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HEARING

ON

NATIONAL DEFENSE AUTHORIZATION ACT FOR FISCAL YEAR 2017

AND

OVERSIGHT OF PREVIOUSLY AUTHORIZED PROGRAMS

BEFORE THE

COMMITTEE ON ARMED SERVICES
HOUSE OF REPRESENTATIVES
ONE HUNDRED FOURTEENTH CONGRESS

SECOND SESSION

SUBCOMMITTEE ON TACTICAL AIR AND LAND FORCES HEARING

ON

FISCAL YEAR 2017 ARMY AND AIR FORCE ROTORCRAFT MODERNIZATION PROGRAMS

HEARING HELD
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FISCAL YEAR 2017 ARMY AND AIR FORCE ROTORCRAFT MODERNIZATION PROGRAMS

HOUSE OF REPRESENTATIVES,
COMMITTEE ON ARMED SERVICES,
SUBCOMMITTEE ON TACTICAL AIR AND LAND FORCES,
Washington, DC, Wednesday, March 16, 2016.

The subcommittee met, pursuant to call, at 3:36 p.m., in room 2118, Rayburn House Office Building, Hon. Michael R. Turner (chairman of the subcommittee) presiding.

OPENING STATEMENT OF HON. MICHAEL R. TURNER, A REPRESENTATIVE FROM OHIO, CHAIRMAN, SUBCOMMITTEE ON TACTICAL AIR AND LAND FORCES

Mr. TURNER. The hearing will come to order. The subcommittee convenes to review the current posture of Army and Air Force rotorcraft modernization programs and receive testimony on the fiscal year 2017 budget request.

I am pleased to welcome our distinguished panel of witnesses. Lieutenant General Michael E. Williamson, Military Deputy to the Assistant Secretary of the Army, Acquisition, Logistics and Technology. Major General Michael D. Lundy, Commander, Army Aviation Center of Excellence. Lieutenant General Arnold W. Bunch, Jr., Military Deputy, Office of the Assistant Secretary of the Air Force, Acquisition. Lieutenant General James M. "Mike" Holmes, Deputy Chief of Staff for Strategic Plans and Requirements.

Gentlemen, thank you for being with us today, and thank you for your service.

Our witnesses today will provide testimony on the fiscal and programmatic challenges currently facing Army and Air Force rotorcraft modernization. Because of the fiscal realities and increased missions, the military services have been forced to prioritize near-term readiness at the expense and assumed risk of modernization programs, and rotorcraft modernization has been particularly impacted in the fiscal year 2017.

We know the proposed budget request for fiscal year 2017 does not follow the balanced budget agreement, BBA, of 2015. While our near-peer adversaries continue to invest in more modern capabilities and continue to close the technology gap, this budget request cuts force structure and modernization programs from the Department's base programs.

For example, the Army states in their written statement that, quote—"though aviation modernization is a priority, FY 2017 will reflect over $2 billion in reduced funding when compared to fiscal year 2016. This has caused the Army to decelerate fleet moderniza-

tion by procuring fewer UH–60 Black Hawks, AH–64 Apaches, and CH–47 Chinooks in FY 2017," end quote.

I can assure you, this committee is working to reverse this dangerous trend in rotorcraft modernization and is working to provide the necessary funding to help mitigate some of these current challenges. For fiscal year 2017, this subcommittee will continue to support the need for fielding most modernized rotorcraft available for both the Active and Reserve Components.

Two critical issues this committee has been concerned about for many years is in regards to accelerating aircraft survivability equipment and degraded visual environment capability onto current rotorcraft programs. We expect to hear today about how the Army and Air Force are addressing these critical needs in a timely manner.

We are also interested in hearing the Army's position on the recent recommendations put forward by the National Commission on the Future of the Army, relating to the Army's aviation restructuring initiative, ARI, and get a better understanding of the costs associated with implementing these recommendations.

I would also like to hear about the Air Force's plans to replace the legacy helicopters that are used by the Air Force in providing security in the ICBM [intercontinental ballistic missile] fields in Montana, North Dakota, Wyoming, and several other States.

The commander of U.S. STRATCOM [Strategic Command] has stated, as has the Secretary of the Air Force, that it is not possible to mitigate the alert requirement without replacing these helicopters, so I look forward to hearing about your plans to address this urgent issue.

I would like to now recognize my good friend from California, the ranking member of the subcommittee, Ms. Loretta Sanchez, for any comments that she would like to make.

[The prepared statement of Mr. Turner can be found in the Appendix on page 25.]

STATEMENT OF HON. LORETTA SANCHEZ, A REPRESENTATIVE FROM CALIFORNIA, RANKING MEMBER, SUBCOMMITTEE ON TACTICAL AIR AND LAND FORCES

Ms. SANCHEZ. Thank you, Mr. Chairman, and thank you to all the generals for being before us to talk about what is incredibly important, the Army and Air Force helicopter programs. And it comes at an important time before the Armed Services Committee because, as you know, we are trying to make decisions about the DOD [Department of Defense] budget for 2017. As I said this morning in full committee, it comes with some very hard choices because we cannot choose everything, we cannot do everything.

If we are going to augment what the President's budget or change the President's budget that came over, then we have to ask ourselves, well, do we need it, how are we going to pay for it. It would be nice to pretend that we can fund everything. Unfortunately, that is not the case.

Given that context, the budget request from Army and Air Force helicopter programs has shown us that choices were made, what a true choice really looks like. For both services there simply wasn't enough funding to continue building new helicopters, start new

programs for the future, and also upgrade the helicopters that we have in service right now.

Both services had to make the tough choices and the budget request does reflect that. For example, in order to keep AH–64 Apache production on track, the Army was forced to dramatically cut back the Black Hawk production compared to last year. The reduction in Black Hawk helicopters is, for me, a little bit troubling, of course as you know, because we were looking to the National Guard units, including those in California, to eliminate the old A model helicopters that they now have.

These helicopters in California, it hits right home because they are the ones that we use to fight the fires that we have seen in California and other natural disasters. The Army was planning to get rid of all the old Black Hawk helicopters and replace them by 2013, and in last year's bill we asked for ways in which to accelerate that program.

So the cuts in fiscal year 2017 appear to be moving us in the opposite direction. And as concerning as those cuts are, they actually could get worse if the Army is required to keep a large number of Apache helicopters in the National Guard, as was proposed by the National Commission on the Future of the Army. Keeping those Apaches in the Guard may make sense, but it comes at a much higher price tag.

The Army also had to cut back on the Chinook and on the Lakota helicopter production, both of which are successful programs that are otherwise doing just fine. But again, Mr. Chairman, when we look at it, real choices were made.

On the Air Force side we also see limited funding leading to some very difficult decisions. The Air Force is trying to keep its combat search and rescue helicopter program on track, but to do that it had to slow its plan to replace aging UH–1 helicopters that are currently used in ICBM field tests you had mentioned earlier.

In terms of future investments, it is good to see that both services managed to protect research and development efforts, like the future vertical lift programs, the improved turbine engine program, and critical new aircraft defensive equipment investments.

You have made some hard choices, so I am interested in trying to figure out how you came about that, why, and what it really means to us. And with that I will yield back.

And thank you, Mr. Chairman.

Mr. TURNER. Thank you. And without objection, all witnesses' statements will be included in the hearing record. And we only have two opening statements here today, General Williamson followed by General Bunch. General Williamson.

STATEMENT OF LTG MICHAEL E. WILLIAMSON, USA, MILITARY DEPUTY TO THE ASSISTANT SECRETARY OF THE ARMY (ACQUISITION, LOGISTICS AND TECHNOLOGY); AND MG MICHAEL D. LUNDY, USA, COMMANDER, ARMY AVIATION CENTER OF EXCELLENCE

General WILLIAMSON. Chairman Turner, Ranking Member Sanchez, and distinguished members of the Subcommittee on Tactical Air and Land Forces, thank you for the invitation to discuss the Army's fiscal year 2017 rotorcraft modernization programs. And

for the opportunity to appear with our Air Force counterpart, Lieutenant General Bunch.

With me today is Major General Mike Lundy, the Commander of the Army Aviation Center of Excellence. Mr. Chairman, thank you for making our written statement a part of the record for today's hearing.

Mr. Chairman, aviation is the Army's largest portfolio of programs, and the one most impacted by our current budget environment. The high level of operational demands, combined with the fiscal challenges, contributed to a substantial reduction in Army aviation funding. As you mentioned in your opening statement, a $2 billion reduction from fiscal year 2016 to fiscal year 2017, and an additional $531 million reduction as a result of the fiscal year 2015 Bipartisan Budget Act. The immediate result is the procurement of fewer Black Hawks, Apaches, and Chinooks.

The Army presented the aviation restructuring initiative, also known as ARI, as part of our fiscal year 2015 budget plan. By reinvesting the savings and the cost avoidance garnered by ARI, Army aviation was able to continue to field its most modernized aircraft while developing and fielding the right disruptive technologies to improve mobility, lethality, survivability, and mission command.

The Army is currently reviewing and assessing the recently released report from the National Commission on the Future of the Army [NCFA], which contains a number of recommendations in addition to what we have done on ARI for which resourcing and modernization may need to be adjusted.

Still, we are moving forward with our rotorcraft modernization effort, including identifying, addressing known capability gaps, but at a much slower pace. The fiscal year 2017 funding request breaks down as follows.

In science and technology [S&T], the Army supports several critical efforts to enable the next generation of rotary-wing capability, including advanced threat detection system, degraded visual environment mitigation, and joint multi-role technology demonstrator, which will inform affordable requirements and reduce the risk associated with the future vertical lift program.

With regard to new systems, the fixed-wing utility aircraft, a replacement for the C–12 and the C–26 platforms, is projected to be selected and begin fielding in fiscal year 2018. In the area of modernization we are focused on improving the Apache, Black Hawk, and Chinook helicopter fleets, as well as saving money for the American taxpayer by pursuing a multiyear contract in fiscal year 2017 for the Apache.

We will award the ninth multiyear contract for Black Hawk, and complete the second 5-year multiyear contract for Chinook in fiscal year 2017. In addition, we are continuing to modernize our unmanned aircraft systems fleet, comprised of small, the Raven and the Puma, medium, the Shadow, and the large, the Gray Eagle components.

In the area of reset and sustainment, we are focused on returning Army equipment to the required level of combat capability so that we will be prepared for the next fight or the next contingency.

We are also divesting the aging TH–67 training helicopters, as well as the OH–58 Alpha and Charlie Kiowa, and the Kiowa War-

riors, and we are also doing everything possible to reduce the number of UH–60 Alpha Black Hawks in our fleet.

Other key investments in fiscal year 2017 include the improved turbine engine program for Apache and Black Hawk, to meet worldwide operational requirements for high-altitude and hot conditions, the joint air-to-ground missile, the next generation of aviation-launch missiles, and in the area of aircraft survivability equipment, acceleration of the common infrared countermeasure system.

Mr. Chairman and distinguished members of this subcommittee, we are grateful for your strong and steadfast support for America's soldiers, for our soldier aviators, as well as our Army civilians and their families.

This concludes my opening remarks, Mr. Chairman, and we look forward to your questions.

[The joint prepared statement of General Williamson and General Lundy can be found in the Appendix on page 27.]

Mr. TURNER. General Bunch.

STATEMENT OF LT GEN ARNOLD W. BUNCH, USAF, MILITARY DEPUTY, OFFICE OF THE ASSISTANT SECRETARY OF THE AIR FORCE (ACQUISITION); AND LT GEN JAMES M. "MIKE" HOLMES, USAF, DEPUTY CHIEF OF STAFF FOR STRATEGIC PLANS AND REQUIREMENTS

General BUNCH. Thank you, Chairman Turner, Ranking Member Sanchez, and other distinguished members, for the opportunity to address the subcommittee. We greatly appreciate the work you do and the support you provide our airmen and their families. It is a privilege to be here, and General Holmes and I look forward to answering your questions.

General Holmes and I prepared a joint written statement and we have submitted that for the record. I will not go through that statement and read it here. I will just make a few opening remarks for both of us and then will be ready to answer your questions.

We are happy to be here with the Army, as our collaboration on science and technology efforts, development and procurements is critical. They are great teammates and we must continue that teamwork to be successful. We are here to discuss the fiscal year 2017 budget that we have submitted and some of the tough choices we made as we finalize that budget.

Air Force rotary-wing assets are critical to the Air Force's ability to accomplish our mission and provide worldwide support to combatant commanders. Our rotary-wing fleet has been and continues to be heavily engaged. They have conducted operations across the spectrum, and we are committed to modernizing and recapitalizing our fleet as we balance readiness and modernization in this budget environment.

Although fiscal constraints may have required us to reassess the timing of some rotary-wing modernization efforts, the fiscal year 2017 PB [President's budget] reflects the Air Force's commitment to sustaining, modernizing, and recapitalizing our rotorcraft fleet.

Our efforts are focused on modernizing and/or recapitalizing to address our most critical needs. The limited resources available since the Budget Control Act of 2011 have hampered our ability to balance readiness, capability, and capacity. And while we are

grateful for the additional resources the Bipartisan Budget Act provides, we need your support in the form of stable and predictable budgets for the future. Your help in this area will be greatly appreciated.

We look forward to working closely with the committee to ensure the Air Force retains the ability to deliver rotorcraft airpower for America when and where needed. Again, we thank you for this opportunity to testify before the subcommittee and we look forward to answering your questions, sir.

[The joint prepared statement of General Bunch and General Holmes can be found in the Appendix on page 38.]

Mr. TURNER. Thank you. General Williamson and General Bunch, aircraft survivability equipment, and degraded visual environment technology of course are two areas of concern, as I stated in my opening statement. General Williamson, you spoke of this issue also.

We have held several classified threat briefings, and I understand there is a sense of urgency for improving and fielding this technology on current platforms, and we certainly are aware of the amounts for each that are in the budget request.

But if you would, to the extent that you can in an unclassified environment, please explain to the subcommittee your current acquisition strategies for ASE [aircraft survivability equipment] and DVE [degraded visual environment] technology, and what can we do to help accelerate them. Starting with General Williamson and then General Bunch.

General WILLIAMSON. Sir, thanks for the question. I would also like to start by thanking you and this committee for your not only focus but your support of funding in fiscal year 2015 and fiscal year 2016, with your understanding of the criticality and the importance of this issue.

So my immediate response is to tell you that we have taken a two-tier approach to how we approach this. So the first is we have existing programs of record, and I will talk a little bit about those. But there is also this understanding that there are immediate needs that have to be addressed, and it starts with the threat.

So, sir, as you and I have talked about in the past, so the threat today, our potential enemies have more and more access to technologies, so the threat comes on a number of vectors, whether it is MANPADS [man-portable air-defense systems] that have advanced in technology, or it is a cyber threat, or whether it is things like position location. We have to address all of those when you look at aircraft survivability.

So as you know, we have current programs that look at common infrared countermeasures, advanced radar detection, and laser detection programs. But those programs we have invested in. It will give us a modular solution as we look at our entire aircraft fleet. But we also have to deal with the immediate threat, and so we have worked with our joint partners to identify immediate solutions that we can give to deploying aircraft so that they can have a countermeasure against the threat.

I would like to also offer that General Lundy might have a couple of thoughts.

General LUNDY. And, sir, I want to reiterate my thanks for the committee's support because, you know, this is a clear and present threat today, and it is also—there is a long-term issue that we have here. And so as we look at our current strategy, I think we are on the right path. We have a joint solution that Congress has helped fund and accelerate, and we are moving that as fast as technology will allow to allow us to put it on capabilities that are currently deployed today.

We have also been able to accelerate our current program of record and bring it forward sooner about 3 years, which is great. And then we have a huge S&T effort that is focused on the next generation of survivability capabilities, and that is really where us and the Air Force, frankly the Navy and the Marines, are working very closely together with our SOCOM [Special Operations Command] partners on a number of S&T efforts that will help us build capabilities for the future that will get ahead of this threat as opposed to reactionary.

I think that is the key. We can't do what we did in Iraq. I mean, there was not a lot of threat there, but we waited until the threat appeared before we reacted to it. We need to be ahead of this.

I think that is my key concern as the aviation branch chief, is how do we get ahead of the threat. That is going to take consistent S&T work, consistent funding. And your committee and the Congress have been very helpful with being able to do that and give us a stable way ahead.

Mr. TURNER. Mr. Bunch.

General BUNCH. Sir, thank you for the question. As you know, first off we are great partners with Army and there is no way we can do this without the S&T efforts. We think that is critical in how we go forward in the future in that investment. We all share the benefits of that and we look forward to continuing that partnership.

On the aircraft that are in the field, we do have systems already to counter many of the threats that we regularly update on MODS [modifications], and put software and new hardware in to keep it. But the threat has evolved and it has changed. We are taking steps to change what we have on the CV–22 with a limited number right now. We are going to see how that performs. And we are also doing that on the HH–60.

What we are focused on are countermeasures dispensing capabilities and active infrared countermeasure systems in response to things that I will not go into a whole lot more detail. We have active programs in both of those. We are going to field on limited numbers of those platforms, and then we will field those on the remainder of the platforms in the future.

General WILLIAMSON. Sir, I just wanted to highlight another point, and that goes back to something that General Lundy said about the ability to get ahead of the threat. So you and I had a conversation about cyber as an example, and so what concerns me is people who think about it being a point solution, this is something that, as the enemy learns, they will adapt. And so it is really important for us to have programs that not only deal with the current threat, but are also projecting out. I think that is critical for us as we move forward.

Mr. TURNER. Thank you for the responses.

General Williamson and General Lundy, as I mentioned in my opening statement, I would like to see comment on the status of the Army's aviation restructuring initiative, or ARI, and hear your views on the recommendation put forward by the National Commission on the Future of the Army regarding ARI.

In addition to this I would like to get a better understanding of the unfunded requirements associated with ARI and the Commission's recommendation. Given that we are operating under constrained budgets and that Army aviation has already been reduced in the President's budget request, if the Army were to adopt the Commission's recommendations, what would be your most pressing requirements in fiscal year 2017, and what are your must-haves?

General LUNDY. Sir, as you well know, the report from the National Commission came with over 60 recommendations without resources. So certainly many of those recommendations, as the Chief has testified to, are absolutely—they are great ideas but the resources are the challenge we have to look at.

Currently they are being assessed by the Chief of Staff of the Army, the Secretary of the Army, on the decisions they are going to make as we go forward.

If we were to look at the specific aviation recommendations that are in there to retain an 11th CAB [combat aviation brigade] in Korea, as well as the four AH–64 battalions, our assessment right now is that is about a $2.4 billion bill that would come back into the Army, would require, you know, a Department of Defense solution or additional funding from Congress.

With that $2.4 billion, there are lots of options on how we would go about doing that, but certainly if it came back into the aviation portfolio, it would have a huge impact, which is one of the reasons why really we did ARI. And as I testified last year on ARI, if we had the resources, we wouldn't be doing ARI.

So again, we are kind of back at square one in some respects. But I know the Army is going to take a serious look at that. I know the Chief has been very actively involved in that, and we will see he will make some decisions here shortly. And then we will make a determination on, you know, whether we resource that internally or not.

If we were to execute, there would be some immediate demands obviously for long-lead purchases, for AH–64s, as well as training aircraft for the training base. If we were to add the 11th CAB and the four AH–64 battalions, that would increase our demand in the training base, so we would need more LUH [light utility helicopters], and we would also have to add AH–64s to the inventory. That would be probably the two most pressing needs that I would see if we were to do those.

Mr. TURNER. On my last question. I would like General Bunch and Holmes, if you would, to respond to the issue concerning STRATCOM and Secretary James' concern that we might not meet the alert requirement while replacing legacy rotorcraft.

Is it correct that, aside from the fact that we have the security of nuclear weapons in the United States, we are also talking about the expense of mitigations, including mitigations in place to meet the convoy escort mission, including additional defenders, as well

as a potential request for forces to provide Army National Guard Black Hawks at all ICBM wings?

How much does all this cost? Does the Air Force expect new helicopters? What would you be able to save? What are your thoughts on that topic?

General HOLMES. Thank you, Mr. Chairman. So over the last couple of years as we have done a review of our entire nuclear enterprise, one of the areas we looked at is this mission that supports the security of nuclear weapons on the missile fields.

As you pointed out in your opening statement, sir, we have been doing it with the legacy helicopter, the UH–1, for several years and our update program has been delayed by the budget turmoil with the Budget Control Act and the decrease in buying power that happened there.

In the short term we have taken some mitigation steps, and General Robin Rand, our four-star commander of Air Force Global Strike Command, has been personally involved in doing some things to support really both our ability to meet both of those missions better on the missile field, both the convoy escort and then the response mission.

The mitigations include things like having forward area refueling points that give you more time on station, that allow you to go for a further range and stay out there more, and some other things I won't go into for security reasons.

We are looking at the full range of mitigations to address that until we can field the new helicopter, and we recognize Admiral Haney's view that it is critical that we move forward now. We agree. One of the things that the BBA was able to do for us was to give us a little bit of that buying power back that we can apply to a new helicopter program.

We have the money laid out in this FYDP [Future Years Defense Program] to be able to do that. And then to accomplish it, you know, General Bunch and our AQ [acquisition] guys are working on strategy for what is the fastest and best way to make sure we get the right helicopter out there into the missile fields, in the shortest timeline that we can.

General BUNCH. Sir, I think it is important to start off with the UH–1 end is just one part of a multilayered defense of our nuclear resources, and our nuclear deterrent force remains safe, secure, effective, and ready if needed.

We have taken steps, as General Holmes relayed, to mitigate the things, but there are still areas that we can't address the full requirement. The Secretary of the Air Force has directed us to lean forward and consider more aggressive steps to see how we can go faster.

We have requested the requirements, notes, and urgencies from Admiral Haney and others. Those notes—those memos, I shouldn't say notes, are going to come in with the urgency of that requirement and we are going to lay that out to see if we have enough information there to be able to do an Economy Act determination and findings, and make that determination to go forward.

We should be making that decision within the next month to start those actions, to see if we want to go forward and do that in a more timely manner. And the other piece we have to remember

in this, it is not just getting iron on the ramp. It is everything else that goes with it that we are trying to focus on as well.

So we are leaning forward. We think we will have an answer within the next month or so, on whether we are going to go that direction.

Mr. TURNER. Just to underscore, we have no margin of error here, so we look forward to your recommendations and success.

Congresswoman Sanchez.

Ms. SANCHEZ. Thank you, Mr. Chairman. I want to go back to the question that you—or the subject matter that we are talking about here because the budget request shows a clear path to finally getting at the requirement with the competition that would pick a winner in fiscal year 2018 and deliver—start delivering the helicopters in 2020. Am I correct? That is the way I read it, at least when I took a look.

General BUNCH. Ma'am, that is correct, and when we would have the competition resolved, who the winner of that, may determine exactly when do we get to the field. That is all part of the acquisition strategy we are developing at this time, ma'am.

Ms. SANCHEZ. So I know that the Air Force has been pressured by some Members of Congress to skip the competition and to give it as a sole-source contract to one company. So I understand that could speed up the program a bit, but it doesn't appear to me to meet any of the normal tests for a noncompetitive contract award.

In this case it seems to me like that contract could be close to about a billion dollars of work. So my questions are, how many potential competitors does the Air Force think it might get if this was done on a competitive program?

And as far as the requirement goes, has the Joint Staff approved this as urgent need, and how do you define that urgent need? Is it something like what we saw for our troops who were in Afghanistan and Iraq?

And if the Air Force does go to a sole-source contract, what would be the justification, and how big a sole-source contract are we talking about?

General BUNCH. Okay, Ma'am, let me step through those, and if I miss one I will let you re-attack me on the ones that I may have missed as you went through that.

Ms. SANCHEZ. I was trying to figure out how to make a billion dollars competitive.

General BUNCH. I understand. First off, we have not made a determination that we are going to go this way. We still have to get the requirement documents in to outline to us the urgency before we would make that decision. That decision has not been made. That is something we will do over the next few weeks to a month.

The number that we are talking about to try to do this would be focused solely on the helicopters that would be needed to support the nuclear mission, and right now that number is 41. That number is being reviewed by General Holmes and his team, but right now that number is 41 that we would look to do that. Economy Act, the D&F [determination and findings], if we determine the urgency is there.

Ms. SANCHEZ. Forty-one?

General BUNCH. Forty-one helicopters. We would not do it for the remainder of the fleet. It would only be focused on those, ma'am, that——

Ms. SANCHEZ. Given the ballpark of 41 helicopters, how big a wallet do I have to go to shop for 41 helicopters?

General BUNCH. It would be in the $800, $900 million dollar range, ma'am.†

Right now as we get our market research, ma'am, to set this up for a competition, we think there are about five folks who have expressed interest as we have done our market research and we get ready to set up the competition as we build our acquisition strategy.

So that is part of the determination we are weighing out is, how urgent is the requirement, what is that requirement, and is there a need—is the urgency of the requirement, does it merit us using the Economy Act D&F and delaying, or wait for the competition. That is the decision we have to make.

Ms. SANCHEZ. Okay. So you are saying that there is a possibility I would have to go to people and say, sure, we did a sole-source contract for $900 million?

General BUNCH. That is what we are going to look at, ma'am.

Ms. SANCHEZ. I hope you look at it carefully and figure out a way to make a competitive process of it rather than just handing out contracts like that.

General BUNCH. Yes, ma'am.

Ms. SANCHEZ. Let's go back to, and I hate to be provincial, but I am going to go back to my California helicopters for a moment, Mr. Chairman.

Having enough Black Hawk helicopters for the National Guard I think is crucial. So how would the loss of 36 new helicopters over 2 years affect the Army's plans to upgrade all the National Guard existing helicopters by 2023, General?

General WILLIAMSON. So, ma'am, I will start from a programmatic impact and then operationally I will ask General Lundy to step in. So as you well know, we only produce N number of helicopters a year, so the loss of 36, and having to add that back in programmatically would be significant.

Ms. SANCHEZ. What does that mean, programmatically? I hope, Major General, you are going to——

General LUNDY. Yes, ma'am. So as we look at California, and I will talk about——

Ms. SANCHEZ. I don't want to be so provincial. California is a big State, however. I will say that. We need those helicopters because that is one of the ways we cover some of the ground we have.

General LUNDY. We will talk about kind of this total aviation force, what the impacts are. With respect to California, so we have one A model Black Hawk left in California to modernize, and it is going to get modernized in June. So we will have California fully modernized with L models by June.

We have about 600, about 550 A model Black Hawks across the National Guard and the Active Components. It is about an even

† Lieutenant General Bunch specified post hearing: The cost to procure 41 HH-60 helicopters using the Economy Act is $1.4B.

split between the two. We are still on track right now to finish modernizing the Guard in 2023, and we will modernize the Active Component in 2025. So we are a couple of years behind on finishing up all the Active Component Black Hawks.

If we were to go in and enact some of the National Commission recommendations, that is really what is going to impact our ability to finish modernization as fast as we think we can. And that potentially could—some of the options might be that we slip some of that modernizing both the Guard and the Active Component in Black Hawks to the right 2 or 3 years. So that is some of the decisions we are going to have to make, as the Chief and Secretary of the Army consider the National Commission recommendations.

But right now we are still on track. Even though we are buying less Mike model Black Hawks this year, we are still on track with the Victor model program, which is going to be the recapping of L models into a new fully integrated glass cockpit. That is going to be our newest Black Hawk.

So I am comfortable right now that we are still on track for 2023 for the Guard and 2025 to 2026 for the Active Component.

Ms. SANCHEZ. So going back to that ARI, if you were saying that it was about a $2.4 billion request or suggestion, or whatever we want to call it at this point, how much of that would be in 2017, and for what programs?

General LUNDY. On that, none of it is in 2017 because the decision has not been made for the National Commission recommendation. I know we have asked for—to set conditions for that if we make that decision. I know we have asked for some additional advance procurement on, you know, AH–64s that would help us set the conditions for that decision.

But we are not using any—we have not adjusted our budget at all this year in 2017 to accommodate for the National Commission recommendations.

Ms. SANCHEZ. So if we adjusted the Army and let's say you took the ARI suggestion and it started to be covered in fiscal year 2018 and beyond, what gets cut? I mean, aside from the 2- or 3-year push that you talked about with respect to the Black Hawk, what do we have to give up that we think right now we are going to get?

General LUNDY. There are a lot of options, and we are going to present all those options to the Chief. I mean, if it is internal to the aviation portfolio, there will certainly be a further slowing down of modernization. So, you know, pushing modernization efforts farther to the right, dependent upon which—where he wanted to take risk at, and which aircraft, and which capabilities would dictate that.

Or if it became an all, a total Army solution or a solution at the Department level, or if we receive additional funding. So it is kind of hard to say what exactly would be impacted, but if it comes back into the portfolio, $2.4 billion is a huge hit in the portfolio over the FYDP, so it would be very significant.

Ms. SANCHEZ. Well, I think I am going to have a lot more questions on that for the record. I don't want to take up everybody's time, but that is a big issue here. So thank you very much.

Mr. TURNER. Dr. Wenstrup.

Dr. WENSTRUP. Thank you, Mr. Chairman.

General Lundy, can you tell me a little bit about using guided rockets in combat, and the effectiveness between unguided and guided and implementation of either?

General LUNDY. Yes, sir. You know, the guided rockets have recently really proven to be very effective. We are modifying our lethality strategy to bring more guided rocket capability in. A guided rocket is less expensive than some of our missiles, and for certain targets they are appropriate. So we get a better cost curve, I guess you would say. And it allows us to service different kinds of targets. So guided rockets are definitely a part of our strategy.

We are reducing the amount of unguided rockets that we previously shot for mostly suppression because of the lethality and improvements in the guided rocket field. So we certainly see a path ahead. We have a current program of record, it is a Navy program of record that we are using called APKWS [Advanced Precision Kill Weapon System].

We have an S&T effort right now with our S&T team, AMRDEC [Aviation and Missile Research, Development, and Engineering Center], that is the modular missile system. It is a modular, can be a guided rocket, can be a missile, can be air-to-air. It is a modular capability or it can be a drop glide that we can drop off of unmanned systems. That is our future program of record that we are going to transition to. It has got good stable funding right now, so I am confident we will continue down that path. But that is currently how we are using guided rockets in our portfolio.

Dr. WENSTRUP. In our current engagements, say in Iraq and Afghanistan, do rules of engagement come into play as far as which one you can use?

General LUNDY. Guided rockets are definitely what we want to use, precision capabilities, when we have tight rules of engagement and you have potential for collateral damage. And a guided rocket has less collateral damage potentially than some of our missiles, some of our larger weapons, so they have got less blast and they are more accurate. So those are certainly the kind of munitions that we want to use in and around urban areas or areas where we are concerned about collateral damage, so, yes, sir.

Dr. WENSTRUP. Thank you, General.

I yield back.

General LUNDY. Thank you, sir.

Mr. TURNER. Mr. Veasey.

Mr. VEASEY. Thank you, Mr. Chairman.

I wanted to ask you about the divesting of the Kiowa Warriors, particularly to General Williamson or General Lundy. Do you feel that the Army will be able to fulfill some of the missions that may be foreseeable in the future?

Like for instance trying to prevent the spread of terrorism in sub-Saharan Africa by divesting of a helicopter that is very proven when it comes to reconnaissance and scouting in a terrain where you will need it to do just that? And it can probably perform that capability better than the helicopter that we are keeping. Can you kind of just touch on that a little bit?

General LUNDY. Well, sir, I would tell you, we have done some pretty extensive study. I am a Kiowa Warrior aviator, been flying them my entire life. I have flown every model and version of them,

and unfortunately as the branch chief I am the one that is taking them out of the inventory.

It is a great aircraft. It has tremendous capabilities and has proven itself in combat. I have got lots of combat time in 58s. I have also got time in Apaches and I have seen what Apaches can do with unmanned systems.

Currently right now the AH–64 can meet a broader range of missions, especially teamed with unmanned systems. But we still have a requirement for a scout, and we are pursuing a scout requirement as we move forward.

Again, it is much like all of the other tough decisions that we have to make. We have a budget, and I certainly would like to be buying a scout tomorrow, but we are looking at a strategy on how we can proceed forward within the budget constraints that we have.

But there is definitely a viable mission there. The requirement is still viable, but we have a viable solution to bridge that gap until we can get to, and we see it probably coming with future vertical lift. That family of systems is when we will see a scout aircraft come back into the inventory.

Industry is doing a lot of work right now. There is a lot of IRAD [independent research and development] that we are very interested in, so it may be able to come earlier, if there is something we can procure commercially off-the-shelf and the budget suggests a little bit. So there are a lot of options that we are exploring. But the mission is still viable, the requirement is still viable.

Mr. VEASEY. Okay. Thank you.

Mr. Chairman, I yield back.

Mr. TURNER. Mrs. Walorski.

Mrs. WALORSKI. Thank you, Mr. Chairman.

Gentlemen, thanks for being here. General Williamson, good to see you again.

General Lundy, I had a follow-up question to Representative Wenstrup on the issue of guided rockets and not guided rockets. My follow-up question quickly was, can you just comment on how the Army plans to implement enhanced warhead technology that is capable of neutralizing a wider spectrum of targets, such as light and up-armored vehicles, bunkers, and structures?

And I have another question.

General LUNDY. Yes, ma'am. We have a couple of initiatives going on right now. As a matter of fact, we were just doing some test shots this week, where we are developing some particular fusing capabilities that allow for delayed reaction so they perform better against bunkers.

We have also tested some of the other commercial systems that are out there, and as a part of our lethality strategy we are not only looking to improve the warheads that we have on our rockets, but we are also looking at improving our missile performance because there are some advanced targets that are out there now and some of our great power competitors that we have got to be able to deal with in the future.

So certainly looking at improved warheads is a part of our lethality strategy, and the Vice Chief of Staff of the Army 2 weeks

ago approved our way ahead on that. So we do have a pretty solid path moving forward.

Mrs. WALORSKI. Thanks. I appreciate it. I just, General, have another follow-up question. Chairman Turner alluded to this, that regarding the ever-present friction of modernizing the existing inventory while preparing for the future, not denying that our aircraft and soldiers who fly and maintain have done exceptionally well over the past 15 years of nearly constant deployments, but we have to continue looking to the future.

So I am concerned that this year's budget forces Army aviation to the bill payer for too many other programs that does not adequately prioritize future Army aviation programs.

Where are we assuming the most risk in terms of modernizing our fleet of Army aviation?

General LUNDY. Yes, ma'am, I think as the Chief has looked at readiness as being the number one priority, and I absolutely agree with that because readiness for the aviation force is not just buying platforms. It really is to make sure that our aircrews are trained and ready to go out there and fight.

And we have for the last, you know, 12 to 14 years we have been fighting a different kind of fight than we potentially are going to fight in the future. And it has been very team centered for us. As we move into potentially facing more advanced threats that are out there at the higher end of combat, we have got to be able to fight collectively at the company, troop, battalion, squadron, brigade level. This is not something we have been doing for 14, 15 years.

So as we look at taking some of this risk, I think it was very evident why we needed to do it, is to make sure—the thing that is most important, the combat power that we have when—we equip soldiers, and those soldiers have to be able to fight. They are the weapon system. So I think the trades that we have had to make are important trades, to get after training and leader development, while still maintaining very important modernization capabilities.

With respect to that, where I think we have the most risk again, is just the pace that we are modernizing. And I mean, that is always our great challenge is aviation is very expensive. And I mean, we are the most expensive part of the Army's portfolio.

So as we look at, you know, we can only really afford to field two battalions of AH–64Bs a year, a couple of battalions of UH–60s. So that brings capability very slowly into the force.

So when you look across our 23 brigades, across the total aviation force, only 2 of them are fully modernized with all of their battalions, all of their equipment, and we are slowly modernizing each one of those. And they are all in various states. We have some that are modernized on Apaches, but not Black Hawks.

It is the pace, I think as we are, you know, we are taking the most risk. But again, I think we have to focus very heavily on the readiness piece, and I think it is important for us to take that risk, to make sure that our crews can fly and fight, first and foremost.

Mrs. WALORSKI. I appreciate that.

General LUNDY. Yes, ma'am.

General WILLIAMSON. So, ma'am, I would just like to add to that, the pace. So this goes back to this notion of the agility that the Chief looks for. So when you take that pace, and if you use the ex-

ample that General Lundy just used, if you are only doing 2 to 3 units a year, and you have 23, it becomes simple math. It will take me 10 years before I have everyone at the same capability.

And so now you are not only forced to talk about what unit I send, but also understand what capability they have against the threat for that region or that environment. And so pace becomes very important. And we are having the discussion focused on aviation today, but we are making those kinds of choices within all of our portfolios, and we have stretched out modernization.

And so as we are incorporating what was the technology of the day, that year, I now have to figure out how to introduce the next technology or deal with the next threat. So every time we expand this, we make it complicated.

And then it also adds the factor associated with interoperability, and so we have to make sure that we are always interoperable backwards because it is taking me so long to field those systems.

Mrs. WALORSKI. I appreciate it. Thank you, gentlemen.

And I yield back. Thanks, Mr. Chairman.

Mr. TURNER. Ms. Graham.

Ms. GRAHAM. Don't worry, I can think on my feet. Thank you, Mr. Chairman. I appreciate it. Thank you, gentlemen.

Have we talked about the future vertical lift program in our discussion here? If you all would discuss where we are with that right now, I would appreciate it. Thank you.

General LUNDY. Yes, ma'am. Future vertical lift is a joint program. The Army has the lead for the joint force, but I will tell you that we are working very closely with all of our joint partners. We are going through a milestone decision, or an MDD [materiel development decision], this year, so it is on track.

We have the joint multi-role tech demonstrator, which is the S&T effort that supports it, and it is going to start flying in 2017, and there's two competitors that are flying those vehicles. That is going to help inform our requirements. So the program is on track.

But we are looking really as we, from a timing perspective, we will start seeing kind of low-rate production on the aircraft, the first capability set that we bring in in the late 2020s, early 2030s. And we will see really going to full operational capability in the early 2030s. That is when we will see the first units fielded.

Ms. GRAHAM. Is that jointly with the Air Force? Are you all pursuing that as well?

General BUNCH. We are teamed with them, ma'am, and we are watching them. We are collaborating.

Ms. GRAHAM. Okay. And this is to allow this one hovercraft to do—perform multiple responsibilities? What is the objective of——

General LUNDY. Well, really, when you look at future vertical lift, it is going to give us better speed, significantly better speed, significantly better range, significantly better maneuverability in the objective area, which improves survivability, improves our operational reach, strategic reach, ability to self-deploy. So those are the capabilities that it is going to bring.

But there will not just be one aircraft type. There are five different capability sets that we look at for the different missions. We have a light variant, which will do things like scouting and some of the special operation missions. We have a lower end, medium

variant which the Navy is very interested in. It is going to do anti-submarine work, things like that.

The Marine Corps and us are very interested in kind of the middle assault variant, which will be a multi-role aircraft that can do things the Marines want to do and things we will want to do. And then there are some heavier variants out there that will replace our cargo aircraft.

So there is a number of variants, but really the intent is to go into a family of vehicles that have a common architecture, that have common cockpits, things like that. They may not look exactly the same behind the cockpit, but there will be a lot of commonality to reduce costs, and also reduce training costs. That is kind of the broad overview of the program.

Ms. GRAHAM. So it is sort of like the F–35 approach, one sort of base aircraft and then make it different for——

General LUNDY. It will be somewhat different from the F–35 approach. There will be some very different variants because just of the size differentials. Now inside those different capability sets there will be some multi-roles. So like capability set 3, which is what the Army is calling the assault variant. What the Marine Corps is looking at is their assault and attack variant. That would be a common airframe, will look the same, but is going to have different mission equipment package on it.

But then when you go down on the lower end, the smaller aircraft, what SOCOM ends up needing may be different than our scout variant. We are still looking through those, and we will see what industry is able to produce and what the technology shows us.

But we are going to get as much commonality as we can, but we are also not going to sub-optimize an aircraft to try to do a bunch of missions and end up with, you know, some missions not done very well and other missions done very well. So we are looking very closely at that and doing commonality in other areas that will give us the savings.

Ms. GRAHAM. General Williamson, did you have anything?

General WILLIAMSON. Yes, ma'am. I just want to make sure that we are clear in terms of so at the component level you might see things like a common engine across a couple of the different variants, so it is not about making the same platform. It is about looking for where there are areas that we can share across the joint force. Some of that could be some of the avionics. Some of it is in taking advantage of technologies and using those on each of the platforms. But it is not about building one single platform.

Ms. GRAHAM. Well, thank you. I appreciate you all's answers, as always. Thank you so much.

I yield back any time I might have left. Thank you, Mr. Chairman.

Mr. TURNER. The last question series, Mr. Gibson.

Mr. GIBSON. Thanks, Mr. Chairman, and appreciate the panelists. Thank you for your leadership, your service, and the sacrifices you have rendered, and your families.

So I am late coming here, so if these questions have already been asked, I apologize, but I do have two. The first has to do with the Commission's recommendation for the four Apache battalions. I am

interested to know the perspective of the Army on that recommendation. And also how do we balance that with of course the need for the modernization of the UH–60, both Active and Reserve Component? So that is really the first question on the Commission, the Apaches and UH–60s.

And the second one may be a little bit out of your current set of responsibilities. But in your best military judgment I am interested, as professional aviators how do you perceive the European Reassurance Initiative from the vantage point of aviation? What concerns, challenges, and anything you would recommend for us to know about?

I think it is a very important initiative and I just want to make sure that we are taking into consideration, and if the Air Force wants to take a shot at that one too, that would be great. We will start with the Army.

General LUNDY. Well, sir, good seeing you again. I did talk earlier about the NCFA recommendations and where we are at on the AH–64s. As I talked last year with respect to ARI, you know, if we had the right funding, I would want to have kept all that force structure.

I think, you know, the Chief is looking at that, the Secretary of the Army are looking right now. We are providing recommendations and analysis for them. I think they are going to make some decisions on where the Army is going to go with respect to the National Commission in the upcoming months.

If decisions are made—I mean, right now the assessment is about $2.4 billion just for the decision to keep the 11th CAB and the four 18-ship AH–64 battalions in the National Guard. So that is the bill that we are facing out there. Then there will be a part of the recommendations that we make on how we pay that bill. If it comes out of the aviation portfolio, it is going to have significant impacts, as I discussed last year on why we had to go to ARI.

Obviously if it goes up to the Army level, it is going to have impacts on other Army programs, and we are already scrambling right now for money. So there will be a significant bill with it, and a significant impact somewhere.

Mr. GIBSON. Can I just get a clarification. The $2.4 B [billion], is that over 10 years, or what is that?

General LUNDY. It depends on how we approach it. It is really going to be over kind of the FYDP is about the way it is going to work out. And that will put the appropriate amount of AH–64s that we need. It will be able to re-cap those 64s because were going to have to add to the top line of AH–64, or add to the acquisition objective.

It will also put some training aircraft back into Fort Rucker that we will need because we will have more units to train, so we got to increase the training base. And that is really only on the equipping side of the house. There is also an OMA [Operations and Maintenance, Army] bill that is about we think probably a little bit less than $200 million a year, I think is what the latest number is.

So that really would be over about a 5- to 6-year period. But again, it could be spread out as well, but depending upon how we approach the strategy.

With respect to the European initiative, I was over in Europe in January looking at what Army aviation is doing there. I'll tell you, a lot of challenges in the theater. Currently Army aviation, we have got a battalion task force over there on rotational. They have a company that is currently in Romania. They have got one up in Latvia. There is 600 miles difference between where their company is and where their battalion headquarters is, so it presents some real challenges.

Is a great opportunity for a young captain, I will tell you, truly exercising mission command, and representing our Nation very well. I mean, frankly, is pretty impressive. So, one, they are doing a great job. But it is a tough mission. It is a very challenging mission. It is tough to sustain.

I know General Hodges has expressed concerns about not having adequate aviation over there, and certainly the Army is looking at that, and there has been a request that has come up through the Joint Staff for additional aviation over there.

Looking at the distances, the number of countries that they operate in, there is definitely a requirement. There is definitely a demand for increased Army aviation, and I think the rotational concept is a great concept for us to do that. It builds proficiency in our force, and I think that is the direction we are headed. And look forward to going back and visiting more aviation over there in Europe.

General HOLMES. Congressman Gibson, thanks for that question. For us, the European Reassurance Initiative does three main things. It funds the F–15C squadron at Lakenheath that had been planned to be brought home, and that is the EUCOM [European Command] commander's only air-to-air resource and his only air-to-air training tool that he can use to train with our European allies and reassure them.

It funds exercises and training for us to bring stateside units over to trade with our European partners there, and then it funds some improvements to European airfields that let us bring those airplanes in there. So things like arresting gear, and taxiway condition, and the things that make it possible for us to get in there.

So it's a shot in the arm. It helps us do the things that we need to do in support of the EUCOM commander.

Mr. GIBSON. I agree with that assessment. Any concerns that you want to address on that right now as that is developing?

General LUNDY. As regards to our support to the EUCOM commander?

Mr. GIBSON. Yes.

General LUNDY. Well, you know, the EUCOM commander and his air assets are in a tough position because we use them to rotate and support requirements all over the world, and then he has got a growing requirement.

So those units that we keep there rotate to do their share in the Middle East conflict, and when they are not there, they are the forces that you turn to things like strike targets in Libya or do those things on short notice.

So I am sure he would like to do more. As we revisit that balance, the first step was to leave that F–15 squadron that we had

actually planned to retire those assets, but we are able to keep them and keep them in the right place.

Mr. GIBSON. Okay. Very well. Thank you, gentlemen.

Thank you.

Mr. TURNER. General, thank you for your comments. During these times of restraint and difficult budgets, your management skills are absolutely incredibly crucial, but also the information you provide to us so that we can continue to advocate for additional resources is incredibly important. Without your narrative and expertise, that advocacy would be certainly hampered. So thank you for your honesty and for your management skills.

Thank you. We will be adjourned.

[Whereupon, at 4:32 p.m., the subcommittee was adjourned.]

A P P E N D I X

MARCH 16, 2016

PREPARED STATEMENTS SUBMITTED FOR THE RECORD

MARCH 16, 2016

Statement of the Honorable Michael Turner
Chairman, Subcommittee on Tactical Air and Land Forces
Rotorcraft Modernization Programs
March 16, 2016

The hearing will come to order.

The Subcommittee convenes to review the current posture of Army and Air Force rotorcraft modernization programs and receive testimony on the Fiscal Year 2017 Budget Request.

I am pleased to welcome our distinguished panel of witnesses:

- Lieutenant General Michael E. Williamson, Military Deputy to the Assistant Secretary of the Army (Acquisition, Logistics and Technology),
- Major General Michael D. Lundy, Commander, Army Aviation Center of Excellence
- Lieutenant General Arnold W. Bunch, Jr., Military Deputy, Office of the Assistant Secretary of the Air Force (Acquisition)
- Lieutenant General James M. "Mike" Holmes, Deputy Chief of Staff for Strategic Plans and Requirements

Gentlemen thank you for being with us today, and thank you for your service.

Our witnesses today will provide testimony on the fiscal and programmatic challenges currently facing Army and Air Force rotorcraft modernization.

Because of fiscal realities and increased missions, the military services have been forced to prioritize near-term readiness at the expense and assumed risk of modernization programs; and rotorcraft modernization has been particularly impacted in fiscal year 2017.

We know the proposed budget request for fiscal year 2017 does NOT follow the Balanced Budget Agreement (BBA) of 2015.

While our near-peer adversaries continue to invest in more modern capabilities and continue to close the technology gap, this budget request cuts force structure and modernization programs from the Department's base programs.

For example the Army states in their written statement that, "Though Aviation Modernization is a priority, FY17 will reflect over $2 billion in reduced funding when compared to FY16. This has caused the Army to decelerate fleet modernization by procuring fewer UH-60 Black Hawks, AH-64 Apaches, and CH-47 Chinooks in FY17."

I can assure you this committee is working to reverse this dangerous trend in rotorcraft modernization and is working to provide the necessary funding to help mitigate some of these current challenges.

For fiscal year 2017, this subcommittee will continue to support the need for fielding the most modernized rotorcraft available for both the Active and Reserve Components.

Two critical issues that this committee has been concerned about for many years is in regards to accelerating Aircraft Survivability Equipment and Degraded Visual Environment capability onto current rotorcraft platforms. We expect to hear today about how the Army and Air Force are addressing these critical needs in a timely manner.

We are also interested in hearing the Army's position on the recent recommendations put forward by the National Commission on the Future of the Army relating to the Army's Aviation Restructure Initiative (ARI), and get a better understanding of the costs associated with implementing these recommendations.

I'd also like to hear about the Air Force's plans to replace the legacy helicopters that are used by the Air Force in providing security in the ICBM fields in Montana, North Dakota, Wyoming and several other states.

The Commander of U.S. STRATCOM has stated, as has the Secretary of the Air Force, that it is not possible to mitigate the alert requirement without replacing these helicopters so I look forward to hearing about your plans to address this urgent issue.

I would now like to recognize my good friend from California, the Ranking Member of the Subcommittee, Ms. Loretta Sanchez for any comments she would like to make.

RECORD VERSION

STATEMENT BY

LIEUTENANT GENERAL MICHAEL E. WILLIAMSON
PRINCIPAL MILITARY DEPUTY TO THE ASSISTANT SECRETARY OF THE ARMY
FOR ACQUISITION, LOGISTICS AND TECHNOLOGY AND
DIRECTOR, ACQUISITION CAREER MANAGEMENT

AND

MAJOR GENERAL MICHAEL D. LUNDY
COMMANDING GENERAL, U.S. ARMY AVIATION CENTER OF EXCELLENCE
AND FORT RUCKER

BEFORE THE

SUBCOMMITTEE ON TACTICAL AIR AND LAND FORCES
COMMITTEE ON ARMED SERVICES
UNITED STATES HOUSE OF REPRESENTATIVES

ON

FISCAL YEAR 2017 ROTORCRAFT MODERNIZATION PROGRAMS

SECOND SESSION, 114TH CONGRESS
MARCH 16, 2016

NOT FOR PUBLICATION UNTIL RELEASED BY THE
COMMITTEE ON ARMED SERVICES

Introduction

Chairman Turner, Ranking Member Sanchez, and distinguished Members of the Subcommittee on Tactical Air and Land Forces, thank you for this opportunity to discuss the Fiscal Year 2017 (FY17) President's Budget request for Army Rotorcraft Modernization Programs. We are pleased to represent Army leadership, the military and civilian professionals of the Army acquisition workforce, and the courageous men and women in uniform who rely on us to provide them with aviation systems and equipment for mission success.

Aviation is the Army's largest portfolio, and an important element of the Joint, inter-organizational, and multi-national team. Aviation provides significant capabilities to maintain superiority over our adversaries by increasing lethality and survivability of the force, providing enhanced mobility into and within the theater of operations, and enabling unprecedented situational awareness and battlespace integration.

Over the past several years and into the near future, fiscal constraints and an unpredictable budget have caused the Army to reduce end strength and prioritize readiness at the expense of modernization programs. Aviation has been particularly impacted. The high level of operational demands combined with fiscal challenges contributed to a substantial reduction in Army Aviation funding. This situation continues to challenge Rotorcraft Modernization efforts to improve current capabilities while closing key operational capability gaps within the future Aviation force.

In FY17, the Army equipment modernization objective remains focused on maintaining technological overmatch in our combat formations to deter and defeat potential adversaries. We are working to achieve this by ensuring we have the proper mix of capabilities enabled by a flexible and rapid acquisition process by working with Congress. We are also exploring the activation of a rapid capabilities office to address the immediate and near-term equipping needs of our Warfighters through rapid programs of record. Currently, near-term capability gaps are mostly mitigated through

incremental improvements to existing platforms and systems, while we make prudent investments in emerging and breakthrough technologies to address future gaps.

While the Army's modernization budget remains near historic lows, our modernization mission remains essential. We must always ensure our Soldiers and Soldier Aviators have the right equipment, at the right time, and at the right place to accomplish the assigned mission.

On behalf of our Acting Secretary, the Honorable Patrick Murphy, and our Chief of Staff, General Mark Milley, we look forward to discussing with you the Army's FY17 Rotorcraft Modernization Programs.

Resourcing Army Modernization

Because of fiscal constraints, today's Army prioritizes readiness while assuming risk to modernization. The Army cannot equip and sustain the entire force with the most modern equipment. Still, it is the Army's responsibility to address current and emerging threats and to ensure every deployed Soldier and Soldier Aviator is equipped to achieve decisive overmatch, regardless of the situation.

In FY17, the President's Budget request totals $22.6 billion for the Army's Research, Development, and Acquisition (RDA) program, which includes $15.1 billion for Procurement and $7.5 billion for Research, Development, Test and Evaluation (RDT&E). The Army will continue to invest in Aviation to sustain fleet modernization and target other investments to close key capability gaps in survivability and lethality. Though Aviation Modernization is a priority, FY17 will reflect over $2 billion in reduced funding when compared to FY16. This has caused the Army to decelerate fleet modernization by procuring fewer UH-60 Black Hawks, AH-64 Apaches, and CH-47 Chinooks in FY17.

In addition, the FY15 Bi-Partisan Budget Act continues to impact the Army in FY17 with more than a $531 million cut in Aviation Modernization plans to support the

Army's total reduction of $3.8 billion. Still, while accepting risk, the Army is able to move forward with its Aviation Modernization efforts at a slower pace.

Our FY17 RDA resources for Rotorcraft Modernization are focused on the following areas:

1. **Science and Technology (S&T)**. Protected S&T funding ensures the next generation of breakthrough technologies can be rapidly applied to existing or new equipment designs. We are implementing a strategic approach to modernization that includes an awareness of existing and potential gaps; an understanding of emerging threats; knowledge of state-of-the-art commercial, academic, and Government research; and an understanding of competing needs for limited resources. In this area, the Army supports several critical S&T programs that will enable the next generation of rotary wing capability, including the Advanced Threat Detection System; the Joint Multi-Role Technology Demonstrator, which will inform affordable requirements and reduce risk for the Future Vertical Lift (FVL) planned Program of Record; and Degraded Visual Environment mitigation.

2. **New Systems**. The Army is making modest developmental investments based on critical operational requirements and capability shortfalls. In this area, the Fixed-Wing Utility Aircraft (FUA), a replacement for the C-12 and C-26 platforms, is projected to be selected and begin fielding in FY18.

3. **Modification/Modernization**. The Army must incrementally modify or modernize existing systems in order to increase capabilities and extend service life. In addition, the continuous improvement of existing systems helps to sustain the industrial base. In this area, we are focused on improving the Apache, Black Hawk, and Chinook helicopter fleets, as well as our Unmanned Aircraft Systems.

4. **Reset and Sustain**. Returning Army equipment to the required level of combat capability remains central to both regenerating and maintaining equipment near-term readiness for contingencies.

5. **Divest**. The Army divestment process seeks to identify equipment and systems that are excess across the Total Army in order to reduce and eliminate associated sustainment costs. In this area, the Army continues to divest its aging TH-67 training helicopters, as well as the OH-58A/C Kiowa, OH-58D Kiowa Warrior, and UH-60A Black Hawk aircraft fleets.

Aviation Restructure Initiative

In response to declining budgets and an effort to maintain the most capable and available Aviation force, the Army presented the Aviation Restructure Initiative (ARI) as part of its budget plan in FY15. By reinvesting the savings and cost-avoidance garnered by ARI, Army Aviation was able to continue to field its most modernized aircraft while developing and fielding the right 'disruptive technologies' to improve mobility, lethality, survivability, and mission command. Because the recently released National Commission on the Future of the Army (NCFA) report contains recommendations in addition to ARI, resourcing and modernization may need to be adjusted. For example, the recommendation that the Army retain an 11th Combat Aviation Brigade stationed in Korea and retain four attack/reconnaissance battalions in the Army National Guard, each equipped with 18 AH-64s, will increase equipping costs in the Aviation portfolio by approximately $2.4 billion. If accepted, these recommendations will require offsets from within the existing portfolio, other Army programs, or from elsewhere in DOD's budget to preclude significant impacts to Army Aviation.

FY17 Aviation Key Investments

Army Aviation investments include required capability in the reconnaissance, attack, unmanned systems, utility, cargo, fixed wing, and aviation enabler systems mission profiles. Specific investments in this portfolio include the following:

The Army will pursue a Multi-Year Contract (MYC) in FY17 for the *AH-64 Apache* in order to achieve cost avoidance and efficiencies, while completing the AH-64E Apache Remanufacture Program. This program is designed to renew the current Apache fleet by incorporating current technologies and a new airframe to extend the aircraft's useful life and make it one of the most technologically advanced weapon systems on the battlefield.

The *UH-60 Black Hawk* continues to be the Army's workhorse and, at 2,135 total airframes, is our largest fleet of rotary wing aircraft. Fleet modernization efforts focus on the continued procurement of the UH-60M aircraft, recapitalization of UH-60A into UH-60L aircraft, the development of the UH-60V aircraft with a digital cockpit, and divestment of legacy aircraft. In FY17, the Army will enter into the ninth MYC to be awarded through FY21.

The *Improved Turbine Engine Program* is designed to provide significant horsepower and fuel savings to enable current AH-64 Apache and UH-60 Black Hawk fleets to meet worldwide operational requirements for high altitude and hot conditions. The program continues in FY17 with two vendors undergoing Preliminary Design Review, which will lead to a down select in FY18 to a single vendor for engine development.

The *CH-47 Chinook*, the Army's only heavy lift helicopter, is projected to remain in service through 2060, making it the Army's first, and only, aircraft in service for more than a century. The planned H-47 Block II upgrade to the H-47F/G will restore operational payload capability, efficiently incorporate engineering changes, and increase commonality between SOCOM and the conventional Army.

The Army has an *Unmanned Aircraft Systems* (UAS) fleet comprised of small (Raven and Puma), medium (Shadow), and large (Gray Eagle) components. All systems are existing programs of record and are under active acquisition programs to meet fleet size objectives over the next five years. Gray Eagle is a dedicated, assured, multi-mission UAS being fielded to all 10 Army divisions to support combat operations, as well as the National Training Center. Additionally, the Improved Gray Eagle, which achieves significant increases in payload, range, and station time through fuselage and engine enhancements, is fielded to Special Operations Forces and Intelligence organizations in support of global Department of Defense Intelligence, Surveillance, and Reconnaissance (ISR) requirements. Shadow is a dedicated Reconnaissance, Surveillance, and Target Acquisition UAS fielded to Army and Army National Guard Brigade Combat Teams, Special Forces Groups, the Ranger Regiment, and performs Manned-Unmanned Teaming with Apache in Combat Aviation Brigades to meet the Armed Aerial Scout requirements in lieu of the divested OH-58D Kiowa Warrior. Shadow Platoons are currently undergoing a major block upgrade that provides enhanced encryption, increased endurance, improved optics, and a high bandwidth, digital data link capable of support secure transmission of multiple payloads.

FY17 funds for the Army's fixed wing fleet include procurement of the FUA, which will begin replacing the current C-12 platforms and later the C-26 platforms.

The *Joint Air-to-Ground Missile* (JAGM) is an Army-led Acquisition Category 1D program with Joint interest from the U.S. Navy and U.S. Marine Corps. JAGM is the next generation of aviation launched missiles to replace the laser Hellfire II and the Longbow radar missiles. FY17 funds the first JAGM Low Rate Initial Production lot.

Other Key FY17 Investments

In the area of *Aircraft Survivability Equipment,* the FY17 budget request will accelerate the Common Infrared Countermeasure system and will begin fielding in the near-term. This will be coupled with the Advanced Threat Detection System (ATDS) to improve

infrared threat detection. Essential to protection of aircraft against emerging threats, the Army will pursue S&T efforts to develop follow on systems that are able to defeat a threat system irrespective of its targeting and guidance systems, propulsion means, or warhead type. In addition, FY17 funds the development of an ATDS (Detect) to replace the Common Missile Warning System.

Our S&T investments are essential in maintaining an advantage to enable us to never send Soldiers and Soldier Aviators into a fair fight, long into the future. Examples of these S&T investments in our aviation portfolio include the *Joint Multi-Role Technology Demonstrator* (JMR-TD) and *Degraded Visual Environment* (DVE) mitigation. We are pursuing the next generation of aircraft to fly faster and farther than our current aging rotorcraft fleet. In FY17, JMR-TD will fly demonstration aircraft to prove out FVL technology and inform requirements development. FVL will conduct an Analysis of Alternatives and begin development of the initial variant. A Materiel Development Decision for the first FVL variant will occur in FY17. Degraded visual environments have been the cause of a significant number of Army aviation accidents in the last decade. S&T efforts towards DVE mitigation explore the integration of flight controls, sensors, and cueing necessary to assist Army aviators in take-off, limited hover, and landing in both aircraft induced conditions such as brown-out and aircraft independent conditions such as smoke or fog. FY17 resources development activities for an integrated rotorcraft situational awareness augmentation system to facilitate operations in DVE conditions.

Conclusion

The generous support from Members of Congress for our efforts to strengthen the Army Acquisition Workforce, a critical component in the success of a well-equipped, ready force, is greatly appreciated. With more than 37,000 Army military and civilian acquisition professionals worldwide, this dedicated component of the Defense acquisition workforce is comprised of engineers, scientists, logisticians, contract specialists, testers, program managers, cost estimators, and many other acquisition career field specialties who effectively manage the Army RDA enterprise in a

challenging budget environment. Army Acquisition Workforce professionals are the critical assets to the Army's ability to design, develop, and deliver capability to the Soldiers so they can dominate on the battlefield.

Your continued advice and support is also greatly appreciated. These are challenging times, and it is clear that the security challenges of tomorrow will be met with the Rotorcraft Modernization Programs we develop, improve, and procure today. Because adversaries will continue to invest in technology to counter or evade U.S. strengths and exploit vulnerabilities, resource reductions and insufficient Army Rotorcraft Modernization will place the Army's ability to overmatch its opponents at risk.

We can assure you that the Army's senior leaders are working hard to address current challenges, as well as the needs of the Army now and in the future. We are doing so with affordability as our watchword as we endeavor to remain good stewards of our nation's resources while meeting the equipping needs of our Soldiers.

Mr. Chairman and distinguished Members of this Subcommittee, thank you for your steadfast and strong support of the outstanding men and women in uniform, our Army Civilians, and their Families.

LIEUTENANT GENERAL MICHAEL E. WILLIAMSON

Lt. Gen. Michael E. Williamson assumed his duties as the Principal Military Deputy to the Assistant Secretary of the Army for Acquisition, Logistics and Technology (ASA(ALT)) and Director of Acquisition Career Management on April 4, 2014.

Born in Tucson, Arizona, he was commissioned at the University of Maine as a Second Lieutenant in the Air Defense Artillery in 1983.

His earliest assignments include Chaparral Platoon Leader, Vulcan Platoon Leader, Maintenance Officer and Executive Officer in C Battery, 108th Brigade, Hahn Air Force Base, Germany. After attending the Air Defense Artillery Advanced Course, he commanded B Battery, 3/1 ADA (Hawk) in the 11th Brigade at Fort Bliss, Texas and B Battery, 3/1 ADA BN, 31st ADA BDE at Ft. Hood, Texas. His acquisition experience began as Senior Military Software Analyst at NATO's military headquarters in Mons, Belgium. After attending Command and General Staff College, Lt. Gen. Williamson served as the Chief of Information Technology, Acquisition Career Management, within the Office of the ASA(ALT). As a Congressional Fellow he served as a legislative assistant on Capitol Hill. LTG Williamson has served as Product Manager for the Global Command and Control System-Army; the Acquisition Military Assistant to the Secretary of the Army; Commander of Software Engineering Center-Belvoir; Project Manager Network Systems Integration within Program Manager, Future Combat Systems (Brigade Combat Team); Director of Systems Integration within ASA(ALT); Deputy Program Executive Officer, Integration and Joint Program Executive Officer for the Joint Tactical Radio Systems. After serving as the Assistant Deputy for Acquisition and Systems Management, Lt. Gen. Williamson was selected to be the Assistant Military Deputy to the ASA(ALT). His most recent assignment was as the Deputy Commanding General, Combined Security Transition Command-Afghanistan.

Lt. Gen. Williamson's awards and decorations include the Defense Superior Service Medal, the Legion of Merit with three Oak Leaf Clusters, the Bronze Star Medal, the Meritorious Service Medal with two Oak Leaf Clusters, the Joint Service Commendation Medal, the Army Commendation Medal with two Oak Leaf Clusters, the Joint Service Achievement Medal, the Army Achievement Medal with two Oak Leaf Clusters, and the Army Staff Identification Badge.

Lt. Gen. Williamson's education includes a Bachelor of Science from Husson College in Business Administration, a Master of Science in Material Acquisition Management from the Naval Postgraduate School and a PhD in Business Administration from Madison University. He also has graduate certificates in Public Policy from the JFK School of Government at Harvard University and the Government Affairs Institute at Georgetown University. He is a graduate of the Army Command and General Staff College, the Advanced Management Program at the Harvard Business School and was a Senior Service College Fellow at the University of Texas at Austin. Lt. Gen. Williamson is Level III certified in Program Management and Information Technology.

MAJOR GENERAL MICHAEL D. LUNDY
Commanding General
United States Army Aviation Center of Excellence

Major General Mike Lundy was commissioned as an Aviation Second Lieutenant in 1987 from McNeese State University. After completing Basic Rotary Wing Training and the OH-58D transition, he was assigned to TF 23, 3 ID in Giebelstadt, Germany as a Company Executive Officer and Platoon Leader. In 1990, his platoon was attached to 4/2 ACR and deployed to Operation Desert Shield and Desert Storm. Following Desert Storm, he was reassigned to CBTF, 3 ID in support of Operation Provide Comfort in Northern Iraq.

In 1991, MG Lundy attended the Armor Officer Advanced Course and Cavalry Leaders Course at Fort Knox. He was then assigned to 4-17 Cavalry at Fort Bragg, where he served as an Assistant S3, Squadron S4 and commanded A/4-17 Cavalry and N/4/2 ACR. During his troop command, he deployed to Haiti for Operation Support Democracy. In 1995, MG Lundy was reassigned to the Eagle Team, Operations Group, National Training Center at Fort Irwin. Following the Command and General Staff College in 1998, Lundy was assigned to 10th Mountain Division as the XO TF 1-10 ATKHB and deployed to Bosnia in support of SFOR6. He then served as the 10th Aviation Brigade S3 and Brigade XO. In November 2001, he deployed to Afghanistan as the Deputy CJ3 and Chief of Operations for CJTF Mountain in support of Operation Enduring Freedom I.

In June 2003, MG Lundy assumed command of 1st Battalion (Attack), 25th Aviation Regiment and deployed in support of Operation Iraqi Freedom II. Following battalion command in 2005, Lundy served as the Operations Group Senior Aviation Observer Controller at the Joint Readiness Training Center, and then attended the Army War College in 2006. Following the AWC, Lundy assumed command of the 25th Combat Aviation Brigade in January 2008 and deployed the brigade to Northern Iraq.

In October 2010, MG Lundy was reassigned as the 25th Infantry Division Deputy Commander (Rear), and then was reassigned as the Deputy Commanding General 1 AD at Fort Bliss in July 2011. From July 2012 to March 2014, MG Lundy served as the Deputy Commanding General Combined Arms Center–Training. MG Lundy is currently serving as the Commanding General, United States Army Aviation Center of Excellence and Fort Rucker, Alabama.

MG Lundy's awards and decorations include the Legion of Merit (2 OLC), Bronze Star Medal (2 OLC), Defense Meritorious Service Medal, Meritorious Service Medal (4 OLC), Air Medal (2 Valor Devices and the Numeral 4), Joint Service Commendation Medal, Army Commendation Medal (1 OLC), Army Achievement Medal (4 OLC), Humanitarian Service Medal, Joint Meritorious Unit Award, Valorous Unit Award, Army Superior Unit Award, Meritorious Unit Citation (1 OLC), Master Aviator Badge, Parachutist Badge, Combat Action Badge, and the Ranger Tab. MG Lundy is married to the former Paula Blanchette and they have two daughters, Kacie and Sydnie.

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

DEPARTMENT OF THE AIR FORCE

PRESENTATION TO THE
HOUSE ARMED SERVICES COMMITTEE
SUBCOMMITTEE ON TACTICAL AIR AND LAND FORCES
U.S. HOUSE OF REPRESENTATIVES

SUBJECT: FY17 Air Force Rotorcraft Modernization Programs

STATEMENT OF: Lieutenant General Arnold W. Bunch, Jr.
Military Deputy, Office of the Assistant Secretary
of the Air Force (Acquisition)

Lieutenant General James M. "Mike" Holmes, USAF
Deputy Chief of Staff
(Strategic Plans and Requirements)

March 16, 2016

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SUBCOMMITTEE ON TACTICAL AIR AND LAND FORCES
U.S. HOUSE OF REPRESENTATIVES

Introduction

Chairman Turner, Ranking Member Sanchez, and distinguished members of the subcommittee, thank you for calling this hearing and for the opportunity to provide you with an update on Air Force rotorcraft modernization efforts important to our Air Force and to the Nation. Air Force rotary wing assets are critical to the mission of the Air Force and provide worldwide support to Combatant Commanders. The HH-60G continues to support the full spectrum of the Service's Core Function of Personnel Recovery until replaced by the Combat Rescue Helicopter. The UH-1N provides security for the Air Force's nuclear missile fields, supports continuity of government and continuity of operations in the National Capital Region, and provides vertical airlift support for a variety of other missions. Finally, the CV-22 provides US Special Operations Command and the geographic combatant commanders with a unique long-range vertical lift capability.

Regarding Science & Technology (S&T) the Air Force collaborates and coordinates with our Service partners through Reliance 21 and multiple DoD Communities of Interest (COI's) to synergize our activities and investments and our roles and responsibilities in the research and development of military air vehicles, including rotorcraft. Reliance 21 is the overarching framework of the DoD's S&T joint planning and coordination process. With regards to rotorcraft research and development (R&D), the Army is the lead Service. The Air Force watches and follows Army rotorcraft S&T programs, including the Army-led Joint Multi-Role Technology Demonstrator (JMR-TD). This Army effort will fly demonstration aircraft to prove out Future Vertical Lift (FVL) technology and inform requirements development. The Air Force and Army coordinate their rotorcraft S&T efforts, leveraging each other's expertise and technology to ensure synergy and efficiency. In addition, Air Force partnerships extend to other government agencies and industry through S&T consortiums such as the Versatile Affordable Advanced Turbine Engines Program (VAATE), which covers air-breathing propulsion and includes turbine engines for rotorcraft.

The Air Force is dedicated to sustaining, modernizing, and recapitalizing our rotorcraft assets as necessary to accomplish the combat search and rescue, nuclear security, continuity of government, and special operations missions.

Combat Search and Rescue (HH-60G and CRH)

The Air Force makes a significant investment to train and equip dedicated Rescue Forces capable of providing Personnel Recovery in support of the Joint Force. Air Force Rescue Forces recover isolated personnel in contested environments, marginal weather areas, and during very low illumination. Since September 11, 2001, our Rescue Forces have flown over 15,000 missions to recover isolated personnel in hostile enemy territory. During Operations Iraqi Freedom (OIF) and Enduring Freedom (OEF), for example, Air Force Rescue Forces repeatedly landed in contested areas to recover 5,400 injured American and Coalition Soldiers, Sailors, Airmen and Marines. Our rescue crews also assist with casualty evacuations, medical evacuations, special operations support, and humanitarian relief missions all over the world while putting their own lives at risk. Since 9/11, 50 of our Airmen have received Distinguish Flying Crosses, 34 earned Purple Hearts, and 25 made the ultimate sacrifice so that others may live.

Today, Air Force Rescue Forces remain fully engaged in Personnel Recovery efforts across the globe. From supporting operations in Africa, Iraq, Syria, and Afghanistan to performing civilian search and rescue operations off the coast of Alaska, no one does rescue better than the United States Air Force. The FY17 President's Budget request fully supports this core capability by continuing to fund the new Combat Rescue Helicopter and improving aircraft availability and survivability issues for our legacy HH-60G fleet.

The Air Force's primary means of accomplishing the rescue mission, the HH-60G Pave Hawk, is a low supply/high demand asset. The fleet contains only 97 of the original 112 aircraft program of record, of which 37 had to undergo unscheduled depot maintenance in 2015 and 50 of the 97 have received combat damage since 2001. The $91.4M requested in the FY17 PB continues modernizing the HH-60G fleet to preserve our high end rescue capability. Most of

these funds will be used to install Operational Loss Replacement (OLR) kits and for the Degraded Visual Environment (DVE) FY17 new start modification.

Aircraft availability remains a top concern for Air Force Personnel Recovery leadership. Ongoing modification programs are keeping the HH-60G a viable Combat Search and Rescue (CSAR) weapon system until the Air Force's replacement program is complete. The modifications address sustainment issues, safety features, defensive systems, and avionics upgrades that enable the HH-60G to continue safe and effective operations in a joint/multi-national environment under austere combat conditions.

Aircraft survivability is also at the top of our priority list. The HH-60G is currently equipped with infrared/radar missile warning systems and countermeasure dispensers. In FY16, with help from the Navy, the Air Force is initiating a program to update the onboard sensors on our deployed aircraft to address the evolving threats of the combat environment.

Another survivability concern of our HH-60G fleet is operating in degraded visual environments. As mentioned previously, in FY17 the Air Force will procure, as the DVE mod, a new sensor to enhance the situational awareness of pilots by providing a digitized picture of the landing zone in the cockpit. This sensor will greatly minimize the hazards of degraded environments to prevent mishaps and the loss of lives.

The HH-60 OLR program, also previously referenced, is a short-term fix to address current availability issues and provide combat capable aircraft to the warfighter. This program upgrades 21 Army UH-60L aircraft into the current Air Force HH-60G configuration to replace operational losses and address obsolescence issues. All 21 kits for OLR have been procured and installations will begin later this year.

The Combat Rescue Helicopter (CRH) program will replace the aging HH-60G fleet with 112 air vehicles, training systems, and support equipment. Despite delays to program initiation due to internal portfolio trades caused by the Budget Control Act and thanks to continued Congressional support, CRH is fully funded and remains on schedule to meet Initial Operational

Capability in FY21. The FY17 PB requests $319.3M to continue CRH development efforts and rephases funding in future years from previously projected requirements to properly align funding for execution. Recent accomplishments include setting the functional baseline by successfully completing the Systems Requirements Review and the System Functional Review for both the air vehicle and training systems, held in April and July of 2015 respectively. The next major program milestones are the air vehicle Preliminary Design Review (PDR) in April 2016, followed by the training systems PDR later this year.

Nuclear Security and Continuity of Government (UH-1N)

The UH-1N "Huey" is a versatile helicopter whose service in our Air Force has spanned five decades. Entering the USAF inventory in 1970 to provide search and rescue capabilities, the UH-1N mission set has expanded and transformed over the years to include nuclear missile field security support, National Capital Region (NCR) continuity of government/continuity of operations (COG/COOP), operational support airlift, test range support, and aircrew survival, evasion, resistance, and escape (SERE) training. The Air Force's 62 UH-1N helicopters are assigned at bases in Maryland, Wyoming, Montana, North Dakota, Washington, New Mexico, and Japan.

The primary missions for the UH-1N are nuclear missile field security support and NCR COG/COOP. The nuclear security support mission includes emergency security response and nuclear convoy support operations. During an emergency security response mission, ICBM security helicopters are expected to provide timely transport of tactical response forces to defend, secure, and/or protect an intercontinental ballistic missile (ICBM) launch facility. Once at the site, security helicopters insert, provide surveillance, and provide communications support for tactical response forces, potentially in a hostile environment. For nuclear convoy support missions, these helicopters will provide armed overwatch for the ground convoy and the ability to insert a tactical response force if necessary to ensure the safety and security of the nuclear convoy.

The UH-1N also provides the Federal Government COG/COOP support. These missions include a 24/7 rapid response alert force, senior leader airlift within the NCR, local area search and rescue/medical evacuation, and Defense Support of Civil Authorities.

The UH-1N Replacement program builds on the requirements developed for the Common Vertical Lift Support Platform, which was cancelled in the FY13 PB due internal portfolio trades caused by the Budget Control Act funding reductions. However, we can no longer delay replacement of these helicopters. Upon enactment of the 2016 Defense Authorization and Appropriations Bills, the Air Force initiated the UH-1N Replacement program to replace the current fleet with a non-developmental, off-the-shelf helicopter that will close current operational capability gaps and provide improved payload capacity, airspeed, range, endurance, and survivability capabilities. The FY17 PB, which requests $14.1M in development and $18.3M in procurement funds, reflects the Air Force's commitment to this critical program. We are requesting sufficient funding to accelerate the procurement and fielding of new helicopters to support urgent needs to enhance the security posture in our ICBM fields. The projected funding requirements in FY16 and FY17 are both predicated on a full and open competition to replace the entire UH-1N fleet. The Air Force is currently examining potential acquisition approaches for the program, with nuclear security support mission as our top priority. Approval of the final program acquisition strategy is expected by April/May of 2016, after which we will have a more precise understanding of our future funding requirements.

As we work to replace the UH-1N, we are concurrently taking steps to ensure the existing UH-1N fleet can provide the best possible support to our using commands. We are installing night vision compatible cockpits to enable full spectrum operations and crashworthy seats to enhance the safety of our flight crews. Additionally, upgrades to UH-1N training systems are underway to decrease the wear and tear on our existing UH-1Ns while ensuring a high state of readiness, particularly for the NCR COG/COOP mission.

In conjunction with the UH-1N Replacement program, the Air Force has implemented a number of materiel and non-materiel risk mitigation efforts to further reduce the operational risks associated with nuclear missile field security and COG/COOP support. Though the nature and

effectiveness of these efforts cannot be openly discussed, they further reflect the Air Force's investment to secure our ICBM forces in the face of an ever-changing threat environment.

Special Operations (CV-22)

Air Force Special Operations Command (AFSOC) uses the CV-22 Osprey's long range, speed, and vertical take-off and landing (VTOL) abilities to provide special operations warfighters with specialized air mobility. The CV-22 has consistently demonstrated its worldwide deployability and combat effectiveness in support of OEF, OIF, and many other contingencies around the globe. The current CV-22 fleet consists of 46 aircraft, with an additional four aircraft in production and scheduled for delivery later this calendar year. Consistent with projected requirements in FY16, the FY17 PB requests $16.7M in development and $64.3M in procurement funds to continue efforts to improve the CV-22 fleet. CV-22 is fully funded and has been protected from adverse impacts caused by the Budget Control Act. The attrition reserve aircraft added by Congress in the FY16 Appropriations Bill will be put on contract in June 2016 and will likely deliver in the 1Q/FY20 timeframe, bringing the total fleet inventory to 51 aircraft.

Concurrent with aircraft production, the joint V-22 Program Office is developing improvements to the CV-22's operational capabilities and is focused on improving the aircraft's reliability and availability. Particular emphasis is placed on improving the CV-22's engine time-on-wing metric, where development efforts will address sand, dirt, and other foreign object ingestion problems that severely degrade engine performance and necessitate costly engine removals and repairs.

Improvements to the CV-22 are being made in block increments and each block includes a number of modification upgrades installed as they become available. Block B/10 retrofit modifications brought the oldest CV-22s to a common baseline configuration. The on-going Block C/20 modification program is retrofitting CV-22s with modifications that improve operational safety, suitability, and effectiveness, correct deficiencies identified in testing and operations, enhance self-deployment capabilities, and improve overall aircraft reliability and

availability. Future modifications and improvements to the CV-22 will further improve operational effectiveness and suitability, while mitigating the growth in aircraft operations and support costs. The CV-22 will be the focal point in AFSOC's long range VTOL capability for many years to come.

Air Force Science & Technology (S&T)

To address near-term rotorcraft propulsion needs, the Army started the Improved Turbine Engine Program (ITEP) to provide increased engine performance, operability, and affordability in current rotorcraft such as the H-60 Black Hawk. Army S&T supports ITEP through Advanced Affordable Turbine Engine (AATE), which is a program under the VAATE consortium to validate new engine technologies to achieve ITEP goals. The Air Force participates in VAATE and supports AATE by providing technical subject matter expertise and test facilities as needed.

The Air Force S&T community has assisted the Army in the past in overcoming operational rotorcraft challenges. Eighty percent of helicopter mishaps are due to non-hostile action from Degraded Visual Environments (DVE), Controlled Flight Into Terrain (CFIT), wire/object strike, dynamic rollover, or hard landing. The Three-Dimensional Landing Zone Joint Capabilities Technology Demonstration (JCTD) program successfully demonstrated an integrated capability to mitigate these hazards, culminating in a successful flight test using an U.S. Army EH-60L Black Hawk helicopter in operationally realistic conditions at Yuma Proving Ground Arizona.

This JCTD integrated both Air Force Research Laboratory (AFRL) and U.S. Army Aeroflightdynamics Directorate's (AFDD) technologies into a high-resolution three-dimensional imagine Laser Detection And Ranging (LADAR) system. First, the AFRL-developed LADAR provides imagery of a landing zone while highlighting hazards to provide a persistent image for decision-making on approach and landing during brownout. The imagery is coupled with the AFDD Integrated Cueing Environment providing symbology and landing guidance enabling pilots to perform visual quality landings. Second, the LADAR detects and highlight obstacles such as wires and poles enroute. Third, the real-time LADAR data are fused with a static

geographic database to enable a Helicopter Terrain Awareness and Warning System to prevent CFIT.

Since the conclusion of the JCTD in 2014, the Air Force has continued to refine the LADAR technologies necessary to enable more flexibility for helicopter installation, to include integration in a modified AN/AAQ-29 FLIR turret for the Air Force HH-60G Pave Hawk Combat Search and Rescue helicopter. The AN/AAQ-29 compatible LADAR will be flown at Yuma Proving Ground in April 2016.

The Air Force S&T program developed the Multi-Function LADAR which was used as the test unit during the JCTD flight tests, provided simulation and aircrew training along with landing guidance development, and sponsored the development of a distributed architecture LADAR which was critical to reducing the weight and volume of the LADAR components to be placed on the nose of the helicopter.

Closing

Although the Budget Control Act forced us to reassess the timing of the CRH and UH-1N modernization efforts, the FY17 PB reflects the Air Force's commitment to sustaining, modernizing, and recapitalizing our rotorcraft fleets. We will continue to modernize our HH-60G and CV-22 fleets and continue to press forward to purchase CRH and the UH-1N Replacement. These platforms are required to accomplish the critical combat search and rescue, nuclear security, continuity of government, helicopter training, and special operations missions. We look forward to working closely with the committee to ensure the ability to deliver rotorcraft air power for America when and where we are needed.

LIEUTENANT GENERAL ARNOLD W. BUNCH JR.

Lt. Gen. Arnold W. Bunch, Jr., is the Military Deputy, Office of the Assistant Secretary of the Air Force for Acquisition, the Pentagon, Washington, D.C. He is responsible for research and development, test, production, and modernization of Air Force programs worth more than $32 billion annually.

General Bunch was commissioned in 1984 as a graduate of the U.S. Air Force Academy. He completed undergraduate pilot training in 1985. He completed operational assignments as an instructor, evaluator and aircraft commander for B-52 Stratofortresses. Following graduation from the Air Force Test Pilot School, General Bunch conducted developmental testing in the B-2 Spirit and B-52 and served as an instructor in each. Additionally, he has commanded at the squadron, group and wing levels. Prior to his current assignment, he was the Commander of the Air Force Test Center, headquartered at Edwards Air Force Base, California.

EDUCATION
1984 Bachelor of Science degree in civil engineering, U.S. Air Force Academy, Colorado Springs, Colo.
1991 Squadron Officer School, Maxwell AFB, Ala.
1994 Master of Science degree in mechanical engineering, California State University Fresno
1996 Army Command and General Staff College, Fort Leavenworth, Kan.
2000 Master of Science degree in national security strategy, National War College, Fort Lesley J. McNair, Washington, D.C.

ASSIGNMENTS
1. July 1984 - July 1985, Student, undergraduate pilot training, Columbus Air Force Base, Miss.
2. August 1985 - December 1985, Student, B-52 Combat Crew Training School, Castle AFB, Calif.
3. January 1986 - June 1990, Standardization and Evaluation Instructor Aircraft Commander, 325th Bomb Squadron, Fairchild AFB, Wash.
4. July 1990 - June 1991, Student, USAF Test Pilot School, Edwards AFB, Calif.
5. July 1991 - June 1992, Test Pilot, 6512th Test Squadron, Edwards AFB, Calif.
6. July 1992 - June 1995, Test Pilot, 420th Test Squadron, Edwards AFB, Calif.
7. June 1995 - June 1996, Student, Army Command and General Staff College, Fort Leavenworth, Kan.
8. July 1996 - July 1999, Chief, B-1 Test and Evaluation, B-1 System Program Office, Wright-Patterson AFB, Ohio
9. August 1999 - June 2000, Student, National War College, Fort Lesley J. McNair, Washington, D.C.
10. June 2000 - July 2002, Commander, 419th Flight Test Squadron, Edwards AFB, Calif.
11. August 2002 - April 2003, Chief, Senior Officer Management, Air Force Materiel Command, Wright-Patterson AFB, Ohio
12. April 2003 - June 2004, Deputy Chief, Combat Forces Division, the Pentagon, Washington, D.C.
13. June 2004 - January 2006, Director, Munitions Directorate, Air Force Research Laboratory, Eglin AFB, Fla.
14. January 2006 - May 2008, Commander, 412th Test Wing, Edwards AFB, Calif.
15. June 2008 - March 2010, Vice Commander, Air Armament Center, Eglin AFB, Fla.
16. March 2010 - June 2011, Director and Program Executive Officer for the Fighters and Bombers Directorate, Aeronautical Systems Center, Wright-Patterson AFB, Ohio
17. June 2011 - June 2012, Commander, Air Force Security Assistance Center, AFMC, Wright-Patterson AFB, Ohio
18. June 2012 - June 2015, Commander, Air Force Test Center, Edwards AFB, Calif.
19. June 2015 - present, Military Deputy, Office of the Assistant Secretary of the Air Force (Acquisition)

FLIGHT INFORMATION
Rating: command pilot
Flight hours: more than 2,500 hours
Aircraft flown: B-52, B-2, KC-135, F-16, T-38 and others

MAJOR AWARDS AND DECORATIONS
Legion of Merit with two oak leaf clusters
Meritorious Service Medal with five oak leaf clusters
Aerial Achievement Medal with oak leaf cluster
Air Force Commendation Medal
Air Force Achievement Medal
Combat Readiness Medal
National Defense Service Medal with oak leaf cluster
Global War on Terrorism Service Medal

EFFECTIVE DATES OF PROMOTION
Second Lieutenant May 30, 1984
First Lieutenant May 30, 1986
Captain May 30, 1988
Major Dec. 1, 1995
Lieutenant Colonel Sept. 1, 1998
Colonel June 1, 2004
Brigadier General May 7, 2010
Major General Aug. 23, 2013
Lieutenant General June 24, 2015

(Current as of June 2015)

LIEUTENANT GENERAL JAMES M. "MIKE" HOLMES

Lt. Gen. James M. "Mike" Holmes is Deputy Chief of Staff for Strategic Plans and Requirements, Headquarters U.S. Air Force, Washington, D.C. In support of the Chief of Staff and Secretary of the Air Force, General Holmes leads the development and integration of the Air Force strategy, long-range plans and operational capabilities-based requirements. He directs and coordinates activities ensuring the Air Force builds and employs effective air, space and cyber forces to achieve national defense objectives.

General Holmes entered the Air Force through Officer Training School in 1981 after receiving a degree in electrical engineering from the University of Tennessee. He has commanded the 27th Fighter Squadron, the 14th Operations Group, the 4th Fighter Wing and the 455th Air Expeditionary Wing. He has served in the Office of the Secretary of Defense and on headquarters staffs of the United States Air Force, U.S. European Command and Pacific Air Forces. Prior to his current position, he was the Vice Commander, Air Education and Training Command, Joint Base San Antonio-Randolph, Texas responsible for the recruiting, training and education of Air Force people, including the Air Force Recruiting Service, a numbered air force and Air University. He is a command pilot with more than 4,000 hours, including more than 500 combat hours in the F-15A/B/C/D/E, and has also flown the T-38, T-37 and T-1A.

EDUCATION
1981 Bachelor of Science degree in Electrical Engineering, University of Tennessee, Knoxville
1986 F-15 Fighter Weapons Instructor Course, U.S. Air Force Fighter Weapons School, Nellis AFB, Nev.
1987 Squadron Officer School, Maxwell Air Force Base, Ala.
1993 Air Command and Staff College, Maxwell AFB, Ala.
1993 Master of Arts degree in History, University of Alabama, Tuscaloosa
1994 Master of Airpower Arts and Sciences degree, School of Advanced Airpower Studies, Air University, Maxwell AFB, Ala.
1995 Armed Forces Staff College, Norfolk, Va.
2000 Air War College, by correspondence
2001 Master's degree in national defense studies, Naval War College, Newport, R.I.
2006 National Defense Studies Fellow, Maxwell School of Citizenship and Public Affairs, Syracuse University, N.Y.
2007 Joint Force Air Component Commander Course, Air University, Maxwell AFB, Ala.
2010 AFSO21 Executive Leadership Course, University of Tennessee, Knoxville.
2011 Coalition Force Maritime Component Commander Course, Naval War College, Bahrain
2013 Joint Flag Officer Warfighting Course, Air University, Maxwell AFB, Ala.

ASSIGNMENTS
1. September 1981 - August 1982, Student, undergraduate pilot training, Columbus AFB, Miss.
2. September 1982 - November 1982, Student, fighter lead-in training, Holloman AFB, N.M.
3. November 1982 - April 1983, Student, F-15 conversion training, Luke AFB, Ariz.
4. May 1983 - December 1985, F-15 Instructor Pilot and Assistant Squadron and Wing Weapons Officer, 71st Tactical Fighter Squadron, Langley AFB, Va.
5. January 1986 - May 1986, Student, USAF F-15 Fighter Weapons Instructor Course, Nellis AFB, Nev.
6. May 1986 - May 1989, F-15 Chief of Weapons and Tactics, 44th Tactical Fighter Squadron, Kadena Air Base, Japan
7. May 1989 - June 1992, F-15 Chief of Weapons and Tactics, Assistant Chief of Wing Weapons and Tactics, Flight Commander and Assistant Operations Officer, 7th Tactical Fighter Squadron and 9th Fighter Squadron, Holloman AFB, N.M.
8. July 1992 - June 1993, Student, Air Command and Staff College, Air University, Maxwell AFB, Ala.
9. July 1993 - June 1994, Student, School for Advanced Airpower Studies, Air University, Maxwell AFB, Ala.
10. July 1994 - October 1996, Air Operations Officer and Crisis Action Planner, Operations Directorate, Headquarters U.S. European Command, Stuttgart-Vaihingen, Germany

11. October 1996 - December 1997, Assistant Operations Officer, 27th Fighter Squadron, Langley AFB, Va.
12. January 1998 - May 1999, Operations Officer, 71st Fighter Squadron, Langley AFB, Va.
13. May 1999 - July 2000, Commander, 27th Fighter Squadron, Langley AFB, Va.
14. July 2000 - July 2001, Student, Naval War College, Newport, R.I.
15. July 2001 - August 2002, Chief, Strategy, Concepts and Doctrine Division, Directorate of Operational Plans and Joint Matters, Headquarters U.S. Air Force, Washington, D.C.
16. August 2002 - July 2004, Commander, 14th Operations Group, Columbus AFB, Miss.
17. August 2004 - September 2006, Commander, 4th Fighter Wing, Seymour Johnson AFB, N.C.
18. September 2006 - June 2007, Chief, Checkmate, Directorate of Operational Plans and Joint Matters, Headquarters U.S. Air Force, Washington, D.C.
19. July 2007 - December 2007, Director of Strategic Plans, Programs and International Affairs, Headquarters Pacific Air Forces, Hickam AFB, Hawaii
20. December 2007 - March 2008, Special Assistant to the Director of Operational Planning, Policy and Strategy, Deputy Chief of Staff for Operations, Plans and Requirements, Headquarters U.S. Air Force, Washington, D.C.
21. March 2008 - April 2009, Commander, 455th Air Expeditionary Wing, Bagram Air Base, Afghanistan
22. April 2009 - July 2009, Special Assistant to the Assistant Vice Chief of Staff, and Director, Air Staff, Headquarters U.S. Air Force, Washington, D.C.
23. July 2009 - August 2011, Principal Director for Middle East Policy, Office of the Under Secretary of Defense for Policy, Office of the Secretary of Defense, the Pentagon, Washington, D.C.
24. August 2011 - January 2012, Director, Strategic Planning, Deputy Chief of Staff for Strategic Plans and Programs, Headquarters U.S. Air Force, Washington D.C.
25. January 2012 – July 2013, Assistant Deputy Chief of Staff for Operations, Plans and Requirements, Headquarters U.S. Air Force, Washington, D.C.
26. August 2013 – July 2014 Vice Commander, Air Education and Training Command, Joint Base San Antonio-Randolph, Tex.
27. August 2014 – present, Deputy Chief of Staff for Strategic Plans and Requirements, Headquarters U.S. Air Force, Washington, D.C.

SUMMARY OF JOINT ASSIGNMENTS
1. July 1994 - October 1996, Air Operations Officer and Crisis Action Planner, Operations Directorate, Headquarters U.S. European Command, Stuttgart-Vaihingen, Germany, as a major
2. March 2008 - April 2009, Commander, 455th Air Expeditionary Wing and Senior Airfield Authority, Bagram AB, Afghanistan, as a brigadier general
3. July 2009 - Aug 2011, Principal Director for Middle East Policy, Office of the Under Secretary of Defense for Policy, Office of the Secretary of Defense, the Pentagon, Washington, D.C., as a brigadier and major general

FLIGHT INFORMATION
Rating: command pilot
Flight hours: more than 4,000
Aircraft flown: F-15A/B/C/D/E, T/AT-38, T-37 and T-1A

MAJOR AWARDS AND DECORATIONS
Distinguished Service Medal
Defense Superior Service Medal
Legion of Merit with oak leaf cluster
Bronze Star Medal
Defense Meritorious Service Medal
Meritorious Service Medal with two oak leaf clusters
Air Medal with three oak leaf clusters
Aerial Achievement Medal with three oak leaf clusters
Air Force Commendation Medal with oak leaf cluster
Army Commendation Medal

EFFECTIVE DATES OF PROMOTION
Second Lieutenant Aug. 28, 1981
First Lieutenant Aug. 28, 1983
Captain Aug. 28, 1985
Major May 1, 1993
Lieutenant Colonel Jan. 1, 1998
Colonel July 1, 2002
Brigadier General May 2, 2008
Major General Jan. 28, 2011
Lieutenant General Aug. 2, 2013

(Current as of October 2014)

QUESTIONS SUBMITTED BY MEMBERS POST HEARING

MARCH 16, 2016

QUESTIONS SUBMITTED BY MR. TURNER

Mr. TURNER. I understand the Army is divesting legacy TH–67 training helicopters and the OH–58 Kiowa Warrior reconnaissance scout helicopters. What impact is this divestment having on the industrial base, and would you please provide more details on how you are considering Foreign Military Sales to help mitigate impacts?

General WILLIAMSON. The Army tasked the Aviation and Missile Research, Development, and Engineering Center (AMRDEC) Industrial Base Group to assess the potential impact of the divestment of TH–67 and OH–58 with the task of analyzing the impact on the lightweight single engine (LSE) rotary wing industry sector. The AMRDEC analysis found no adverse impact to the LSE industrial base resulting from the Army's planned divestiture of OH–58 variants and TH–67 aircraft. The Army's ongoing strategy has been to support the execution of Aviation Restructure Initiative while minimizing cost to the United States taxpayer, supporting industry partners, and Building Partnership Capacity through Foreign Military Sales (FMS). The Army is only making OH–58D Kiowa Warriors available to partner nations through FMS. The first OH–58D FMS case was signed with Croatia for 16 aircraft in February, 2016. Additional FMS cases with Greece, Tunisia and Austria are in various stages of negotiations. Project Manager Armed Scout Helicopter will deliver 30 TH–67 aircraft in Fiscal Year 2016 (FY16) to the Regional Helicopter Training Center (RHTC) in Colombia to support the US Southern Command (SOUTHCOM) and Department of Justice (DOJ) counter-narcotics mission. An additional 30 TH–67 aircraft are scheduled for delivery in FY17, bringing the total quantity to 60 TH–67s. The Army will continue to explore FMS opportunities for both OH–58D and TH–67 aircraft to mitigate impacts on the lightweight single engine industrial base.

Mr. TURNER. The National Commission on the Future of the Army recommended that the Army retain four Apache battalions in the National Guard. What's the Army's position on the Commission's recommendation?

General WILLIAMSON. The Army's position on the National Commission's recommendation to retain four battalions of Apaches with 18 aircraft in each battalion will be provided to Congress as part of the Army's initial assessment of the National Commission's recommendations. The National Commission also recommended retention of an 11th Combat Aviation Brigade (CAB) in the Regular Army, as well as the forward stationing of a CAB in Korea. The Army's initial assessment will address these aviation-related recommendations from a holistic perspective.

Mr. TURNER. In light of the three recent aircraft accidents in Army Aviation, what do you believe is leading to these incidents and is there a technology solution to help prevent them from occurring in the future? If so, what we can do to help accelerate the development and integration of this technology on existing platforms?

General WILLIAMSON. Human error remains the primary cause of Army Aviation mishaps. Between March 2014 and March 2016, materiel failure was the primary cause in 3 (11 percent) of 27 Class A Army Aviation flight accidents and 22 (81.5 percent) were the result of human error. Additionally, one was the result of a weather phenomenon and another remains under investigation at this time. Historically, 80 percent of aviation accidents are caused by human error. The CSA directed a Holistic Review of Army Aviation. Among other topics, this team is examining aviation training strategy, funding, execution and assessment. Programmed technology solutions will help mitigate risk of future aviation accidents. Degraded Visual Environment (DVE) conditions account for roughly 25 percent of rotary wing mishaps. The Army is addressing this challenge by investing in technological solutions—such as the Brownout Rotorcraft Enhancement System (BORES) and modernization of flight controls and symbology—that will enable Army Aviation to operate in all environmental conditions. The Army is addressing insufficient aircraft power at high altitudes, high temperatures, and high payloads through the Improved Turbine Engine Program (ITEP), which will provide greater lift and capability to existing aircraft. The President's FY17 budget request includes $80.5 million for DVE programs and $126 million for ITEP. Both DVE and ITEP are projected to be integrated into planned Future Vertical Lift capability sets.

Mr. TURNER. What are your current acquisition strategies for aircraft survivability equipment? How can we help accelerate them?

General WILLIAMSON. The rapid proliferation of advanced threat technologies increases the risk to the fleet. The Army requires an Aircraft Survivability Equipment (ASE) suite to defeat these emerging threats.

The Army's acquisition strategy includes a number of modernization and development ASE programs to address infrared, radar, laser, and hostile ground fire threats. The most critical priority is the development of a comprehensive ASE package to detect, declare, and defeat a wide range of emerging infrared man-portable air-defense system (MANPADS) threats. The Army's MANPADS threat strategy is divided into three temporal phases: (1) near-term (or now), (2) mid-term (Fiscal Year 2016–2023), and (3) long-term (Fiscal Year 2023 and beyond).

a. In the near-term, the Army is updating the fielded Common Missile Warning System (CMWS) and Advanced Threat Infrared Countermeasure (ATIRCM) software algorithms to address these associated emerging threats. The Army is also working with other services to identify improved flare countermeasures. These enhancements will be integrated on all ASE-equipped Army aircraft.

b. In the mid-term, the Army is developing the Common Infrared Countermeasures (CIRCM) program, for initial fielding in FY19. However, the Army is initially leveraging the Navy's Large Aircraft Infrared Countermeasure (DoN LAIRCM) for installation on a limited quantity of Apache, Blackhawk and Chinook helicopters deploying by FY17. For the subsequent deployment, the Army will modify the DoN LAIRCM detect sensor, and combined with a CIRCM Quick Reaction Capability (QRC), will provide a reduced size, weight, and power system. To accelerate the CIRCM QRC, the Army has submitted a request to reprogram $41.3 million to procure CIRCM QRC for the initial deployment aircraft addressed above. These funds are required by June 2016.

c. The long-term strategy is a fleet-wide solution that accelerates development and fielding of an advanced missile warning system and continues the fielding of CIRCM. These two programs will replace CMWS and ATIRCM.

Separate from the strategy to address the MANPADS threat, the Army is developing a Modernized Radar Warning Receiver (MRWR) to address radar-based threats.

Mr. TURNER. What are the operational impacts of slowing aviation modernization programs on the readiness of the force and the aviation modernization strategy?

General WILLIAMSON. The operational impacts of slowing modernization programs are delayed divestment of less effective equipment and delayed fielding of advanced aircraft and capabilities to the operational force. The rate at which we field new capabilities has short and long term effects on the operational force and the aviation modernization strategy. As fielding timelines increase, the effectiveness of the new capability decreases. Specifically, divestment of the UH–60A from the ARNG would be delayed by 2 years from Fiscal Year 2023 (FY23) to FY25. UH–60M modernization in the Army would be delayed by 2 years from FY28 to FY30. Also, four key modifications to the CH–47F would be delayed by 5 years: cargo platform health environment; adjustable pitch change link; engine improvement; and simulation obsolescence.

Mr. TURNER. Please comment on the effectiveness of small guided rockets used by rotorcraft in combat and the role this technology will play in future combat operations.

General WILLIAMSON. Small guided rockets, such as the Advanced Precision Kill Weapon System (APKWS II) in use by the U.S. Army, are effective against light skinned vehicles and troops in the open. Recently, the APKWS has proven extremely effective in engagements in current theaters of operation. These weapons provide the Army's Apache aircraft with a precision strike capability larger than the 30mm cannon, yet smaller and less expensive than the Hellfire missile. It also increases stowed kills—the number of precision weapons the Apache can carry without increasing platform payload weight. In the future, the Army will continue to develop technologies for small guided munitions that will provide greater lethality with increased efficiency by allowing Army aviators to employ the most appropriate munitions against a range of threats.

Mr. TURNER. Please comment on the Army's plan to implement warhead technology on small guided munitions used by rotorcraft that are capable of neutralizing a wider spectrum of targets such as light and up-armored vehicles, bunkers, and structures.

General WILLIAMSON. The Army will field scalable and tailorable Aviation munitions and their associated equipment to improve precision and lethality. Currently, the Army is employing the Advanced Precision Kill Weapon System (APKWS), in support of a current operational need. To further enhance this capability, the Army

is exploring the feasibility of expanding guided rocket capability through warhead modernization and ensuring capabilities are integrated on current manned and unmanned platforms.

Additionally, research into precursor warheads for larger anti-tank munitions suggests their suitability for penetrating warheads for small guided munitions. A feasibility study of a small diameter penetrator coupled with a follow-through grenade also indicated suitability against personnel in urban structures, bunkers, and medium armor.

Mr. TURNER. What can the Congress do to accelerate the procurement of ICBM support helicopters in fiscal year 2017?

General BUNCH. The Air Force is refining the acquisition strategy for the UH–1N Replacement program. Until the program content, timing, and costs are finalized, we request that Congress support the fiscal year 2017 President's Budget request as submitted.

Mr. TURNER. We've recently read that the commander of Air Force Special Operations Command has indicated that three more CV–22s are required for attrition reserve aircraft. Does the Air Force plan to address this requirement in the Future Years Defense Program?

General BUNCH. Any future Air Force decision to procure additional CV–22 aircraft would be driven by a validated user requirement and subsequently added to future budgets. However, the Air Force CV–22 fleet size requirement and program of record remains set at 50 aircraft, with no additional requirements to increase that number at this time.

Mr. TURNER. What can the Congress do to accelerate the procurement of ICBM support helicopters in fiscal year 2017?

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QUESTIONS SUBMITTED BY MR. GIBSON

Mr. GIBSON. I am aware that there are American companies currently researching commercial technologies that combine three-dimensional (3–D) visualization using camera, thermal and satellite imagery, recording and networking capabilities into a single cockpit platform to facilitate mission planning and execution. My understanding is that this technology already exists within the SOF aviation community. Is the plan to also purchase this technology to incorporate into the conventional Army aviation community and where does the R&D priority for this technology fall within the overall Army R&D efforts?

General LUNDY. There is no plan for the Army to incorporate 3D visualization into the cockpit of the current Army helicopter fleet.

The Army is pursuing development and demonstration of technologies for displays and cueing to enhance pilot situational awareness, both in normal operations and Degraded Visual Environments. The Army is aware of commercial research in the area of 3–D visualization and will continue to monitor the progress of this technology for possible insertion into the efforts mentioned above.

QUESTIONS SUBMITTED BY MR. BRADY

Mr. BRADY. DARPA has embarked on the development and flight demonstration of the Aerial Reconfigurable Embedded System (ARES) VTOL UAS. The objective of this demonstration is the flight validation of a modular and affordable VTOL UAS with a small footprint that can provide multi-mission support to small units conducting distributed and expeditionary operations. We understand the Army Aviation is exploring the benefits of evolving its current fixed wing ISR UAS capabilities toward a more forward deployed embedded VTOL capability. And that US Army's CASCOM has also identified autonomous aerial resupply as a top priority in the future force. Is a multi-mission VTOL UAS with multi-role capability across broad range of military operations and environments of interest to the Army? Is the DARPA ARES flight demonstration relevant to informing development of these re-

quirements, and does the Army have plans to fund further development and demonstration of such capabilities in the future.

General LUNDY. Yes, a multi-mission Vertical Take Off and Landing (VTOL) Unmanned Aerial System (UAS) is of interest to the Army. The Army is currently coordinating a "Family of UAS" requirements document which addresses a VTOL UAS with multi-role capability. The desired capabilities would effectively correct the current overreliance on runways, shortfalls in survivability, and operations in Global Positioning System-denied environments. The document will also require the materiel solution to work with modular payloads to address current gaps in unmanned Intelligence, Surveillance and Reconnaissance and logistics resupply

The DARPA ARES flight demonstration is also relevant to informing development of VTOL UAS requirements. The Army does have plans to fund development and demonstration of like capabilities in the future. The Army's Aviation Center of Excellence, in particular, is interested in multi-mission VTOL UAS. We believe this innovative technology has potential applications providing the Army, the Marine Corps, and other Services an unmanned vertical lift capability. Technology such as ARES also has the potential for a runway-independent UAS and to serve a broad range of mission requirements for tactical Army formations.