement, sustainment and retirement strategy to ensure we are prepared for the current fight as well as posturing for future demands. Dominance of air, space, and cyberspace continues to be requisite to the defense of the United States. We appreciate your continued support and look forward to working in concert to ensure our decisions enable us to strengthen our Air Force to meet future requirements.

United States Government Accountability Office

GAO

Testimony

Before the Subcommittee on Air and Land Forces, Committee on Armed Services, House of Representatives

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JOINT STRIKE FIGHTER

Strong Risk Management Essential as Program Enters Most Challenging Phase

Statement of Michael Sullivan, Director
Acquisition and Sourcing Management

GAO-09-711T

GAO
Accountability · Integrity · Reliability

Highlights

Highlights of GAO-09-711T, a testimony before the Subcommittee on Air and Land Forces, Committee on Armed Services, House of Representatives

Why GAO Did This Study

The F-35 Joint Strike Fighter (JSF) program is the Department of Defense's (DOD's) most costly acquisition, seeking to simultaneously develop, produce, and field three aircraft variants for the Air Force, Navy, Marine Corps, and eight international partners. The total expected U.S. investment is now more than $300 billion to develop and procure 2,456 aircraft over the next 25 years.

GAO's most recent report in March of this year discussed increased development costs and schedule estimates, plans to accelerate procurement, manufacturing performance and delays, and development test strategy. A recurring theme in GAO's work has been concern about what GAO believes is undue concurrency of development, test, and production activities and the heightened risks it poses to achieving good cost, schedule, and performance outcomes.

This testimony discusses:

- current JSF cost and schedule estimates;
- engine development
- manufacturing performance
- contracting issues for procurement of aircraft; and
- test plans.

This statement draws from GAO's March 2009 report, updated to the extent possible with new budget data and a recently revised procurement profile directed by the Secretary of Defense.

View GAO-09-711T or key components. For more information, contact Michael J. Sullivan at (202) 512-4841 or sullivanm@gao.gov.

May 20, 2009

JOINT STRIKE FIGHTER

Strong Risk Management Essential as Program Enters Most Challenging Phase

What GAO Found

JSF development will cost more and take longer to complete than reported to the Congress in April 2008, primarily because of contract cost overruns and extended time needed to complete flight testing. DOD is also significantly increasing annual procurement rates and plans to buy some aircraft sooner than reported last year. Total development costs are projected to increase between $2.4 billion and $7.4 billion and the schedule for completing system development extended from 1 to 3 years.

The department has not asked for funding for the alternate engine program in the budgets since 2007 arguing that an alternate engine is not needed as a hedge against the failure of the main engine program and that the savings from competition would be small. Nonetheless, the Congress has added funding each year since then to sustain its development. Our prior analysis indicates that competitive pressures could yield enough savings to offset the costs of competition over the JSF program's life. To date, the two contractors have spent over $8 billion on engine development—over $6 billion with the main engine contractor and over $2 billion with the second source contractor.

Manufacturing of development test aircraft is taking more time, money, and effort than planned, but officials believe that they can still deliver the 9 remaining test aircraft by early 2010. The contractor has not yet demonstrated mature manufacturing processes, or an ability to produce at currently planned rates. It has taken steps to improve manufacturing; however, given the manufacturing challenges, DOD's plan to increase procurement in the near term adds considerable risk and will be difficult to achieve.

DOD is procuring a substantial number of JSF aircraft using cost reimbursement contracts. Cost reimbursement contracts place most of the risk on the buyer—DOD in this case—who is liable to pay more than budgeted should labor, material, or other incurred costs be more than expected when the contract was signed.

JSF flight testing is still in its infancy and continues to experience flight testing delays. Nonetheless, DOD is making substantial investments before flight testing proves that the JSF will perform as expected. DOD may procure 273 aircraft costing an estimated $42 billion before completing flight testing.

Procurement Investments and Progress of Flight Testing

	2007	2008	2009	2010	2011	2012	2013	2014
Cumulative procurement (billions of dollars)	$0.9	$3.6	$6.9	$13.7	$20.6	$31.1	$41.9	$54.3
Cumulative aircraft procured	2	14	28	58	101	183	273	383
Percentage of flight test program completed	<1%	<1%	2%	9%	34%	62%	88%	100%

Source: GAO analysis of DOD data

Mr. Chairman and Members of the Subcommittee

I am very pleased to be here today to discuss the F-35 Joint Strike Fighter (JSF) program. The JSF is the Department of Defense's (DOD) most costly acquisition program, seeking to simultaneously develop, produce, and field three aircraft variants for the Air Force, Navy, Marine Corps, and eight international partners. The JSF is critical to our nation's plans for recapitalizing the tactical air forces and will require a long-term commitment to very large annual funding outlays. The total expected U.S. investment is now more than $300 billion to develop and procure 2,456 aircraft over the next 25 years. The JSF program is entering its most challenging phase as it plans to deliver test assets, significantly step up flight testing, begin verifying mission system capabilities, mature manufacturing processes, and quickly ramp up production of operational aircraft.

GAO has issued 5 annual reports on the JSF. Our most recent report[1] in March of this year discussed increased development costs and schedule, plans to accelerate procurement, manufacturing performance and delays, and the development test strategy. A recurring theme in our work has been concern about what we believe is undue concurrency of development, test, and production activities and the heightened risk it poses to achieving good cost, schedule, and performance outcomes. The department acknowledges the substantial concurrency and risk, but approves of it, hoping to replace aging legacy aircraft with this fifth generation strike aircraft as quickly and efficiently as possible. The department believes that the program is well managed, has the proper amount of oversight, and is well positioned to manage heightened risks and successfully accomplish this mission.

Today, I will discuss (1) current JSF cost and schedule estimates; (2) issues concerning the alternate engine program; (3) manufacturing performance; (4) contracting issues for procurement of production aircraft; and (5) development test plans. This statement draws primarily from our March 2009 report, updated to the extent possible with new budget data and a recently revised procurement profile directed by the Secretary of Defense. Information about the alternate engine program

[1]GAO, *Joint Strike Fighter: Accelerating Procurement before Completing Development Increases the Government's Financial Risk*, GAO-09-303 (Washington, D.C.: Mar. 12, 2009).

comes largely from our testimony in 2008.[2] This work was conducted in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

More Money and Time Will Be Needed to Complete JSF Development, While DOD Plans to Accelerate Procurement

JSF development will cost more and take longer to complete than reported to the Congress in April 2008, primarily because of contract cost overruns and extended time needed to complete flight testing. DOD is also significantly increasing annual procurement rates and plans to buy some aircraft sooner than reported last year. The new plan will require increased annual procurement funding over the next 6 years, but officials did not assess its net effect on total program costs through completion of JSF acquisition.

Total development costs are projected to increase between $2.4 billion and $7.4 billion and the schedule for completing system development to be extended from 1 to 3 years, according to estimates made in late 2008—one by the JSF Program Office and one by a joint team of Office of the Secretary of Defense (OSD), Air Force, and Navy officials. Cost overruns on both the aircraft and engine contracts, delays in manufacturing test aircraft, and a need for a longer, more robust flight test program were the primary cost drivers. The joint team's estimate is higher than the program office's because it included costs for the alternate engine program directed by the Congress and used more conservative assumptions based on current and legacy aircraft experiences. Table 1 compares these two estimates with the official program of record which was reported to the Congress in April 2008.

[2]GAO, *Joint Strike Fighter: Impact of Recent Decisions on Program Risk*, GAO-08-569T (Washington, D.C.: Mar. 11, 2008). This testimony updated information originally presented in GAO, *Defense Acquisitions: Analysis of Costs for the Joint Strike Fighter Engine Program*, GAO-07-656T (Washington, D.C.: Mar. 22, 2007).

Table 1: Estimated Cost and Schedule for System Development and Demonstration

	2007 program of record	JSF Program Office	Joint estimating team
Development costs to complete	$7.4 billion	$9.8 billion	$14.8 billion
Total development costs	$44.4 billion	$46.8 billion	$51.8 billion
Date to complete development	October 2013	October 2014	October 2016

Source: GAO analysis of DOD data.

The new defense budget just submitted requests for $3.6 billion for fiscal year 2010 JSF development costs. This is about $200 million more than the program office estimated for 2010 and about $700 million less than the joint team's estimate.[3] The request does not include funding for the alternate engine program directed by the Congress. This issue is discussed in the next section.

Although annual budgets and procurement quantities for fiscal year 2011 and out are still being reviewed by defense officials and are not available to us, we expect the JSF program to continue its rapid increase in annual procurement quantities and to buy some aircraft sooner than reported to the Congress in April 2008. At that time, DOD planned to ramp up procurement to reach a maximum of 130 aircraft per year by fiscal year 2015 (U.S. quantities only) and sustain this rate for 8 years. Procurement budget requirements for that plan were projected to be over $12 billion per year during peak production. The new fiscal year 2010 procurement budget requests funding of $6.8 billion for 30 JSF aircraft, a unit cost of $227 million. This budget is substantially lower than both the program office's and the joint team's estimates for 2010, in terms of unit costs and overall procurement funding.

Last month, the Secretary of Defense announced plans to procure 513 JSF aircraft during the 6-year period, fiscal years 2010 through 2015. This total includes procuring 28 more aircraft during this period than previously planned. This plan does not increase the total aircraft to be procured through completion of the JSF program but would buy these 28 aircraft in earlier years than previously scheduled. By accelerating procurement, DOD hopes to recapitalize tactical air forces sooner and mitigate projected future fighter shortfalls. The additional aircraft represent a scaling back of the proposed JSF procurement plans that we reported on in March 2009.

[3] The joint team's estimate included $420 million for the alternate engine program. DOD's 2010 budget request did not include this funding.

At that time, DOD was proposing to accelerate procurement by 169 aircraft during these same years. That proposal would have required from $22 billion to $33 billion more in total procurement funding over that period, according to the respective estimates of the program office and joint estimating team. We have not yet been provided budgets and annual procurement quantities for fiscal years 2011 and out under the Secretary's revised plan that would establish the increased funding requirements for the new accelerated plan compared to annual procurement funding requirements under the April 2008 program of record. Appendixes 1 and 2 provide an historical track of cost and schedule estimates.

DOD's Proposal to Cancel the Alternate Engine Program May Bypass Long-term Merits

DOD and the Congress have had a continuing debate for several years on the merits of an alternate engine program to provide a second source and competition for engine procurement and life cycle support. The alternate engine program was part of the original JSF acquisition strategy. The department first proposed canceling the alternate engine program in the 2007 budget and has not asked for funding in the budgets since then. The administration does not believe an alternate engine is needed as a hedge against the failure of the main engine program and believes savings from competition would be small. The Congress has added funding each year since 2007 to sustain the alternate engine development, including $465 million for fiscal year 2009. To date, the two contractors have spent over $8 billion on engines development—over $6 billion with the main engine contractor and over $2 billion with the second source contractor.

The way forward for the JSF engine acquisition strategy entails one of many critical choices facing DOD today, and underscores the importance of decisions facing the program. As we noted in past testimonies before this committee, the acquisition strategy for the JSF engine must weigh expected costs against potential rewards. In each of the past 2 years we have testified before this committee on the merits of a competitive engine program for the Joint Strike Fighter.[4] While we did not update our analysis we believe it is still relevant and the same conclusions can be drawn. We reported in 2008 that to continue the JSF alternate engine program, an additional investment of about $3.5 billion to $4.5 billion in development and production-related costs, may be required to ensure competition.[5] Our

[4] GAO-08-569T and GAO-07-656T.

[5] Since that time, Congress appropriated $465 million in the fiscal year 2009 budget to continue the alternate engine program.

earlier cost analysis suggests that a savings of 9 to 11 percent would recoup that investment. As we reported last year, a competitive strategy has the potential for savings equal to or exceeding that amount across the life cycle of the engine. Prior experience indicates that it is reasonable to assume that competition on the JSF engine program could yield savings of at least that much. As a result, we remain confident that competitive pressures could yield enough savings to offset the costs of competition over the JSF program's life. However, we recognize that this ultimately will depend on the final approach for the competition, the number of aircraft actually purchased, and the ratio of engines awarded to each contractor.

Results from past competitions provide evidence of potential financial and nonfinancial savings that can be derived from engine programs. One relevant case study to consider is the "Great Engine War" of the 1980s—the competition between Pratt & Whitney and General Electric to supply military engines for the F-16 and other fighter aircraft programs. At that time, all engines for the F-14 and F-15 aircraft were being produced on a sole-source basis by Pratt & Whitney, which was criticized for increased procurement and maintenance costs, along with a general lack of responsiveness to government concerns about those programs. For example, safety issues with the single-engine F-16 aircraft were seen as having greater consequences than safety issues with the twin-engine F-14 or F-15 aircraft. To address concerns, the Air Force began to fund the development and testing of an alternate engine to be produced by General Electric; the Air Force also supported the advent of an improved derivative of the Pratt & Whitney engine. Beginning in 1983, the Air Force initiated a competition that Air Force documentation suggests resulted in significant cost savings in the program. In the first 4 years of the competition, when actual costs are compared to the program's baseline estimate, results included (1) nearly 30 percent cumulative savings for acquisition costs, (2) roughly 16 percent cumulative savings for operations and support costs; and (3) total savings of about 21 percent in overall life cycle costs.

The Great Engine War was able to generate significant benefits because competition incentivized contractors to improve designs and reduce costs during production and sustainment. Competitive pressure continues today as the F-15 and F-16 aircraft are still being sold internationally. While other defense competitions resulted in some level of benefits, especially with regard to contractor responsiveness, they did not see the same levels of success absent continued competitive pressures.

Similar competition for the JSF engines may also provide benefits that do not result in immediate financial savings, but could result in reduced costs or other positive outcomes over time. Our prior work, along with studies by DOD and others, indicate there are a number of nonfinancial benefits that may result from competition, including better performance, increased reliability, and improved contractor responsiveness. In addition, the long-term effects of the JSF engine program on the global industrial base go far beyond the two competing contractors.

DOD and others have performed studies and have widespread concurrence as to these other benefits, including better engine performance, increased reliability, and improved contractor responsiveness. In fact, in 1998 and 2002, DOD program management advisory groups assessed the JSF alternate engine program and found the potential for significant benefits in these and other areas. Table 2 summarizes the benefits determined by those groups.

Table 2: 1998 and 2002 Program Management Advisory Group Study Findings on the Benefits of an Alternate Engine Program

	Beneficial		Marginal		No value	
Factor assessed	**1998**	**2002**	**1998**	**2002**	**1998**	**2002**
Costs			✖	✖		
Development risk reduction					✖	✖
Engine growth potential			✖	✖		
Fleet readiness	✖	✖				
Industrial base	✖	✖				
International implications	✖	✖				
Other considerations[a]	✖	✖				
Overall	✖	✖				

Source: GAO analysis of DOD data.

[a]Other considerations include contractor responsiveness, improved design solutions, and competition at the engine subsystem level.

While the benefits highlighted may be more difficult to quantify, they are no less important, and ultimately were strongly considered in recommending continuation of the alternate engine program. These studies concluded that the program would maintain the industrial base for fighter engine technology, enhance readiness, instill contractor incentives for better performance, ensure an operational alternative if the current engine developed problems, and enhance international participation.

Another potential benefit of having an alternate engine program, and one also supported by the program advisory groups, is to reduce the risk that a single point systemic failure in the engine design could substantially affect the fighter aircraft fleet. This point is underscored by recent failures of the Pratt & Whitney test program. In August 2007, an engine running at a test facility experienced failures in the low pressure turbine blade and bearing, which resulted in a suspension of all engine test activity. In February 2008, during follow-on testing to prove the root cause of these failures, a blade failure occurred in another engine, resulting in delays to both the Air Force and Marine Corps variant flight test programs.

Continued Manufacturing Inefficiencies Will Make it Difficult for the Program to Meet Its Production Schedule

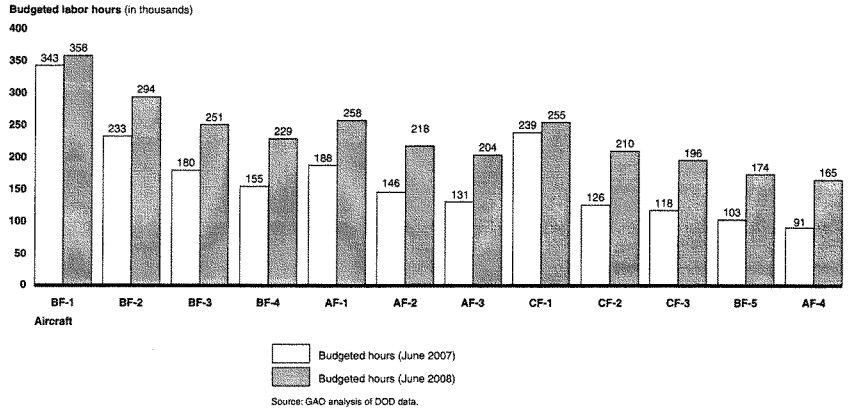
Manufacturing of JSF development test aircraft is taking more time, money, and effort than planned. Officials believe that they can work through these problems and deliver the 9 remaining test aircraft by early 2010; however, by that time, DOD may have already ordered as many as 58 production aircraft. Manufacturing inefficiencies and parts shortages continue to delay the completion and delivery of development test aircraft needed for flight testing. The contractor has not yet demonstrated mature manufacturing processes, or an ability to produce aircraft consistently at currently planned annual rates. It has taken steps to improve manufacturing processes, the supplier base, and schedule management; however, given the manufacturing challenges, we believe that DOD's plan to accelerate procurement in the near term adds considerable risk and will be difficult to achieve.

The prime contractor has restructured the JSF manufacturing schedule several times, each time lengthening the schedule to deliver aircraft to the test program. Delays and manufacturing inefficiencies are prime causes of contract cost overruns. The contractor has delivered four development flight test aircraft and projects delivering the remaining nine aircraft in 2009 and early 2010. Problems and delays are largely the residual effects from the late release of engineering drawings, design changes, delays in establishing a supplier base, and parts shortages, which continue to cause delays and force inefficient production line work-arounds where unfinished work is completed out of station.[6] Data provided by the

[6] An efficient production line establishes an orderly flow of work as a product moves from workstation to workstation and on to final assembly. Out-of-station work, sometimes referred to as traveled work, refers to completing unfinished work on major components, for example, the wings, after they have left the wing workstation and moved down the production line to another station, such as mate and final assembly.

Defense Contract Management Agency and the JSF Program Office show continuing critical parts shortages, out-of-station work, and quality issues. The total projected labor hours to manufacture test aircraft increased by 40 percent just in the past year, as illustrated in figure 1.

Figure 1: JSF Labor Hour Estimates for Development Test Aircraft

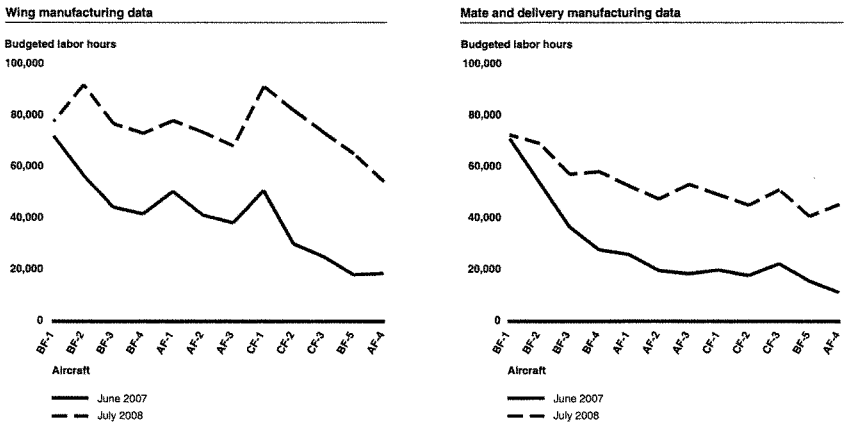


Source: GAO analysis of DOD data.

Performance data for two major cost areas—wing assembly and mate and delivery—indicate even more substantial growth. Figure 2 compares the increased budgeted hours in the 2008 schedule to 2007 estimates. The 2007 schedule assumed a steeper drop in labor hours as more units are produced and manufacturing and worker knowledge increases. The new schedule, based upon actual performance, projects a less steep decline in labor hours, indicating slower learning and lesser gains in worker efficiency. As of June 2008, the planned hours for these two major stations increased by about 90 percent over the June 2007 schedule, which itself had shown an increase from the 2006 schedule. The overlap in the work schedule between manufacturing the wing and mating (connecting) it to the aircraft fuselage has been a major concern for several years because it causes inefficient out-of-station work. The contractor continues to address

this concern, but the new schedule indicates that this problem will continue at least through 2009.

Figure 2: Budgeted Manufacturing Hours by Development Aircraft (Wing and Mate Delivery Stages)



Source: GAO analysis of DOD data.

The prime contractor has taken significant steps to improve schedule management, manufacturing efficiency, and supplier base. Our review found that the prime contractor has good schedule management tools and integrated processes in place. The one area not meeting commercial best practices was the absence of schedule risk analysis that would provide better insight into areas of risk and uncertainty in the schedule. DOD agreed with our March 2009 recommendation and will direct the contractor to perform periodic schedule risk analyses. The prime contractor is also implementing changes designed to address the manufacturing inefficiencies and parts shortages discussed earlier. These include (1) increasing oversight of key subcontractors that are having problems, (2) securing long-term raw material purchase price agreements for both the prime and key subcontractors, and (3) implementing better manufacturing line processes. On this latter point, according to program

officials, the prime contractor has taken specific steps to improve wing manufacturing performance—noted above as one of the most troublesome workstations. Defense Contract Management Agency officials noted that the contractor produced the second short take off and landing aircraft variant with less work performed out of station than for the first such aircraft. Also, program office and contractor officials report some alleviation of parts shortages and improvements in quality, but also believe that the effects from previous design delays, parts shortages, and labor inefficiencies will continue to persist over the near term.

Use of Cost Contracts for Production Aircraft Elevates the Government's Financial Risk

DOD is procuring a substantial number of JSF aircraft using cost reimbursement contracts. Cost reimbursement contracts place most of the program's financial risk on the buyer—DOD in this case—who is liable to pay more than budgeted should labor, material, or other incurred costs be more than expected when the contract was signed. Subsequent cost increases, such as the growth in manufacturing labor hours discussed above, are mostly passed on to the Government. Thus far, DOD has procured the first three production lots using cost reimbursement contracts—a total of 28 aircraft and an estimated $6.7 billion to date. JSF officials expect to also procure the fourth lot using cost reimbursement and to transition to fixed-price contracts when appropriate, possibly between lots 5 and 7 (fiscal years 2011 to 2013). It is unclear exactly how and when this will happen, but the expectation is to transition to fixed pricing once the air vehicle has a mature design, has been demonstrated in flight tests, and is producible at established cost targets. Under the April 2008 program of record, DOD was planning to procure as many as 275 aircraft costing an estimated $41.6 billion through fiscal year 2013 using cost reimbursement contracts. The plan to accelerate procurement of 28 aircraft would likely add to the quantities purchased on such contracts.

Cost reimbursement contracts provide for payment of allowable incurred costs, to the extent prescribed in the contract. According to the Federal Acquisition Regulation, cost reimbursement contracts are suitable for use only when uncertainties involved in contract performance do not permit costs to be estimated with sufficient accuracy to use any type of fixed-price contract.[7] Cost reimbursement contracts for weapon production are considered appropriate when the program lacks sufficient knowledge about system design, manufacturing processes, and testing results to

[7] Federal Acquisition Regulation § 16.301-2.

establish firm prices and delivery dates. In contrast, a fixed-price contract provides for a pre-established price, places more of the risk and responsibility for costs on the contractor, and provides more incentive for efficient and economical performance.

Procuring large numbers of production aircraft using cost reimbursement contracts reflects that the JSF design, production processes, and costs for labor and material is not yet sufficiently mature and that pricing information is not exact enough for the contractor to assume the risk under a fixed-price contract. We see it as a consequence of the substantial concurrency of development, test, and production built into the JSF schedule. Significant overlap of these activities means that DOD is procuring considerable quantities of operational aircraft while development test aircraft are still on the manufacturing line and where much testing remains to prove aircraft performance and suitability. Establishing a clear and accountable path to ensure that the contractor assumes more of the risk is prudent. Accordingly, we recommended in March 2009 that DOD report to the congressional defense committees by October 2009 explaining costs and risks associated with cost reimbursement contracts for production, the strategy for managing and mitigating risks, and plans for transitioning to fixed price contracts for production. DOD concurred.

The former Assistant Secretary of the Air Force for Acquisition agreed with our concerns about significant concurrency and the need to transition to a fixed price environment. In an April 2009 memo, as the Assistant Secretary of the Air Force for Acquisition, she discussed her views on the concurrency of production and development testing as driving risks to the development program. She recommended that the JSF joint program office closely examine manufacturing processes and work to convert cost reimbursement contracts to fixed-price as soon as practical.

JSF's Test Plan Is Improved but Flight Test Program Is Still in Its Infancy

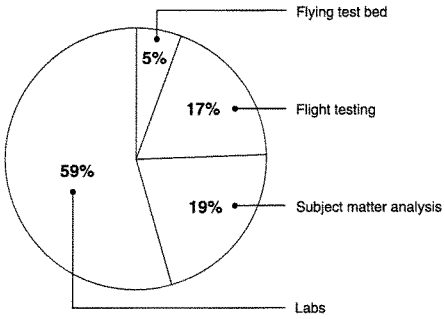
After reducing test resources and activities to save money in 2007, the JSF Program Office developed a new test plan in the spring of 2008 that extended the development period by 1 year, better aligned test resources and availability dates, and lessened the overlap between development and operational testing. While improved, the new plan is still aggressive and has little room for error discovery, rework, and recovery from downtime

should test assets be grounded or otherwise unavailable. The sheer complexity of the JSF program—with 22.9 million lines of software code[8], three variants, and multi-mission development— suggests that the aircraft will encounter many unforeseen problems during flight testing requiring additional time in the schedule for rework. Given the complexity of the program, the joint estimating team noted that an additional 2 years beyond the recent 1 year extension may be needed to complete development.

The test plan relies heavily on a series of advanced and robust simulation labs and a flying test bed to verify aircraft and subsystem performance. Figure 3 shows that 83 percent of the aircraft's capabilities are to be verified through labs, the flying test bed, and subject-matter analysis, while only 17 percent of test points are to be verified through flight testing. Program officials argue that their heavy investment in simulation labs will allow early risk reduction, thereby reducing the need for additional flight testing, controlling costs, and meeting the key milestones of the program's aggressive test plan. However, while the JSF program's simulation labs appear more prolific, integrated, and capable than the labs used in past aircraft programs, their ability to substitute for flight testing has not yet been demonstrated.

[8] Approximately 7.5 million lines of software code are on the aircraft itself while the remainder is associated with logistics, training and other supporting systems.

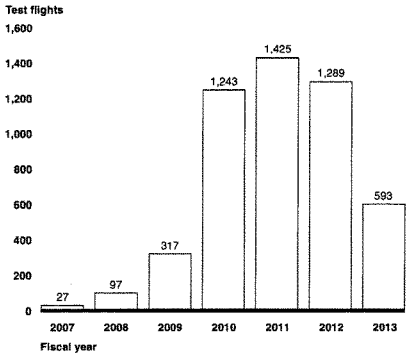
Figure 3: Breakdown of Verification Venues for the JSF



Source: GAO analysis of DOD data.

Despite an improved test plan, JSF flight testing is still in its infancy. Only about 2 percent of its development flight testing had been completed as of November 2008. Figure 4 shows the expected ramp up in flight testing with most effort occurring in fiscal years 2010 through 2012. Past programs have shown that many problems are not discovered until flight testing. As such, the program is likely to experience considerable cost growth in the future as it steps up its flight testing, discovers new problems, and makes the necessary technical and design corrections.

Figure 4: JSF Planned Development Test Flights



Source: GAO analysis of DOD data.

While the program has been able to complete key ground tests and demonstrate basic aircraft flying capabilities, it continues to experience flight testing delays. Most notably, flight testing of full short takeoff and vertical landing capabilities has further been delayed. Flight testing of the carrier variant has also been delayed. Program officials do not believe either of the delays will affect planned initial operational capability dates. In 2009 and early fiscal year 2010, the program plans to begin flight testing 6 development test aircraft, including the first 2 aircraft dedicated to mission system testing. A fully integrated, mission-capable aircraft is not expected to enter flight testing until 2012.

Despite the nascency of the flight test program and subsequent flight testing delays, DOD is investing heavily in procuring JSF aircraft. Procuring aircraft before testing successfully demonstrates that the design is mature and that the weapon system will work as intended increases the likelihood of expensive design changes becoming necessary when production is underway. Also, systems already built and fielded may later require substantial modifications, further adding to costs. The uncertain environment as testing progresses is one reason why the prime contractor and DOD are using cost-reimbursable contracts until rather late in procurement. Table 3 depicts planned investments—in both dollars and aircraft—prior to the completion of development flight testing. DOD may

procure 273 aircraft at a total estimated cost of $41.9 billion before development flight testing is completed. Table 3 also shows the expected contract types.

Table 3: Overlap of Procurement Investments and Flight Testing

	2007	2008	2009	2010	2011	2012	2013	2014
Cumulative procurement (billions of then-year dollars)	$0.9	$3.6	$6.9	$13.7	$20.6	$31.1	$41.9	$54.3
Cumulative aircraft procured	2	14	28	58	101	183	273	383
Contract type	Cost	Cost	Cost	Cost	Cost or fixed	Cost or fixed	Cost or fixed	Fixed
Percentage of flight test program completed	<1%	<1%	2%	9%	34%	62%	88%	100%
LIMITED KNOWLEDGE GAINED FROM FLIGHT TESTING →								*MORE KNOWLEDGE GAINED FROM FLIGHT TESTING*

Source: GAO analysis of DOD data.

Notes: This table contains updated information from similar data in our March 2009 report. It includes revised budget and quantity data for fiscal years 2009 and 2010. It does not reflect the additional 28 aircraft announced by the Secretary of Defense and the associated funding. That information is not available to us, but would be added to the above quantities in years after 2010.

Concluding Remarks

The JSF program is entering its most challenging phase, a crossroads of a sort. Looking forward, the contractor plans to complete work expeditiously to deliver the test assets, significantly step up flight testing, begin verifying mission system capabilities, mature manufacturing processes, and quickly ramp up production of operational aircraft. Challenges are many— continuing cost and schedule pressures; complex, extensive, and unproven software requirements; and a nascent, very aggressive test program with diminished flight test assets.

While the program must move forward, we continue to believe that the program's concurrent development and production of the aircraft is extremely risky. By committing to procure large quantities of the aircraft before testing is complete and manufacturing processes are mature, DOD has significantly increased the risk of further compromising its return on investment—as well as delaying the delivery of critical capabilities to the warfighter. Furthermore, the program's plan to procure large quantities of the aircraft using cost-reimbursement contracts—where uncertainties in contract performance do not permit costs to be estimated with sufficient accuracy to use a fixed-price contract—places additional financial risk on the government. Until the contractor demonstrates that it can produce aircraft in a timely and efficient manner, DOD cannot fully understand future funding requirements. DOD needs to ensure that the prime

contractor can meet expected development and production expectations. At a minimum, the contractor needs to develop a detailed plan demonstrating how it can successfully meet program development and production goals in the near future within cost and schedule parameters. As such, in our March 2009 report, we recommended that Secretary of Defense direct the Under Secretary of Defense for Acquisition, Technology and Logistics to report to congressional defense committees explaining the risks associated with using cost-reimbursable contracts as compared to fixed price contracts for JSF's production quantities, the program's strategy for managing those risks, and plans for transitioning to fixed-price contracts for production. DOD agreed with our recommendation. With an improved contracting framework and a more reasoned look to the future, the JSF program can more effectively meet DOD and warfighter needs in a constrained budget environment.

Mr. Chairman, this concludes my prepared statement. I would be happy to answer any questions you may have at this time.

For further information about this statement, please contact Michael J. Sullivan at (202) 512-4841 or sullivanm@gao.gov. Contact points for our Office of Congressional Relations and Public Affairs may be found on the last page of this statement. Individuals who made key contributions to this statement are Ridge Bowman, Bruce Fairbairn, Matt Lea, and Charlie Shivers.

Appendix I: Changes in JSF Cost, Quantity, and Delivery Estimates

	October 2001 (system development start)	December 2003 (2004 Replan)	December 2007
Expected quantities			
Development quantities	14	14	13
Procurement quantities (U.S. only)	2,852	2,443	2,443
Total quantities	**2,866**	**2,457**	**2,456**
Cost Estimates (then-year dollars in billions)			
Development	$34.4	$44.8	$44.4
Procurement	196.6	199.8	254.0
Military construction	2.0	0.2	0.5
Total program acquisition	**$233.0**	**$244.8**	**$298.9**
Unit Cost Estimates (then-year dollars in millions)			
Program acquisition	$81	$100	$122
Average procurement	69	82	104
Estimated delivery dates			
First operational aircraft delivery	2008	2009	2010
Initial operational capability	2010-2012	2012-2013	2012-2015

Source: GAO analysis of DOD data.

Notes: Data are from the annual Selected Acquisition Reports that are dated in December but not officially released until March or April of the following year. The December 2003 data reflects the last major restructuring of the program. The December 2007 data represents the official program of record at the time of our review and was reported to the Congress in April 2008.

Military construction costs have not been fully established and the reporting basis changed over time in these DOD reports.

Appendix II: F-35 Joint Strike Fighter Schedule

	Original Estimate	2004 Replan	Current Estimate
Critical Design Review			
Conventional Takeoff and Landing	Apr-04	Oct-05	Feb-06
Carrier Variant	Jul-05	Jan-07	Jun-07
Short Takeoff and Vertical Landing	Oct-04	May-06	Feb-06
First Flight			
Conventional Takeoff and Landing	Nov-05	Jul-06	Dec-06
Carrier Variant	Jan-07	Aug-08	Dec-09
Short Takeoff and Vertical Landing	Apr-06	May-07	Jun-08*
Initial Operational Capability			
Marine Corps	Apr-10	Mar-12	Mar-12
Air Force	Jun-11	Mar-13	Mar-13
Navy	Apr-12	Mar-13	Mar-15
1st Production Aircraft Delivered	Jun-08	Jun-09	Jan-10
Operational Testing Completed	Mar-12	Oct-13	Oct-14
Full Rate Production	Apr-12	Oct-13	Oct-14

Source: GAO analysis of DOD data.

Note:

* Aircraft flown in conventional mode. The first test to demonstrated full short takeoff and vertical landing capabilities is scheduled for September 2009.

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WITNESS RESPONSES TO QUESTIONS ASKED DURING THE HEARING

MAY 20, 2009

RESPONSE TO QUESTION SUBMITTED BY MR. BARTLETT

Mr. AHERN. Prior to the Milestone C decision on JCA on May 30, 2007, the Air Force and the Army conducted independent fleet demand assessments. The initial results were that the Army identified a need for 75 JCAs to support its Time Sensitive/Mission Critical (TS/MC) airlift requirement and to replace its aging C-23 fleet. PA&E validated the Army's requirement analysis but needed to wait for the Air Force to complete its analysis supporting a potential Service requirement for 40 aircraft. It was decided at Milestone C that the Army and Air Force acquisition programs would be combined with the initial mission of supporting the Army's validated TS/MC cargo movement and an initial procurement of 78 JCAs (the current Service programmed quantities of 54 Army and 24 AF aircraft). Subsequent analysis by the Air Force did not identify additional Air Force missions, beyond the Army's TS/MC mission, which would have supported additional Air Force JCAs.

The Army's TS/MC airlift requirement remains unchanged. What has changed is how the Department will address the Army's requirement. The Department has internally examined its current utilization of its fleet of 400+ C-130 aircraft and determined that the Army's requirement can be met through the use of a smaller number of JCAs and the Air Force's vast fleet of C-130s.

The Department determined that the Air Force can properly meet the Army's TS/MC airlift requirements with a JCA fleet size on par with the current C-23 fleet along with having ownership of the mission. The FY2010 JCA budget decision is not one of "what we can afford," but instead one of how we can best utilize the assets already inherent in the Department. [See page 15.]

RESPONSE TO QUESTION SUBMITTED BY MR. MARSHALL

Mr. AHERN. The United States Transportation Command (USTRANSCOM) and the Office of the Secretary of Defense, Cost Analysis & Program Evaluation (OSD(CAPE)) are co-leading the Mobility Capabilities and Requirements Study—2016 (MCRS). TRANSCOM is outside of OSD and is therefore independent of those officials charged with making critical decisions about resource allocations. OSD(CAPE) has the statutory authority and responsibility to provide independent analysis and advice and may communicate its views directly to the Secretary of Defense and the Deputy Secretary of Defense without obtaining the approval or concurrence of any other official within the Department.

The primary objective of the MCRS is to identify the mobility capabilities and requirements needed to support the National Defense Strategy into the next decade. The study is being conducted in a transparent and collaborative fashion by a team which includes representatives from the military Services, Joint Staff, Combatant Commanders, and other stakeholders. The team has been charged with applying analytical rigor to determine actual mobility requirements and has not been directed toward a set of pre-determined results.

Oversight committees of stakeholders at the O-6, 1-star, and 3-star levels, have routinely met to review study progress. [See page 16.]

RESPONSE TO QUESTION SUBMITTED BY MS. GIFFORDS

General JOHNS. Homeland defense is DoD's first priority and the Air Force is committed to the ASA mission now through the long term. As you know, long term recapitalization of the fighter and tanker fleet requires many years. Within the funding available, the Air Force must maximize the life of the existing aircraft until they can be replaced. All of the options to ensure the ASA mission remains viable are dependent on the life expectancy of these airframes.

The Air Force, in conjunction with DoD, is currently developing plans to ensure we can meet the combatant commander's requirements for the defense of the Nation—whether it is with Air National Guard aircraft or in combination with active duty assigned aircraft. There are many moving pieces as we look at all the different Air National Guard units around the country to determine the best alignment of our

limited resources. We anticipate an update from the Quadrennial Defense Review regarding national requirement, and subsequently, the Air Force's requirement for this critical mission. [See page 24.]

RESPONSES TO QUESTIONS SUBMITTED BY MR. HUNTER

General DARNELL. Combat Search and Rescue is the most demanding of all of the personnel recovery missions and it remains very important to the Department. CSAR-X was to provide an enhanced capability to conduct long-range penetration missions for personnel recovery in combat scenarios. All services and the U. S. Special Operations Command currently possess a wide spectrum of complementary personnel recovery capabilities. A deep penetration mission to recover downed crews in a medium-to-high threat environment requires complex planning and joint implementation, if not a joint solution.

Since this mission drives many of the CSAR-X requirements, it is imperative we reassess the mission in the context of joint force capabilities. Development of single service solutions with single purpose aircraft, requires additional consideration especially regarding joint force capability needs for personnel recovery.

The results of the reconsideration will be used to develop the FY11 budget request. [See page 19.]

General DARNELL. Air Force Special Operations Command (AFSOC) provides forces to the Joint Force Commander via a classified Air Tasking Order (ATO) process that is separate from the general purpose ATO. When there is not an existing SOCOM requirement for AC-130s, the aircraft are put on ground or air alert to respond to ground force commanders' request for air support. Responding to each request individually, the Air Operations Center considers the proximity, availability and capabilities of combat aircraft in the Area of Responsibility, and tasks the optimal aircraft to respond.

In order to increase the availability of gunship-like capabilities to ground forces, US Special Operations Command and the Air Force intend to modify all 12 MC-130Ws with a Precision Strike Package that will include ISR/targeting sensors, a medium-caliber gun, and Special Operations Stand-Off Precision-Guided Munitions (SOPGMs) through an effort called DRAGON SPEAR. These modifications will convert the MC-130Ws into multi-mission aircraft capable of mobility, day/night precision fires, and armed intelligence, surveillance, and reconnaissance. [See page 27.]