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HEARING

ON

NATIONAL DEFENSE AUTHORIZATION ACT FOR FISCAL YEAR 2018

AND

OVERSIGHT OF PREVIOUSLY AUTHORIZED PROGRAMS

BEFORE THE

COMMITTEE ON ARMED SERVICES
HOUSE OF REPRESENTATIVES
ONE HUNDRED FIFTEENTH CONGRESS

FIRST SESSION

SUBCOMMITTEE ON SEAPOWER AND PROJECTION FORCES HEARING

ON

DEPARTMENT OF THE AIR FORCE FISCAL YEAR 2018 BUDGET REQUEST FOR SEAPOWER AND PROJECTION FORCES

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DEPARTMENT OF THE AIR FORCE FISCAL YEAR 2018 BUDGET REQUEST FOR SEAPOWER AND PROJECTION FORCES

HOUSE OF REPRESENTATIVES,
COMMITTEE ON ARMED SERVICES,
SUBCOMMITTEE ON SEAPOWER AND PROJECTION FORCES,
Washington, DC, Thursday, May 25, 2017.

The subcommittee met, pursuant to call, at 8:02 a.m., in room 2212, Rayburn House Office Building, Hon. Robert J. Wittman (chairman of the subcommittee) presiding.

OPENING STATEMENT OF HON. ROBERT J. WITTMAN, A REPRESENTATIVE FROM VIRGINIA, CHAIRMAN, SUBCOMMITTEE ON SEAPOWER AND PROJECTION FORCES

Mr. WITTMAN. We will call to order the Subcommittee on Seapower and Projection Forces.

And I want to thank all of the witnesses for joining us today.

And thank you, for the members joining us for an early morning start.

So today the subcommittee convenes to receive testimony on the fiscal year 2018 Air Force budget request regarding bomber, tanker, and airlift acquisition programs. The distinguished panel of Air Force leaders testifying before us today are: Lieutenant General Arnold W. Bunch, Jr., U.S. Air Force Military Deputy, Office of the Assistant Secretary of the Air Force for Acquisition; Lieutenant General Jerry D. Harris, United States Air Force Deputy Chief of Staff for Strategic Plans and Requirements; and Major General Scott A. Vander Hamm, United States Air Force Assistant Deputy Chief of Staff for Operations.

Gentlemen, thank you for being with us today.

The fiscal year 2018 budget request for projection forces continues to modernize and recapitalize critical Air Force weapon systems. I am pleased to see significantly increased investment in the B–21 long-range strike bomber and steady investment in procuring KC–46A tankers. The budget also continues to take solid steps to modernize the legacy Guard and Reserve C–130H tactical airlift fleet and recapitalize the high-visibility Presidential aircraft.

That said, I continue to be concerned about the ability of our military to properly provide for our Nation's defense given the damage that sequestration may have had on our fiscal year 2018 budget deliberations. Throughout the year in this past year in testimony to Congress, the Air Force senior leadership indicated the Air Force is one of the busiest, smallest, oldest, and least ready fleets in our history. It is my firm conviction, in light of the higher-end threats posed by China, Russia, Iran, and North Korea, that we provide

the Air Force the resources it needs to fully support and, if possible, accelerate critical recapitalization programs.

With regard to bombers, I fully support the critical B–21 bomber program and am pleased to see that we are moving forward on this new platform, which is needed for projecting power over long distances and into denied environments. I look forward to assessing in better detail the classified portion of the B–21 program to ensure progress on design and to assess proposed risk mitigation strategies.

With regard to tankers, I am concerned that the KC–46A program continues to suffer delays. Even after overcoming initial setbacks, it is now facing a highly compressed test and certification schedule that has almost zero room for error. I look forward to hearing your thoughts on this program and whether or not the first 18 aircraft will be delivered in time to meet the adjusted October 2018 contract deadline.

With regard to recapitalizing the Presidential aircraft, I want to ensure that the President has the capability to carry out the requirements of the office and that the American people, whose taxes fund these aircraft, do not have to pay one dime more than necessary.

Lastly, I am concerned that this budget fails to provide the necessary resources to procure needed avionics upgrades. These upgrades will ensure that the entire fleet of tankers, airlifters, and bombers are able to operate safely in compliance with the FAA [Federal Aviation Administration]-mandated next-gen [generation] air traffic management standards by January 1, 2020. The civilian aviation sector is rapidly moving towards compliance, and I am concerned that our military aircraft could be shut out of airspace they need for transit and training.

While I am pleased that the Air Force's fiscal year 2018 budget request makes up some lost ground over last year, I am concerned that the proposed budget directs the Air Force to make false choices between capability, capacity, and safety, when the undeniable reality is that our military needs all of the above. I firmly believe that what this subcommittee and the rest of Congress does about national defense and military readiness will be a defining issue.

We need a strong Air Force equipped with the most capable aircraft that enable our men and women to carry out their missions effectively and safely. To do this we need leadership in national security. We need an unambiguous declaration that our national security is our preeminent responsibility.

Once again, I want to thank our witnesses for participating in our hearing this afternoon, and I look forward to discussing these important topics.

Obviously my clock is different than yours. The hearing is this morning.

With that, I turn to my good friend and colleague, the ranking member of the subcommittee, Joe Courtney.

[The prepared statement of Mr. Wittman can be found in the Appendix on page 27.]

STATEMENT OF HON. JOE COURTNEY, A REPRESENTATIVE FROM CONNECTICUT, RANKING MEMBER, SUBCOMMITTEE ON SEAPOWER AND PROJECTION FORCES

Mr. COURTNEY. Thank you, Mr. Chairman, and thank you for holding this hearing on the 2018 Air Force budget request for the projection forces programs within our jurisdiction.

And thank you, to all the witnesses, again for being here today.

The tankers, bombers, and airlift programs that fall under the projection forces side of our panel's oversight serve as the backbone of our Nation's ability to bring and sustain the power that preserves our Nation's interests around the world. As we know all too well, however, these important aircraft all share the common enemy of age.

The tankers and bombers in service today are largely legacy aircraft. These aircraft in most cases are much older than the airmen and women who fly and service them.

That is why it will be critical that we ensure that the 2018 budget properly invests in the refueling, mobility, maritime patrol, and long-range strike programs under our purview. Among other things, the budget continues to reflect the high strategic priority placed on two critical recapitalization programs: the KC–46A Pegasus tanker and the B–21 long-range strike bomber. Both of these programs are vital to ensuring that our Nation can continue to support operations around the world and respond when needed.

Another continued area of concern for me and this subcommittee is the modernization of our C–130H fleet. Back home in Connecticut the Flying Yankees of the 103rd Airlift Wing have largely completed their transition to the new C–130H flying mission. Half of their aircraft recently deployed overseas on their first combat mission, which was a capstone to years of effort to stand the unit up stemming from the 2005 BRAC [base realignment and closure].

As we all well know, the C–130H fleet is an aging one in need of modernization. This panel led the efforts in the 2015 NDAA [National Defense Authorization Act] to unlock the avionics modernization program needed to upgrade these aircraft with the assistance, again, of some of the witnesses here this morning, to meet international airspace restrictions by 2020.

A second phase of the program is focused on additional cockpit and technology upgrades. We have heard testimony about the progress made on both of these increments of the avionics modernization program and would appreciate any updates on how the 2018 budget supports these efforts.

Along these lines, Congress has invested substantial resources into other C–130H modernization initiatives, such as upgraded engines and propellers. It is my understanding that funding provided in 2016 and 2017 is currently on hold pending the results of operational testing being conducted right now. Given the strong interest that we have in ensuring that the C–130H remains relevant into the future, I would appreciate an update on this testing and the way ahead.

Finally, over the last year Congress has made meaningful and bipartisan progress in limiting the impact of sequestration and Budget Control Act. While mitigating the across-the-board cuts in 2016 and 2017 with the 2-year budget deal was important, the fact re-

mains that our Air Force, like the military at large, remains handcuffed by sequestration in 2018 and beyond because that 2-year deal obviously has expired.

World events will continue to further demonstrate just how important it is for all of us on this committee and colleagues on both sides of our aisle to come together to make the compromises needed to protect our security and support the needs of our Nation.

I look forward to hearing from our witnesses and our colleagues on the subcommittee, Mr. Chairman, and I yield back.

Mr. WITTMAN. Thank you, Mr. Courtney.

Major General Vander Hamm, Lieutenant General Bunch, Lieutenant General Harris, I understand that you all are going to be providing a single combined statement so I will turn it over to you for presentation of that statement.

STATEMENT OF LT GEN ARNOLD W. BUNCH, JR., USAF, MILITARY DEPUTY, OFFICE OF THE ASSISTANT SECRETARY OF THE AIR FORCE FOR ACQUISITION, U.S. AIR FORCE; LT GEN JERRY D. HARRIS, USAF, DEPUTY CHIEF OF STAFF FOR STRATEGIC PLANS AND REQUIREMENTS, U.S. AIR FORCE; AND MAJ GEN SCOTT A. VANDER HAMM, USAF, ASSISTANT DEPUTY CHIEF OF STAFF FOR OPERATIONS, U.S. AIR FORCE

General BUNCH. Thank you, Chairman Wittman, Ranking Member Courtney, and other distinguished members of this subcommittee, for the opportunity to appear before you today. We appreciate your service and the support this subcommittee provides the United States Air Force, our airmen, and their families.

You have already introduced who we are at here. My colleagues and I previous to this jointly prepared and submitted a written statement, and I ask that that be entered into the record, sir.

Mr. WITTMAN. So moved.

General BUNCH. We will not go through that statement. However, I will provide the brief opening remarks on behalf of the group.

For the past 70 years, from the evolution of the jet aircraft to the advent of the ICBM [intercontinental ballistic missile], satellite-guided bombs, remotely piloted aircraft, and many other accomplishments, your Air Force has been breaking barriers as a member of the finest joint warfighting team on the planet.

For the last 27 of those 70 years we have been in continuous combat. During this period we employed airpower in ways never envisioned and delivered unparalleled support to combatant commanders, sister services, allies, and coalition partners.

While providing this unmatched operational capability, budget realities have taken a toll on our ability to provide for the future joint force. These many years of combat have taught us much—most importantly that the demand for airpower has grown in every mission, in every domain, and in every location.

The world has watched your Air Force operate and the world has adapted. Our adversaries have adapted their capabilities to strike at areas we depend on to execute our missions, adapted their defenses to reduce our ability to employ our forces, and adopted many of our tactics and techniques, all of which reduce our ability to employ forces.

Today we face a world of ever-improving adversaries, increasing threats, and a persistent war against violent extremism. This changing environment of increasing demands and commitments, along with a limited pool of resources to address issues and the threat of Budget Control Act and sequestration, makes our mission of providing unmatched Global Vigilance, Global Reach, and Global Power ever more challenging.

The result of these changes is a marked decrease in our technological advantage on the battlefield. Where I once as a research laboratory commander would have said that we had a decided advantage across all fronts, today, if asked, I will refrain that we lead in some technological areas—we retain our lead in some technological areas; however, in other areas potential adversaries are nipping at our heels or are shoulder to shoulder with us.

To address the shrinking technology gap we must continue to invest in S&T [science and technology] and modernize our forces to ensure our most valued treasure, America's sons and daughters, have a decisive advantage when we send them into harm's way. We do not want to fight a fair fight.

The fiscal year 2018 budget we submitted is the best balance of our readiness and modernization we could achieve within the fiscal constraints we face. We take this balanced approach seriously as we must be ready for today while simultaneously preparing for tomorrow's challenges.

The budget request you received continues our emphasis on recovering readiness, filling critical gaps, and improving lethality. The budget invests heavily in our airmen, our most valuable resource; readiness; nuclear deterrence operations; space and cyber capabilities; combat air forces; and infrastructure. It supports the end strength growth we need to start to address combatant commanders' requirements while also focusing on pilot production.

We continue to maintain and modernize the nuclear enterprise while also prioritizing the resiliency, future capabilities, and modernization of space capabilities to operate in increasingly contested domains.

The budget also supports research, development, and fielding of game-changing technologies. As a department, we had to make tough choices in balancing capability, capacity, and readiness while focusing on modernizing the weapon systems. These decisions were not made easily or taken lightly, highlighting that unfulfilled requirements still remain.

As you are aware, the budgetary needs of the Air Force exceed projected top-line funding, as demand for our Air Force capabilities currently far exceeds our supply. Uncertainty looms over the department as sequestration and Budget Control Act [BCA] caps return with this next year's budget.

Budget stability remains vital, and relief of BCA limits is necessary for the Air Force to realize its long-term strategy and meet today's and tomorrow's demands. If the law does not change or we get relief, it would lead to a repeat of the negative consequences of sequestration seen in fiscal year 2013. We request your engagement and assistance to ensure that we do not go down that path.

General Harris, General Vander Hamm, and I look forward to answering questions from the committee this morning. Again,

thank you for your continued support of the greatest Air Force on the planet.

[The joint prepared statement of General Bunch, General Harris, and General Vander Hamm can be found in the Appendix on page 29.]

Mr. WITTMAN. Lieutenant General Bunch, thank you for your opening statement.

We will now go to Mr. Courtney.

Mr. COURTNEY. Mr. Chairman, I will yield to the members on my side who were earlier than I was. They deserve it.

Mr. WITTMAN. No problem. And we will go to Mr. Garamendi.

The gentleman yields to the lady from Guam, Ms. Bordallo.

Ms. BORDALLO. I thank my colleague for being such a gentleman. And thank you, Mr. Chairman. And thank you, to our witnesses, for being here today.

As you know, I am a strong supporter of modernizing our bomber force, which is a key component to both deterrence and engaging in current conflicts. And I am committed to ensuring that funding for the new long-range strike, the B–21 Raider, stays on track and that we continue to make critical investments in our high-demand, low-volume fleet. Long-range strike is a key component of national strategy, and B–21 will ensure that capability is present in the future.

Last Sunday, gentlemen, we saw North Korea launch its second missile test in a week. It is clear that our deterrent capabilities are as important as ever as we continue to see threats proliferate across the globe.

We also saw the importance of that deterrent capability last year, when all three bomber variants were deployed to Andersen Air Force Base on Guam—the first time they had been deployed together in the Pacific.

I have a question for General Vander Hamm. As best you can in an unclassified setting, could you comment on how a system like the B–21 will improve the deterrent posture of our forces, particularly as it relates to the Pacific theater?

General VANDER HAMM. Ma'am, thank you for the opportunity to be here and testify.

And first I would like to say thank you to each of you for the support that you give to our airmen total force and their civilians that live in your districts. Those that are serving downrange, it goes a long way to know that their families are being taken care of, so thanks for your support.

To your question on the B–21 and its relevance to deterrence in the future, having myself flown all three bombers and had the chance to command all three bombers, the deterrent capability of long-range strike, which gives the most flexible arm of our deterrent triad, you know, the subs [submarines] for survivability, for responsiveness in the ICBMs, but that flexibility you get in the bomber force allows you to lift and shift capabilities around the world.

Currently you have a continuous bomber presence in the Pacific AOR [area of responsibility] and on the island that you represent. That presence sends a message—not only a deterrent message, but

it sends an assurance message that our umbrella extends to our partners in the region.

The commitment to the B–21 is a commitment to the long-range viability of that capability for now into the future. And as Air Force Global Strike Command works on its roadmap of the bomber force into the future, the B–21 is the big part of that, which is why we say we are looking for at least 100.

So as they work through the exact number of bombers that we need, the lion's share of that will be the B–21 Raider. And its ability to message not only conventionally but with a nuclear deterrent sends a message into the mind of our adversary that today may not be the day that I want to mess with the United States.

Ms. BORDALLO. Thank you. Thank you, General. I guess this question would go to you, too.

Now the Air Force leadership has indicated the intent to keep the B–52 in the inventory beyond 2050. It has also acknowledged that new engines would provide a 95 percent reduction in engine maintenance, virtually eliminating engine overhauls and reducing fuel consumption by 30 percent.

Does the Air Force have a plan to re-engine the B–52 to take advantage of benefits that would afford in terms of future cost avoidance and operational benefits?

General BUNCH. So, ma'am, I will take that one——

Ms. BORDALLO. I am sorry.

General BUNCH [continuing]. If you don't mind.

So we are—do realize that the engines we have on the B–52 are not going to last through the life of the program. We are either going to have to do a service life extension program or we will have to procure new engines.

We are looking at all of those options right now. We have some money in the 2018 budget to do some of those initial analyses and look at all those alternatives.

And you are correct, ma'am, it is not just fuel savings; it is tanker savings, it is operational implications, it is manpower savings by not having to use as many maintainers on the flight line to be able to maintain those older engines, as well as what you talked about with the time it stays on the wing and the operational viability.

Another factor that we will weigh into this are the diminishing manufacturing sources and the obsolescence that we face on many of the components that reside on the B–52 engine, such as constant speed drives and generators, and that we need to assess all of those to ensure that we have the growth potential for any power demands and we can maintain the mission capability rate.

The Air Force is actively engaged in that. I got an update on it just last week on where we are at in the progress, and we are discussing with all the appropriate—and looking at all the alternatives for how we could or would fund that.

Ms. BORDALLO. Thank you very much, General. And, Mr. Chairman, I yield back.

Mr. WITTMAN. Thank you so much, Ms. Bordallo.

We will now go to Mrs. Hartzler.

Mrs. HARTZLER. Thank you, Mr. Chairman. And it is good to see all of you. Appreciate all that you do for our Air Force, and espe-

cially good to see General Vander Hamm, who was commander of Whiteman Air Force Base when I was first elected.

So I appreciate your long support for the Air Force and appreciate my co-chair of the Long-Range Strike Caucus, Madeleine—Madam Bordallo, and her questions about B–21. I kind of want to follow up on that.

A very important program, and as your witness testimony states, the Air Force remains committed to a fleet size of 100 B–21s, but I have heard different numbers from other people feeling like we need even more; and certainly, you know, even a range of some are advocating for up to 150. And as we have seen what happened certainly with the B–2 years ago, I have concerns that we are, you know, not going to end up with the amount that we truly need.

So given the significant shortfall that we have in the bomber inventory and—do you believe that 100 is adequate? And should we be shooting for 150, or what is your perspective on that number?

General BUNCH. What we have briefed thus far is that we need at least 100, so we are not ruling out the fact that as we do more analysis we may need more. What we have looked at so far based on our extensive analysis looking at the campaign plans and looking at all the plans that are out there, we need at least 100 to be able to meet all those demands as well as meet the training requirements that we have.

Those are all items that we will continue as we move forward, ma'am, to look at.

Mrs. HARTZLER. Okay. I will be watching that very closely, and happy to work with you to try to keep that number as high as we need. We need to provide what we need and not just what we can afford.

And along with that, if we fund the B–21 at less than $2 billion in fiscal year 2018, how would the development phase be impacted and would there be significant delays to the overall program?

General BUNCH. So, ma'am, we remain fully committed to the program. It is one of our top three priorities and we have fully funded it, in accordance with the Weapon Systems Acquisition Reform Act passed by the Congress, to the service cost position that was established by the independent cost estimate.

So we remain and we are committed to putting in the money we need to execute the program. We need all the dollars that we have asked for to go into the program to stay on track so that we can deliver this vital capability that our Nation needs and continue to execute the program on the schedule that we are on.

Mrs. HARTZLER. Right. We look forward to that being filled in mid-2020s, so that will be here before we know it and we have gotta keep this—keep moving.

I wanted to switch to the C–130. I think Ranking Member Courtney mentioned that, as well. Of course, Missouri has Rosecrans and we also have C–130s there. And they visited with me a couple times about the avionics.

And I know you are planning to upgrade the cockpit avionics and displays of the older Air National Guard and Air Force Reserve C–130H aircraft, but there is concern among commercial vendors that the Air Force will overly rely on solutions that favor military speci-

fications at the expense of commercial off-the-shelf solutions that are already proven successful in the civilian world of aviation.

So how would you address this concern while ensuring that the Air Force is running a process that encourages and does not limit competition?

General BUNCH. So, ma'am, I will answer it in two phases.

I think everyone understands that our focus for the C–130 fleet is making sure we are focused on safety, and then compliance, and then modernization. Those are the three main, and then a limited recapitalization in certain areas. Those are really our four-pronged approach for how I want to address this.

The compliance is the AMP Inc-1 [Avionics Modernization Program Increment-1]. That is to meet the FAA mandates. We have fully funded that.

We have recently awarded a contract to get that program started, and we are committed to getting all that done on the 130H fleet so that we meet the 2020 mandates. That is in our budget; that is what we are driving to, and we are committed to that.

We are using and looking at using commercial solutions in that, as well. That was part of the market research we did before we went on contract to make sure that we were not overly driving a solution that drove military things and capitalize on what commerciality we can.

We are continuing to go through the work on AMP Inc-2. We have delayed some of the initial steps as we get the acquisition started, but we did that because we had a robust dialogue with the industry so that we could understand what commerciality we could apply to the program and not change the end date. So our goal was: save money, drive the commerciality, and still meet the end date that we have committed to you and is in our budget that we are going to do.

So we are very focused on driving the solution. There will be areas that we have already researched where the military specifications can be met by commercial applications. There may be areas that we won't be able to do that, but we are actively researching that to ensure that we are taking as much of the benefit from commerciality as we can.

Mrs. HARTZLER. That is great. Thank you very much.

Mr. WITTMAN. Thank you, Mrs. Hartzler.

We will now go to Mr. Garamendi.

Mr. GARAMENDI. Thank you, Mr. Chairman. Generals, thank you so very much for your service.

And, as you probably know, I represent both Travis and Beale. Those Air Force bases have almost all that you do except the C–130s. They also have some other platforms. Thank you for the support that you have given to both bases. The Beale now has the KC–135s unit will be there.

Of the many investments that you have been making, the C–5M recently traveled from Travis to Japan without stopping in Alaska, saving some 14 hours and a whole lot of fuel and time. Well done, gentlemen. I suspect that the continued upgrade and the availability of the C–5Ms will play out all across the world in similar fashion.

There are, however, some ongoing questions out there, so let's get to them.

The KC–46. I don't think we have had an updated status report, although I know it is on all of our minds.

General Bunch.

General BUNCH. So, sir, that is a great question and I thank you for the opportunity to talk about it.

We are—still remain committed to the KC–46 program. We got all of the money and we have got everything lined in. We continue to team with Boeing.

We are making steady but slower progress than we had anticipated. We are running into areas of—where we are being delayed through our airworthiness certification through the FAA process and delays in our test program.

We are at this time going through a schedule risk assessment with Boeing as a joint effort. Ms. Costello and I will get an update on that next week and then we will be coming forward to let everyone know exactly where that is at.

Right now Boeing remains committed to the RAA [required assets available] date that we set last year that we were going to. Our assessment right now shows that we are a little bit behind that schedule and that we continue to work with Boeing to try to pull that back.

Boeing remains a very good partner in that they are applying resources and trying to do what they can to make that schedule. We continue to support their efforts by making sure we provide all the resources we need to execute that program, but right now there have been delays in the testing and we are monitoring that, and as soon as we get the schedule risk assessment we will come back and give everyone an update on where we are at on the program.

Mr. GARAMENDI. If appropriate, can you describe what the specific delays are?

General BUNCH. So, sir, we are not executing the test program in the—at the pace that we had anticipated, and as we modify the—one of the things for getting FAA certification, as components are modified they have to be reviewed and approved by that process through the FAA. That has not gone at the pace that we would expect, and if you don't get that done then some of your testing that you would want to do are blocked—the test points you would want to do are blocked, so those are all aspects of what we are balancing out right now to try and get the program on track.

Mr. GARAMENDI. Some of us on this committee also are on the Transportation and Infrastructure Subcommittee and the FAA is a problem there. Is the FAA part of this problem?

General BUNCH. We are partnering with the FAA, sir, and we have been partnering with the FAA on this program for an extensive period of time. We continue our dialogue and communication with them. I am not in a position that I would say that the FAA is a problem.

Mr. GARAMENDI. I note the look on your colleagues' faces.

General BUNCH. No sir.

Mr. GARAMENDI. We will let it go at that.

All right. The buyback of the C–5As—I understand that there will be a couple of—or maybe more than a couple of the C–5As that

are off the line that will be bought back in this budget. Is that correct?

General HARRIS. Yes, sir, if I may address that. When we look at what the C–5 is capable of we have 12 C–5Ms in BAI [backup-aircraft inventory]. We put eight of them there in the 2015 budget that we were hoping to bring back.

And basically these are airplanes that have been flying, they are just not manned appropriately in the units' ops and maintenance to take care of them. So we are going to buy back two a year for 4 years if we are able to have a predictable budget to get the fleet back to a higher quality.

Mr. GARAMENDI. And just a final quick question: The large aircraft countermeasure program, is it online? The troops in my area always want to make sure that they have the best protection possible.

General BUNCH. Okay, sir, you are asking about LAIRCM [Large Aircraft Infrared Countermeasures]. I apologize. I often use the—I hate to do it, but I will use the acronym. But my understanding is the programs that we are working on with the LAIRCM program, I have not gotten any updates that we are running behind any of the schedules we have committed to the warfighter.

Mr. GARAMENDI. Thank you. Yield back.

Mr. WITTMAN. Thank you, Mr. Garamendi.

We will now go to Mr. Byrne.

Mr. BYRNE. Thank you, Mr. Chairman.

Gentlemen, I want to go back to the KC–46A because I still have some questions. I didn't hear a date specific, and it may be that you don't have a date specific, but could you tell us if you do have a date specific? And if so, what is it?

General BUNCH. Sir, I would be—sir, I would not want to give you a date till I get the schedule risk assessment that we are working with Boeing and we have that dialogue. But then again, in light of how we have done all of our communication on the KC–46, I think we have been very transparent with all the committees on that program. As soon as we get that worked out we will come forward and we will brief everyone on where we are at.

Mr. BYRNE. I expected that was going to be your answer, that you are just not in a position to give it to us yet——

General BUNCH. Yes, sir.

Mr. BYRNE [continuing]. But I wanted to make sure we confirmed that today. And you are going to give that to us next week?

General BUNCH. Sir, I wouldn't say I am going to give it to you next week. What I would say is Ms.—I said next week—Ms. Costello and I will get a update the week of the—first week of—full week of June, and then once we get that update and we round it up to make sure that our senior leaders know what we are doing, we will make sure that we come over and explain to everyone where we are at.

Mr. BYRNE. As I recall, the award of this contract for Boeing, there was a competition and it was originally awarded to Airbus USA and then there was a challenge to that and there was a rebidding of it and Boeing came in with basically a—this is a new design. This plane didn't exist.

General BUNCH. Sir, I would say it is different—it is a variant off of their 767 line that they already had up and running is how I would couch it. It is a tanker, but it—a lot of the components are similar to what they were doing on their commercial 767 line.

Mr. BYRNE. Do we have U.S. aircraft that are being refueled by some of our NATO [North Atlantic Treaty Organization] allies using the Airbus tanker?

General VANDER HAMM. Probably—if you look at the Australians, the Australians have an Airbus tanker.

Mr. BYRNE. So are——

General BUNCH. So, sir, let me—I will take that for the record to make sure that I give you an accurate answer. I know that there are other aircraft that we have gone through some certifications with and we have partnered as the U.S. government, because of our expertise in the area of air refueling, we have actually utilized some of our test personnel with expertise in those areas to go help countries get certified to do missions to support our efforts around the world.

But I do not have a specific answer that I would feel comfortable giving you until I go do some research, but we will take that for the record to get you an accurate answer.

Mr. BYRNE. Thank you. And I didn't expect you to be able to give me a direct answer on that if you didn't have actual information, but I would love to know that.

General BUNCH. We will give you that information, sir.

[The information referred to was not available at the time of printing.]

Mr. BYRNE. That is all I have. I yield back.

Mr. WITTMAN. Thank you, Mr. Byrne.

We will now go to Ms. Hanabusa.

Ms. HANABUSA. Thank you, Mr. Chairman. Good morning, to all of you.

I wish that we could take these subjects in isolation and other branches of our service in isolation, but we can't. Like those of us who are on Strategic Forces [Subcommittee] at 10 o'clock this morning will begin Fiscal Year 2018 Priorities of the Nuclear Forces and Atomic Energy Defense Activities, which is, according to your testimony, you—Air Force basically operates two-thirds of the triad. And, of course this all relates back to that wonderful thing called the triad.

So I guess my question is this: If you are going to assist us in understanding your relevance and your importance and your continued need for the support in the fiscal year 2018 to operate two-thirds of the triad—and as you know, there has always been a discussion as to whether or not the triad is very relevant in the upcoming challenges that we have. Some have said that when you have China, Russia, and North Korea as your major—as our major threats in the area of nuclear that each one of those components does not necessarily fit the triad. The triad is an, I guess, agreed-to reaction to the Cold War and it was the answer to Russia.

So having said that—and you are in Seapower; that is the committee we are in. And of course you have the issue of the nuclear submarines that we are dealing with, as well.

Explain to me as best as you can why the priority should be as you have stated, which is, as you represent two-thirds of the triad, that we should be 100 percent behind supporting like 100 B–21 bombers versus maybe another 2 *Columbia*-class subs. And it is because it—we don't have an unlimited supply of money, so we have got to—we are the ones who are going to end up balancing this.

And my problem is if we talk to you all in isolation you all make great arguments. However, that is not the way the world exists.

So explain to me why we should support what you want even at the cost of other platforms.

Who wants to take that?

General HARRIS. Ma'am, I would be happy to start with that.

Ms. HANABUSA. Thank you.

General HARRIS. Because it is a long journey that you have asked to—for us to go down this road. I think all of the services support all three legs of the triad. Each one brings a different piece.

As we talked about, the subs that you support through the Seapower are that force that is hard to get to while the oceans are still opaque.

Our bomber force brings to us a flexibility and our ability to message, and that is very important in a deterrent role. But as you know, we also use those bombers in our conventional effort, so that is one of the few legs that gets multiple use on a regular basis that lives in both camps or is dual-role.

And then our—the throw weight, the big firepower is our land-based ICBMs, so that will be our GBSD [ground-based strategic deterrence] effort. And that is our least expensive, although it seems to get the worst press when it comes to if we go to a dyad wouldn't it just be bombers and submarines. And I would think that would be an awful choice for us to make as a Nation.

We need each one of these because, as you said, the threat is different from China than North Korea, than Russia, and each one of these has a strength against those different threats. We do need all three.

Ms. HANABUSA. I understand that. My question, though, is we have a limited amount of money and we have to make the decision, so what is your best pitch that if it were down to whatever monies we have and we are not going to do everything, why is it that the Air Force component—primarily the big-ticket item is B–21s—why is that the best way for us to go if we have to choose among two?

General BUNCH. So, ma'am, I will jump in, and I want to remind everybody we are going through a Nuclear Posture Review [NPR] so I don't want to get in front of our Secretary of Defense. I need to allow him the flexibility to listen to all aspects and go review this to make sure we come back.

So what I will tell you about the B–21 is it—that makes it of value to us as the United States Air Force—and I would actually say we provide more than two-thirds of the triad when you consider the national command, control, communication network that we control about 75 percent of for the United States. So I would actually say we carry more weight than the two-thirds, but that is—who is counting?

But on the B–21, it provides an unmatched flexibility to be able to reach out and touch anyone in the message. You can recall the bombers. You can send a message with a deterrent.

So there is an unbelievable amount of messaging that can be done with that platform. You can do both the conventional and the nuclear mission once we get it certified for the nuke mission, which will occur 2 years after IOC [initial operational capability].

So that is the reason for the B–21: that flexibility, the ability to recall, the ability to reach out and touch anyone. That is what that platform brings.

Ms. HANABUSA. Thank you. I yield back, Mr. Chairman.

Mr. WITTMAN. Thank you, Ms. Hanabusa.

We will now go to Mr. Gallagher.

Mr. GALLAGHER. Thank you, Mr. Chairman.

Thank you all for being with us here today. It is always a—budget time is always a good time to review the kind of force we want to buy.

I would like to follow up on that as well as the line of questioning that Mrs. Hartzler posed earlier about the B–21, which I think is especially important given our experience in buying the B–2, where we kept cutting planned procurement numbers until we ended up with what I believe to be a wildly insufficient number of exorbitantly priced aircraft.

And in recent years I have seen highly varying accounts of how many B–21s we actually need to buy, with at one point the Air Force listing a range of 80 to 100. That is a variance of 20 percent, which seems rather large given the bomber's importance to the force of the future. And as I understand that and as you have said today, we have settled on this 100 number, correct?

General BUNCH. At least 100.

Mr. GALLAGHER. At least 100——

General BUNCH. Want to make sure I am real clear there: at least 100.

Mr. GALLAGHER. Okay, well to that point, I mean, how did you—can you just give us sort of the logic, the strategic logic that allowed you to arrive at the 100 or the at-least-100 number?

General BUNCH. So we base "at least 100" on analysis that we have done of all the ops [operations] plans and we looked at all of what we want the aircraft to do as well as the mission set that we would need for the training. So it is not just 100 to go do missions; it is at least 100 to do all the training, to do the depot maintenance.

So it is not just a number that we would immediately employ. So there are a lot of components that lead into that, but we based that off looking at our ops plans, doing analysis, running scenarios, and coming up with a number that we believe.

So we believe it has been scrutinized by a lot of the department and we are comfortable that that is a minimum number that we need to be able to execute the Nation's missions that it has given us.

Mr. GALLAGHER. So short of a change in those missions, we should consider 100 the floor for the——

General BUNCH. That is what we believe, sir.

Mr. GALLAGHER. But then you have these alternative studies, like the AFA [Air Force Association] study led by retired Lieutenant General Mike Moeller, which concluded that the Air Force needed substantially more than 100. And his analysis was driven by a historical examination of past air campaigns in scenarios involving North Korea, Iran, and Russia.

And in an unclassified report he found that we would need roughly 60 bombers for a North Korea scenario and 103 bombers for an Iran scenario. Moreover, he found a conflict with Russia could call for as many as 258 bombers, if I am getting that correct.

And given that a two-war standard has traditionally been a critical measurement of our status as a superpower, it seems to me that the right number of bombers should be north of 160 in order to factor in Korea and Iran contingencies. And certainly Lieutenant General Moeller agrees and calls for as many as 200 B–21s.

So, I mean, I guess how would you respond to those outside analyses that sort of project far above the 100 floor?

General HARRIS. Well, thank you. If I may add onto General Bunch's question then, sir, those numbers aren't incorrect. When we look at some of these efforts that are put out there, we do agree that probably 165 bombers is what we need to have, so there are numbers that support that depending on the scenarios.

But in addition to the NPR that is ongoing, we also have a National Military Strategy. It is an internal look that the OSD [Office of the Secretary of Defense] is doing through the Secretary of Defense, and we don't want to get in front of that.

So our approach to it is it is an early decision. We know we are going to need at least 100; we will possibly need more than that. But as was brought up earlier, these aren't inexpensive weapon systems across——

Mr. GALLAGHER. Sure.

General HARRIS [continuing]. This entire effort, so we don't want to throw down a number that may change in several months. So we would rather sit back, say 100 min [minimum] at this point——

Mr. GALLAGHER. Sure.

General HARRIS [continuing]. And then move on and so—until we get guidance from the Secretary.

Mr. GALLAGHER. So your next decision point is you are going to wait for the National Military Strategy, analyze that, and come up with an updated requirement?

General HARRIS. Yes, sir.

Mr. GALLAGHER. Okay. And sort of to take a turn in a different direction, I have never been on Air Force One and so this question is probably the closest I will ever get, particularly if you follow my Twitter feed in recent days. The Air Force One plans on recapitalizing with two—and the chairman mentioned this—two 747–200 Presidential aircraft, which will be over 30 years old by the time they are replaced in the mid-2020s, and we are moving towards the two 747–800 aircraft. The estimated cost, I believe, is $3.5 billion.

So just kind of following up on what the chairman mentioned, I mean, how can we assure the American people, at a time when there is a lot of scrutiny around the President's travel, that these tax dollars are being properly used to provide what—the office of

the President what is required, but at the lowest possible cost to the taxpayer?

General BUNCH. So, sir, I will answer that one. So it is important and we need to make sure that we can provide a platform that the President can execute the duties of his office regardless of the situation that we find our Nation in. That is one that we need to remember as we look at what that platform is going to provide and what that platform is going to do.

We do understand the need to control cost. We understand that. That is an undertaking that we are going after.

Right now we have a $172 million contract with Boeing on risk reduction. Part of that risk reduction is looking at the cost capability analysis and doing trades with what we can and can't do and letting us be smart buyers.

The other thing that we have done is we have worked with the White House Military Office and the Air Force and we have now agreed on a set of requirements that we plan to hold firm, which is one of the reasons we have been able to keep the costs under control on the KC–46. So we will continue to hold firm with those requirements that we have now agreed to and established as the min needed to execute that mission.

We have two other contract actions we are doing right now. One of those will be the procurement of the two aircraft. The next one we will do to get to a preliminary design review as quickly as possible.

And then what we will do is use all of our acquisition authorities to get the max [maximum], and I would ask for max flexibility as we use those acquisition authorities so that we can go get a contract to get this done and meet the IOC.

We plan on being substantive participants in some of the source selections that Boeing will do. That will be the prime; they will do some of the subcomponents; they will be doing the competition for those, but we will be substantive participants in that. And we realize we have to efficiently and effectively acquire these systems because it is American taxpayer dollars that we are worried about.

Mr. GALLAGHER. Thank you, gentlemen. Appreciate you being with us here today. Thank you, Mr. Chairman. I yield.

Mr. WITTMAN. Thank you, Mr. Gallagher.

And we will now go to Mr. Courtney.

Mr. COURTNEY. Thank you, Mr. Chairman, to the tardy member here.

And again, thank you for the great testimony and great questions from my colleagues on the panel, particularly Mrs. Hartzler, you know, covered the C–130 issues nicely, which I did intend to focus on.

So really only have one question, which is on the B–52 modernization. Again, obviously this is a big piece of your planning in the future, and it has been a multiyear process that you have been involved in.

And that is why when the budget came over it actually reduced by roughly $60 million the modernization efforts that have been built into the prior administration's—the Obama administration's funding for B–52 modernization. I was just wondering if you could explain, you know, that alteration.

General BUNCH. I do not have any of my program managers on the acquisition side coming to me right now and telling me they can't execute the programs that we have got laid in for the bombers. So without knowing exactly—with—I mean, if you look at what we are doing, we are doing the 1760 weapons bay upgrade; we are doing—finishing up the CONECT [Combat Network Communications Technology] program to give it more modern displays and to be able to connect and have it beyond-line-of-sight; we are starting the radar modernization effort; we are doing our investigations into the re-engining.

We have got a whole lot of programs that are going on right now to modernize and keep that platform viable and flyable and able to meet the demands of tomorrow. My take on that would be that all we have done is change it for the fact of life of where we are at in the programs.

I am not aware of any program that we have stopped or any program that I have hindered by the ability that we have put in for the budget.

Mr. COURTNEY. So again, that number that—the new number is adequate?

General BUNCH. That is my belief, sir. And I will go back and do an investigation, and if it is different than that I will personally get back to you and your staff and let you know that.

[The information referred to can be found in the Appendix on page 53.]

Mr. COURTNEY. Great. Thank you. Yield back.

Mr. WITTMAN. Thank you, Mr. Courtney.

Lieutenant General Harris and Bunch, I wanted to talk a little more about the Presidential aircraft program. The President's budget request for fiscal year 2018 has a dollar amount of $434 million that are requested. The request reported last year was $625 million, so it was a $191 million reduction.

First of all, is that something that the Air Force is in agreement with? Is it something that the Air Force requested? And can you tell me where that 30 percent reduction leaves us in first of all making sure we deliver those aircraft on time and making sure, too, that we are on track with cost reductions on construction of the aircraft?

So any delays, obviously, that happened there, especially with Boeing, can have financial impacts, so I want to kind of get your perspective on where we are with that.

General BUNCH. Yes, sir. Thank you for that question.

We are fine with the budget that is put in. Its rephased dollars align with our acquisition strategy that we are going for and we are not anticipating any changes to the dates that we have predicted for when we would deliver.

Mr. WITTMAN. Very good. And you are still continuing on track with cost projections on the aircraft? I know we have had some discussions about mechanisms to use to make sure that we get the best price possible but also provide the Air Force some flexibility for the Air Force also to be able to get the best price possible.

General BUNCH. So, sir, we understand the critical nature of making sure that we control the cost on this program. We are very focused on that. I think you can see the level of attention the Air

Force put on that by designating one of our most experienced PEOs [program executive officers], Major General Duke Richardson, putting him solely in charge of that after his great run of executing the KC–46 program and keeping that program on track. So I believe that shows to the committee and everyone our commitment to making sure that program is executed properly.

What we would ask is that we are allowed to work with you if we decide on language we want to try to put for how we would want to structure what we are limiting ourselves to from a contracting perspective or a cost perspective so that we all understand the ramifications of those things, and we are doing it in a collaboration because we need flexibility to use all the acquisition authorities that we have while still understanding that this is a critical program to the committee and to the American public that we need to make sure we are executing properly.

Mr. WITTMAN. And we are absolutely committed to that. I had a great meeting the other day with Lieutenant General Richardson and his efforts to make sure that the cost controls are placed on that program and that we have all of the different viewpoints necessary both with Boeing, the Air Force, Congress, and the administration to make sure we get the best price possible for the taxpayers, as I spoke about.

Lieutenant General Bunch, I wanted to also try to develop a little bit better understanding of the Air Force's efforts with the Compass Call mission equipment. As you know, you all have appointed L3 as the lead systems integrator and empowered them to make aircraft procurement decisions in order to re-host the Compass Call mission equipment.

And I wanted to get your perspective on why the Air Force is moving in this direction for critical mission components, and if you can give me an example about how you have used this mechanism using private entities in the past versus it being done within the Air Force or at least within a government entity, within the Air Force Secretary's office. Give me your perspective on how the decision making took place there and why you believe that L3 is going to be able to perform and make the critical decisions necessary on this critical program.

General BUNCH. So, Chairman Wittman, that is a great question and I will let everybody know that it is in the media this morning that Boeing did file a protest last week that is now playing out. We will let the GAO [Government Accountability Office] work that.

We, the Air Force, remain committed to the acquisition strategy that we have brought forward to address this critical need, so we will stay pretty—I won't go into devil in the details; I won't go into a ton of that. But I will give you an overarching what we were trying to do.

And last year in the 2016 congressional language we were told to go look at—do analysis of alternatives, look at a variety of different options for what we would do for the EC–130H fleet. After looking at all those, the most cost-effective and the most efficient and the most timely—timely being one of the critical components of what we are trying to do—came back with the approach of designating a systems integrator.

We do not use the "lead" part of that. There are specific acquisition things that are tied to being a lead system integrator. This is a systems integrator, sir, just to make sure that I am real clear on the words that I am trying to use.

And we picked that because the L3 has been—played that role as the systems integrator as we have modernized these aircraft for the last 15 years. They are the ones that are very familiar with the mission equipment that is on there.

That mission equipment is highly classified to be able to execute the electronic warfare mission that we asked that platform to do. They have all the tooling; they have all the existing knowledge; and they have the modeling and all the information to do that work.

This is a, for the preponderance of this, a non-developmental effort, meaning that we have had a robust and extensive program of modernizing the mission equipment to be able to meet the demands of the EC–130H mission over the years, and most of that will be simply cross-decked over and the—so they have the knowledge, having done that work, having installed that mission equipment.

And then the last item that would be there is the short timeline. Our analysis showed that we could do it through this means and do it quicker than we could any other way, getting a critical need to address something out in the future—a threat that is evolving that if we need more details we can go to a different classification level and we will be happy to brief anybody on that.

Mr. WITTMAN. Very good. Want to get to the decision-making element here, and it seems like what you are saying is that there is some advantage, then, gained by using a private entity like L3, based on their experience and outcomes as it relates to decision making within this critical realm as to integrating systems on this—on the application of Compass Call. Is that correct?

General BUNCH. There are advantages of that. And what I want to make sure, sir, and I apologize I left this part out: We are not stepping out of this and just watching the process play out.

What we are doing is we will thoroughly review their aircraft selection decision to ensure that it was comprehensive, impartial, and compliant with all the applicable statutes and regulation. So we are not, as I said earlier on the PAR [Presidential Aircraft Recapitalization], we are going to be substantive partners. We will allow the system integrator to come in and give us a report of what they have done and we will analyze and scrutinize that and ask what questions we need to make sure that we are—that it was fair and there—it was equitable and we made that decision.

The other piece that we will do on this is all of the routine things that we do in acquisition where we ensure that it is cost compliant, fair and reasonable with DCMA [Defense Contract Management Agency], DCAA [Defense Contract Audit Agency]. All those things will be done in this program, as well.

Mr. WITTMAN. Very good. You had spoken about L3 being systems integrator, not lead systems integrator. I just want to make sure; there seems to be some disagreement there within the Air Force.

On January 31st of this year Lisa Disbrow, who is the acting secretary, wrote a letter to Senator Murray and she stated, "Extensive analysis determined this lead systems integrator approach is the

most efficient, expedient, and cost-effective means to re-host the Compass Call capability into non-developmental commercial derivative aircraft." So it seems that the secretary there is denoting this as a lead systems integrator, so I just want to make sure that we are straight in how you determine and say that L3 would not be the lead systems integrator.

General BUNCH. So, sir, I will go back. I think I have submitted a subsequent letter that said it would be a systems integrator. I may not have that exactly right. But what I will do is go back and we will work through that to make sure that the position we are taking is clear to the committee and what we are trying to do.

Mr. WITTMAN. Got you. Very good. Yes, I am just looking at your letter of 1st of February. You also refer to L3 as a lead systems——

General BUNCH. And I misspoke, sir, and I will go back and clarify what we are doing, but it is a systems integrator role is what we are asking L3 to do, and I apologize for any confusion.

Mr. WITTMAN. And I don't mean to be picking on this, but I do think it is critical as far as the role that the government and the Air Force is going to take in decision making here. And if you are looking at that there is an advantage to L3 as a systems integrator versus a lead systems integrator and where the decision making is going to take place and what role the Air Force will play or what it won't play I think is really something important for us to understand because this is a very, very critical system that we want to make sure gets integrated properly.

General BUNCH. Yes, sir.

Mr. WITTMAN. And to make sure that we clearly define the Air Force's role and L3's role I believe is critical. So there does seem to be some dichotomy there, so I just want to make sure that we are all clear on this.

General BUNCH. So we will continue the dialogue on that, the thought process through that with L3 having been the system integrator for the last 15 years, they are the ones who know what the cross-deck requirements would be better than anyone else. That was the driver—that and the other factors, the time and all the other factors that I—sensitivity of the—of the equipment—mission equipment and the mission. Those were the drivers that led to the selection of them as the systems integrator.

Mr. WITTMAN. Well, that is good to know because that was behind my question of what advantage you gain. You talk about them having base knowledge; you talk about them having dealt with these systems before. The key is, you know, where is the definition in role between the Air Force and L3 to make sure we get it right so we stay on time, we stay on performance, we make sure that the integration of these systems gets done properly.

General BUNCH. Yes, sir. And we are committed to making sure it is. And as I said, we are going to be actively involved and watching that and we will get reports, analyze all those things to make sure it works.

One of the big drivers, as I said, sir—and I apologize for going over again—the timing of this is really critical to make sure we see—we are ready for the evolving threat, to make sure we can execute the mission.

Mr. WITTMAN. I couldn't agree more. I think timing this here is critical to make sure there are no hiccups about what—who is going to perform certain roles, because when there is we know that also elongates timeframes and can complicate things, so that would be great.

If you would follow up with us, too, to redefine what you have stated to us today, I think that would be——

General BUNCH. Yes, sir.

Mr. WITTMAN [continuing]. Very helpful to us.

General BUNCH. Yes, sir.

Mr. WITTMAN. Very good. Are there any other questions from committee members for our panelists?

If not, gentlemen, thank you so much for your leadership. Thank you for coming before us today and shining some light on these critical issues for the Air Force, and we continue to look forward to working with you as we go down these roles and making sure that these assets get delivered on time and on budget.

And with that, we are adjourned.

[Whereupon, at 9:00 a.m., the subcommittee was adjourned.]

A P P E N D I X

MAY 25, 2017

PREPARED STATEMENTS SUBMITTED FOR THE RECORD

MAY 25, 2017

Opening Remarks of the Honorable Rob Wittman,
Chairman of the Seapower and Projection Forces Subcommittee,
for the hearing on
Department of the Air Force Fiscal Year 2018 Budget Request for Seapower and Projection Forces

May 25, 2017

Today the subcommittee convenes to receive testimony on the fiscal year 2018 Air Force budget request regarding bomber, tanker, and airlift acquisition programs.

The distinguished panel of Air Force leaders testifying before us are:

- Lieutenant General Arnold W. Bunch, Jr., USAF Military Deputy, Office of the Assistant Secretary of the Air Force for Acquisition;
- Lieutenant General Jerry D. Harris, USAF Deputy Chief of Staff for Strategic Plans and Requirements; and
- Major General Scott A. Vander Hamm, USAF Assistant Deputy Chief of Staff for Operations

Gentlemen, thank you for being with us today.

The fiscal year 2018 budget request for projection forces continues to modernize and recapitalize critical Air Force weapon systems. I am pleased to see significantly increased investment in the B-21 Long Range Strike Bomber, and steady investment in procuring KC-46A tankers. The budget also continues to take solid steps to modernize the legacy Guard and Reserve C-130H tactical airlift fleet and recapitalize the high-visibility Presidential Aircraft.

That said, I continue to be concerned about the ability of our military to properly provide for our nation's defense given the damage that sequestration may have on our fiscal year 2018 budget deliberations.

Throughout the past year in testimony to Congress, Air Force senior leadership indicated that "the Air Force is one of the busiest, smallest, oldest and least ready fleets in our history." It is my firm conviction, in light of the higher-end threats posed by China, Russia, Iran, and North Korea, that we provide the Air Force the resources it needs to fully support, and if possible accelerate, critical recapitalization programs.

With regard to bombers, I fully support the critical B-21 bomber program; and am pleased to see that we are moving forward on this new platform, which is needed for projecting power over long distances and into denied environments. I look forward to assessing in better detail the classified portion of the B-21 program to ensure progress on design and assess proposed risk mitigation strategies.

With regard to tankers, I am concerned that the KC-46A program continues to suffer delays even after overcoming initial setbacks and is now facing a highly compressed test and certification schedule that has little room for error. I look forward to hearing your thoughts on this program and whether or not the first 18 aircraft will be delivered in time to meet the adjusted October 2018 contract deadline.

With regard to recapitalizing the Presidential Aircraft, I want to ensure that the President has the capability to carry out the requirements of the office and that the American people—whose taxes fund these aircraft--do not have to pay one dime more than necessary.

Lastly, I am concerned that this budget fails to provide the necessary resources to procure needed avionics upgrades. These upgrades will ensure that the entire fleet of tankers, airlifters, and bombers are able to operate safely in compliance with the FAA mandated NEXT GEN air traffic management standards by January 1, 2020. The civilian aviation sector is rapidly moving toward compliance, and I am concerned that our military aircraft could be shut out of the air space they need for transit and training.

While I am pleased that the Air Force's fiscal year 2018 budget request makes up some lost ground over last year, I am concerned that the proposed budget directs the Air Force to make false choices between capability, capacity, and safety, when the undeniable reality is that our military needs all the above.

I firmly believe that what this subcommittee and the rest of Congress does about national defense and military readiness will be a defining issue. We need a strong Air Force equipped with the most capable aircraft that enable our men and women to carry out their missions effectively and safely. To do this, we need leadership in national security. We need an unambiguous declaration that our national security is our preeminent responsibility.

Once again I want to thank our witnesses for participating in our hearing this afternoon and I look forward to discussing these important topics. With that, I turn to my good friend and colleague, the ranking member of the subcommittee, Joe Courtney.

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HOUSE ARMED SERVICES COMMITTEE
SUBCOMMITTEE ON SEAPOWER AND PROJECTION FORCES
U.S. HOUSE OF REPRESENTATIVES

DEPARTMENT OF THE AIR FORCE

PRESENTATION TO THE
HOUSE ARMED SERVICES COMMITEE
SUBCOMMITTEE ON SEAPOWER AND PROJECTION FORCES
U.S. HOUSE OF REPRESENTATIVES

SUBJECT: HEARING ON AIR FORCE BOMBER/TANKER/AIRLIFT ACQUISITION PROGRAMS - HASC SEAPOWER AND PROJECTION FORCES

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

Lt Gen Jerry D. Harris, USAF
Deputy Chief of Staff
(Strategic Plans and Requirements)

Maj Gen Scott A. Vander Hamm, USAF
Assistant Deputy Chief of Staff
(Operations)

May 25, 2017

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HOUSE ARMED SERVICES COMMITTEE
SUBCOMMITTEE ON SEAPOWER AND PROJECTION FORCES
U.S. HOUSE OF REPRESENTATIVES

Introduction

Chairman Wittman, Ranking Member Courtney, distinguished members of the subcommittee, thank you for the opportunity to provide you with an update on U.S. Air Force acquisition programs. For the past 70 years, from the evolution of the jet aircraft to the advent of the ICBM, satellite-guided bombs, and remotely piloted aircraft, the Air Force has been breaking barriers as a member of the finest joint warfighting team on the planet.

In, through and from air, space, and cyber, the fabric of our Air Force weaves multi-domain effects and provides joint warfighters the blanket of protection and ability to power project America's full range of combat capabilities…we're 'Always There'. But, in a world of increasing threats, ever-improving adversaries, and a persistent war against violent extremism, there is a greater disparity than ever before between commitments and the resources necessary to provide unmatched Global Vigilance, Global Reach and Global Power. We are supporting Combatant Commander requirements in response to growing challenges from Russia, China, North Korea and Iran, in addition to the ever present counterterrorism mission in the Middle East and around the world. While our forces have been heavily engaged in deterring or addressing these operational challenges, our adversaries have taken the opportunity to invest in and advance their own capabilities. To address ever narrowing capabilities gap, the Air Force needs your support in the form of increased, steady and predictable authorization. Current caps imposed by the Budget Control Act will force the Air Force to continue making unacceptable tradeoffs between force structure, readiness, and modernization.

The nuclear enterprise remains our number one priority and the Air Force's nuclear capable bombers represent one of the two critical Air Force contributions to the Nation's nuclear

triad. In addition to operating two-thirds of the triad, our Airmen also resource 75% of the Nuclear Command, Control, and Communications (NC3) framework. Together, our nuclear and conventional bombers in concert with our tanker aircraft provide global reach and global power to ensure an effective deterrence. But both of these important fleets are aging. The average ages of the B-52 strategic bomber and the KC-135 tanker both exceed 50 years of age and both will be with us for a long while. Our bomber and tanker fleets require recapitalization to ensure our ability to project power and provide global deterrence. Rapid Global Mobility is also a vital Air Force core mission that makes us more agile, swift, and resolute in comparison to the world's Air Forces. Every 2.8 minutes, an Air Force's mobility aircraft takes off to deliver force – extending fuel to Air Force, joint, and coalition receiver aircraft, transporting critical personnel and cargo to airfields all over the world, or providing airdrop of time-sensitive supplies, food, and ammunition when and where it's needed. We are committed to providing the most effective bomber, robust tanker, and dominant fighter force to the nation. That is why our top three acquisition priorities remain the B-21 Bomber, the KC-46A aerial tanker, and the F-35A Joint Strike Fighter.

Bombers

As with the fighter force, the total bomber inventory has also been significantly reduced. To provide perspective, in 1991 we had 290 aircraft available within the bomber fleet versus 156 B-1s, B-52s, and B-2s today. The current number is insufficient to meet Defense Planning Guidance and nuclear guidance while sustaining current operational demands and maintaining sufficient training and readiness capacity.

B-21

The B-21 program remains one of the Air Force's top programs in regards to investment in research, development, test and evaluation with $2 billion for Engineering and Manufacturing Development (EMD) in the Fiscal Year 2018 President's Budget. The B-21 continues to make measured, positive progress and remains on track to deliver its initial capability in the mid-2020s.

The development phase of the program is well underway and the Government team has successfully completed an Integrated Baseline Review of our industry partner's performance measurement baseline for the overall B-21 development effort. Additionally, the program successfully completed a Preliminary Design Review demonstrating that the Air Force, along with its industry partners, are on the right track as they continue to develop the design maturity of this platform.

The Air Force remains committed to a fleet size of 100 B-21s. This fleet will provide capabilities necessary to meet future Combatant Commander requirements. The B-21 remains an absolute national defense priority and we are grateful for your continued support of this critical program going forward. Until the B-21 is fielded, it is equally important that we continue the commitment to modernize our legacy bomber fleet in order to maintain the ability of our Air Force to accomplish the mission to provide Nuclear Deterrence Operations, Nuclear Response, Global Strike, and Global Precision Attack.

B-1

The B-1B is a long-range, air refuelable multirole bomber capable of flying intercontinental missions with the largest payload of guided and unguided weapons in the Air

Force inventory. The Integrated Battle Station upgrade (FY18 PB FYDP - $210 million) will provide enhanced situational awareness and precision engagement capabilities and is the B-1B's largest modernization effort since its production. The first aircraft with this upgrade was delivered in January 2014 and a total of 32 B-1s are currently modified with this capability. The B-1B will complete this modernization effort in 2019.

Other efforts to update the B-1B's navigation and radar systems completed in early 2016. These efforts improve reliability and maintainability of these critical systems. Additionally, the Air Force has fully funded the Service Life Extension Program (SLEP) for B-1 engines. This funding will replace parts that have been degraded by nearly 15 years of combat and restore all 289 B-1 engines to their original specifications. Finally, ongoing testing is validating the B-1B's structural integrity to ensure that it remains viable through 2040.

The B-1B is the Air Force threshold platform for early operational capability of the Long Range Anti-Ship Missile which is transitioning from a Defense Advanced Research Projects Administration (DARPA) demonstration to the Navy-led Offensive Anti-Surface Warfare Program. Integration of this weapon, coupled with the B-1B's long range, high speed and large payload, will posture the B-1B for an important role in 'Pivot to the Pacific' scenarios.

B-2

The B-2 is the only long-range strike aircraft capable of penetrating and surviving advanced Integrated Air Defense Systems to deliver weapons against heavily defended targets. Its unique attributes of intercontinental range, precision strike, large conventional or nuclear payloads, ability to penetrate defenses, and low observable profile allow it to execute Nuclear Deterrence Operations, Nuclear Response, Global Strike, and Global Precision Attack missions.

The Air Force will continue to modernize the B-2 to ensure it remains effective as enemy defensive systems advance. Current efforts to modernize the Defensive Management System ($1,399.2 million within the FYDP) will ensure the B-2 can continue to counter sophisticated air defense networks and operate in highly contested environments.

The Air Force will continue development efforts to re-host the Stores Management Operational Flight Program software in the Flexible Strike program ($21.3 million remaining within the FYDP, total program $209.3 million), enabling the B-2 to take advantage of advanced digital weapon interfaces such as those used by the B61-12. The Air Force has completed development efforts and started procuring hardware for the Common Very-Low-Frequency / Low Frequency (VLF/LF) Receiver program, and will begin fielding the system in FY-2019 ($23.6 million remaining within the FYDP, total program $192.4 million). It provides the B-2 with a VLF/LF receiver for secure, survivable strategic communications capability.

In addition to the VLF/LF upgrade, is the Extremely High Frequency Satellite Communications (EHF SATCOM) program, a modification effort that provides a high bandwidth, secure, survivable strategic communications capability. The program is planning on awarding its Technical Maturation and Risk Reduction (TMRR) contract in October 2018 ($1.09B within the FYDP). Except for delivering spares hardware, the Air Force has completed fielding the Extremely High Frequency Satellite Communications and Computer Increment 1 program, a mid-life avionics upgrade to the flight management computers and digital storage and data buses ($0.2 million remaining within the FYDP, total program $540.4 million). We continue to modernize the B-2 with new efforts beginning in Fiscal Year 2018. These efforts include Airspace Compliance for ADS-B Out (Automatic Dependent Surveillance – Broadcast), Mode S, and Mode 5 to satisfy FAA and Identification Friend or Foe (IFF) requirements ($83.3

million total cost); replacing the Crash Survivable Memory Unit to satisfy Aircraft Information Program requirements ($15.1 million total cost); procuring additional B-2 Monitor and Control Equipment for the GBU-57 Massive Ordnance Penetrator ($40 million total); and procuring the B-2 hardware supporting integration of the B61-12 weapon ($27.5 million total). Finally, the Air Force will continue to pursue a number of B-2 sustainment initiatives to improve aircraft supportability and increase aircraft availability.

B-52

The last B-52H Stratofortress entered service in the United States Air Force in 1961, and it remains our nation's oldest and most versatile frontline long-range strategic bomber. We expect to continue operating the B-52 for many years to come continue to invest in modernization programs to keep the platform operationally relevant and updated with state-of-the-art capabilities. Major modernization efforts include the Radar Modernization Program (RMP) ($551 million FYDP), Combat Network Communications Technology (CONECT) ($271.4 million for FY18 FYDP), and 1760 Internal Weapons Bay Upgrade (IWBU) programs ($67.5 million for FY18 FYDP). RMP will modernize the current Strategic Radar (AN/APQ-166). Current radar is based on 1960's technology, last modified in the 1980s. The radar upgrade will maintain platform viability beyond 2040. The FY18 PB also includes $10 million for the re-engining for risk reduction activities. These efforts will include an assessment for a potential full program—looking at the legacy TF33 engines and engine components of the entire propulsion system.

CONECT provides an integrated communication and mission management system as well as a machine-to-machine interface for weapons retargeting for the entire fleet of 75 B-52Hs.

The digital infrastructure and architecture provided by CONECT is the backbone for the 1760 IWBU and future modification efforts. The 1760 IWBU provides internal J-series weapons capability through modification of Common Strategic Rotary Launchers (CSRLs). Both increments of this program are fully funded and, when complete, will significantly increase the B-52's capability to store and deliver the Joint Direct Attack Munition (JDAM); Laser-JDAM; Joint Air-to-Surface Standoff Missile (JASSM) and its extended range variant; and the Miniature Air Launched Decoy (MALD) and its jamming variant. The Air Force is committed to modernization of the B-52 using modern technology to ensure the aircraft remains relevant through 2050+ as an important element of our nation's defenses.

C-17

The C-17 is the only aircraft that combines tactical capability with strategic range to operate from austere airfield environments. The fleet of 222 aircraft was completed in September 2013 and provides our nation unmatched flexibility to conduct theater and inter-theater direct delivery, airdrop, aeromedical, and special operations airlift missions. In order to increase budget and schedule predictability, our plan is to bundle modernization and sustainment activities. Agile and efficient software and hardware updates will pace timely readiness, safety, and capability improvements as this premier airlift platform helps to achieve our national security objectives.

The Air Force intends to use $210.8 million in FY18 procurement funds to continue critical sustainment, modifications, and upgrades to the C-17 fleet. This includes Identify Friend or Foe (IFF) and Next Generation Communication, Navigation, Surveillance/Air Traffic Management (CNS/ATM) to provide Automatic Dependent Surveillance – Broadcast (ADS-B) Out capability to ensure access to global airspace by meeting mandated civil airspace

requirements around the world. Additionally, $34.3 million of FY18 RDT&E funding will address obsolescence and flight safety issues. The development of a replacement Heads Up Display (HUD) will address obsolescence of the current C-17 HUD and improve the system's availability, reliability, and maintainability. The Beyond Line-Of-Sight (BLOS) communication system effort modernizes multi-channel voice and data communication subsystems to ensure the C-17 keeps pace with changes in DoD communication infrastructures.

C-5

The Air Force continues to modernize and enhance 52 legacy C-5 aircraft to a common configuration to ensure fleet viability and reliability to 2040. The C-5 Reliability Enhancement and Re-engining Program (RERP, or C-5M) is a comprehensive effort to improve aircraft performance, reliability, maintainability, availability, and payload capability/cargo throughput. All 52 aircraft were inducted as of January 2017 and the final aircraft is projected to be complete in April 2018.

During the first week of March 2017 an upgraded C-5 Super Galaxy flew a cargo mission from Travis AFB, California to Yokota AB, Japan, without stopping or refueling. According to the user community, the upgraded "M" version of the aircraft has the range and fuel efficiency to skip a layover at Joint Base Pearl Harbor-Hickam, Hawaii, or Joint Base Elmendorf-Richardson, Alaska. This range and payload capability saves time, fuel, and money for the Air Force. The increased reliability and reach of the C_5M Super Galaxy typified our Global Reach.

The FY18 PB requests $50.6 million in procurement funds, predominately for C-5 core mission computer/weather radar (CMC/WxRdr) system equipment. Additionally, the FY18 PB requests $22.8 million in RDT&E funding in FY18 to support CNS/ATM upgrades, including

ADS-B Out modifications required for global airspace compliance. The C-5 CMC/WxRdr system replaces an antiquated radar system with severe Diminishing Manufacturing Source (DMS) issues and upgrades the CMC processor to adequately handle the demands of future software modifications. Finally, the FY18 PB invested in moving 8 C-5 aircraft from BAI to PAA status at a rate of 2 per year starting in FY18.

Tankers

Comprised of 396 KC-135 Stratotankers and 59 KC-10 Extenders, our tanker fleet provides the backbone of rapid U.S. global operations. Delivery of 179 KC-46 Pegasus aircraft by 2028 will replace less than half of the current tanker fleet and will leave the Air Force with over 200 aging KC-135s awaiting recapitalization. Tankers are the lifeblood of our joint force's ability to respond to crises and contingencies and are essential to keeping our Air Force fueled as a global force.

KC-135 and KC-10

The average KC-135 is 56 years old; KC-10s are an average of 32 years old. Both fleets are frequently challenged by aircraft parts obsolescence and DMS issues. However, with the help of both organic Air Force depots and industry, we are able to maintain these platforms as effective and safe weapon systems for the warfighter. We are executing several key modernization initiatives to ensure out legacy tanker fleet remains viable through 2045.

The FY18 PB requests $69.4 million to continue KC-135 modernization efforts. The primary modernization effort for KC-135 is the Block 45 program, which addresses supportability, reliability, and maintainability issues. Block 45 is an avionics upgrade for the Stratotanker fleet that modernizes legacy flight and engine instruments by integrating a digital

flight director, autopilot, radio altimeter, and electronic engine instrument display for our operators.

Furthermore, the FY18 PB also requests $111.5 million to support our KC-10 fleet through its planned sunset, including the funding for service bulletins, sustainment, and Mode 5 CNS upgrades. Mode 5 is a development effort to complete a DoD-mandated upgrade to the Identification Friend of Foe systems on its aircraft planned for implementation in FY20. The FY18 PB also funds ADS-B Out system modifications on 24 of its KC-10 aircraft to comply with global airspace requirements mandated for implementation in CY20. The Air Force intends to recapitalize the KC-10 fleet as part of its legacy tanker recapitalization strategy with KC-10 requirements beginning no earlier than FY19, dependent on KC-46A delivery schedules.

KC-46

While we continue to sustain our current tanker capability, recapitalizing our aging tanker fleet remains one of our top acquisition priorities. After a successful Milestone C decision in August 2016, the Air Force exercised contract options for aircraft Lots 1 and 2 (19 aircraft total), 4 spare engines, and 10 Wing Aerial Refueling Pod shipsets. The Air Force awarded Lot 3 (15 aircraft) on 27 January 2017 under the authorization of an anomaly in the FY17 Continuing Resolution.

The KC-46 test program is progressing, albeit slower than planned. Boeing's design of several subsystems and production of conformed hardware are still pending FAA approval, which is slowing flight test execution. The test program is also running behind planned pace because several test aircraft are undergoing upgrades to incorporate design changes. Boeing is several months behind schedule, which means the first aircraft will likely to deliver after

September 2017. In the FY18 PB, the Air Force requests $93.8 million for the ongoing KC-46 EMD effort and $2.6 billion to award LRIP Lot 4 (15 aircraft) in January 2018. The procurement of these aircraft continues the Air Force's plan to acquire 179 KC-46s by FY28, as we work recapitalization of the legacy tanker fleet.

The KC-46 Formal Training Unit (FTU) will be located at Altus AFB, Oklahoma, with Main Operating Base (MOB) #1 at McConnell AFB, Kansas, and MOB#2 at Pease Air National Guard Base, New Hampshire. Seymour-Johnson AFB, North Carolina is the Preferred and Reasonable Alternative for MOB#3. Furthermore, JB McGuire-Dix-Lakehurst and Travis AFB were announced as the Preferred & Reasonable Alternatives for Main Operating Base (MOB) #4a and 4b in January 2017.

Stability of requirements and funding are the keys to KC-46 program success and will enable the Air Force to deliver this new tanker, ready for employment on day one. However, KC-46 is just phase one of a three-phase acquisition strategy to recapitalize the Air Force's legacy tanker fleet, and sufficient funding of phases two and three (KC-Y & KC-Z) will be required to keep our tanker fleet viable and relevant for years to come.

C-130

The C-130 fleet is diverse and consists of legacy C-130H and C-130J aircraft, as well as special mission aircraft (AC/LC/MC/HC/WC-130s). The C-130Hs and C-130Js are medium-size transport aircraft capable of completing a variety of tactical airlift operations across a broad range of mission environments. The fleet delivers air logistic support for all theater forces, including those involved in combat operations.

The Air Force is modernizing the C-130H fleet through a four-pronged approach emphasizing aircraft safety, compliance, modernization and recapitalization. First, we are ensuring the C-130H is safe to operate by keeping the aircraft structurally sound through programs such as center wing replacement. The C-130H Center Wing Replacement effort replaces Center Wing Boxes (CWB) on C-130Hs whose center wings' service life will expire and is a critical safety effort. The Air Force adopted a three-pronged approach to mitigate C-130 CWB fleet fatigue: 1) restrict aircraft at 38,000 Equivalent Flight Hours (EFH); 2) inspect/repair CWB until 45,000 EFH; 3) ground at 45,000 EFH or replace the CWB. Second in the four-pronged approach, we will focus on meeting U.S. and foreign airspace compliance mandates through the C-130 Avionics Modernization Program (AMP) Increment 1. Third, C-130 AMP Increment 2 will improve the fleet's maintainability and reliability by providing a new avionics suite, enhanced communications, and electrical improvements; solving pending obsolescence and DMS issues. The FY18 PB maintains full funding for AMP Increments 1 and 2. Finally, as detailed in the April 2017 C-130H Recapitalization and Modernization Report to Congress, due to fiscal constraints and the need to address areas of greater risk, at this time there is no room within existing Air Force resources to purchase additional C-130Js beyond the current program. The Air Force intends to recapitalize or modernize each of the Air National Guard (ANG) and the Air Force Reserve Command (AFRC) C-130H units. The Air Force also intends to continue recapitalizing AFSOC's Special Operations C-130Hs with C-130Js (AC/MC-130Js).

The C-130J aircraft provides extra cargo carrying capability, longer range, and better fuel efficiency for our combat delivery mission, compared to legacy C-130Hs. Special mission variants of the C-130J conduct airborne psychological operations and offensive electronic warfare (EC-130J), weather reconnaissance (WC-130J), search and rescue (HC-130J), and

special operations (MC-130J and AC-130J). Current modification efforts include center wing replacement, LAIRCM, and the ADS-B Out capability to meet mandated civil and international airspace requirements as part of the C-130J Block 8.1 upgrade. The FY14 National Defense Authorization Act authorized multi-year procurement for the C-130J. As part of the multi-year contract, the Air Force is procuring 72 C-130Js (all variants) through FY18.

Conclusion

The Air Force remains committed to our top three acquisition programs, B-21, KC-46, and F-35. In the midst of the challenges ahead we will aim to keep these programs on track and deliver these systems not only as a vital capability to our forces, but also as a best value to our taxpayer. These systems will provide the future capabilities necessary to operate effectively in the national warfighting environment of tomorrow.

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
Distinguished Service Medal
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 Jerry D. Harris, Jr.

Lt. Gen. Jerry Harris 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 Harris 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 Harris entered the Air Force in 1985 as a graduate of the ROTC program at Washington State University. He has served as a flight commander, operations officer, weapons officer and inspector general. The general served on the staffs of two numbered Air Forces and one major command, all in operations. He has also served as the Combined Air and Space Operations Center Battle Director for operations Iraqi Freedom and Enduring Freedom. General Harris has commanded at squadron, group and wing levels. Prior to his current assignment, General Harris was the Vice Commander, Air Combat Command, Langley Air Force Base, Virginia, responsible for organizing, training, equipping and maintaining combat-ready forces for rapid deployment and employment while ensuring strategic air defense forces are ready to meet the challenges of peace time air sovereignty and wartime defense.

General Harris is a command pilot with more than 3,100 flying hours in the F-16.

EDUCATION
1985 Bachelor of Science in Mechanical Engineering, Washington State University
1992 Squadron Officer School, Maxwell AFB, Ala
1997 Air Command and Staff College, Maxwell AFB, Ala.
1997 Master of Science in Aeronautical Science Technology, Embry-Riddle Aeronautical University, Daytona Beach, Fla.
1998 School of Advanced Airpower Studies, Maxwell AFB, Ala.
1998 Master of Science in Airpower Art and Science, School of Advanced Airpower Studies, Maxwell AFB, Ala.
1998 Armed Forces Staff College, Norfolk, Va.
2001 Air War College, by correspondence
2006 National Defense College, New Delhi, India
2011 Capstone General and Flag Officer Course, National Defense University, Washington, D.C.

ASSIGNMENTS
1. February 1986 - January 1987, Student, undergraduate pilot training, Williams AFB, Ariz.
2. January 1987 - April 1987, Student, AT-38B lead-in fighter training, Holloman AFB, N.M.
3. April 1987 - December 1987, Student, F-16 B-Course, MacDill AFB, Fla.
4. December 1987 - July 1989, Chief, Current Operations Division; Squadron Assistant Programmer; Training Officer; and Mobility Officer, Nellis AFB, Nev.
5. August 1989 - January 1992, Chief of Weapons and Tactics and Air-To-Surface Weapons Officer, Moody AFB, Ga.
6. January 1992 - February 1992, Student, Squadron Officer School, Maxwell AFB, Ala.
7. February 1992 - March 1994, Chief of Mid-range Programming and Student, Fighter Weapons School, Luke AFB, Ariz.
8. March 1994 - June 1996, Weapons and Tactics Flight Commander; Chief of Wing Weapons; and Chief of Squadron Weapons, Eielson AFB, Alaska
9. July 1996 - July 1998, Student, School of Advanced Airpower Studies and Air Command and Staff College, Maxwell AFB, Ala.
10. July 1998 - September 1998, Student, Armed Forces Staff College, Norfolk, Va.
11. September 1998 - March 1999, NATO Joint Staff Officer, Long-range Plans, Plans and Policy,

Headquarters, Southern Region Air Command, Naples, Italy
12. March 1999 - August 2000, Chief of Strategy, Crisis Action Group, Headquarters Southern Region Air Command, Naples, Italy
13. September 2000 - January 2001, Student, F-16 requalification, Luke AFB, Ariz.
14. January 2001 - February 2003, Operations Officer and Chief of Standardization and Evaluation, 20th Operations Group; and assistant Director of Operations, 79th Fighter Squadron, Shaw AFB, S.C.
15. March 2003 - February 2005, Commander, 79th Fighter Squadron, Shaw AFB S.C.
16. March 2005 - July 2005, Staff Director and Inspector General, 20th Fighter Wing, Shaw AFB S.C.
17. July 2005 - December 2005, Deputy Commander, 20th Operations Group, Shaw AFB S.C.
18. January 2006 - January 2007, Student, National Defense College, New Delhi, India
19. January 2007 - July 2008, Commander, 505th Training Group, Hurlburt Field, Fla.
20. July 2008 - November 2008, Director of Air, Space and Information Operations, 13th Air Force, Hickam AFB, Hawaii
21. November 2008 - September 2009, Commander, 8th Fighter Wing, Kunsan Air Base, South Korea
22. September 2009 - September 2010, Assistant Director of Operations, Plans, Requirements and Programs, Headquarters Pacific Air Forces, Hickam AFB, Hawaii
23. September 2010 - September 2012, Commander, 56th Fighter Wing, Luke AFB, Ariz.
24. September 2012 - March 2014, Vice Commander, 5th Air Force, Yokota Air Base, Japan
25. March 2014 - April 2015, Director of Programs, Office of the Deputy Chief of Staff for Strategic Plans and Programs, Headquarters U.S. Air Force, Washington, D.C.
26. April 2015 - February 2017, Vice Commander, Air Combat Command, Joint Base Langley-Eustis, Va.
27. February 2017 - Present, Deputy Chief of Staff for Strategic Plans, Programs, and Requirements, Headquarters U.S. Air Force, Washington, D.C.

SUMMARY OF JOINT ASSIGNMENTS
September 1998 - August 2000, NATO Joint Staff Officer, Long-range Plans, Plans and Policy; and Chief of Strategy, Crisis Action Group, Headquarters Southern Region Air Command, Naples Italy, as a major

FLIGHT INFORMATION
Rating: command pilot
Flight hours: more than 3,300
Aircraft flown: F-16, T-37, T-38, Mig-29 and Mig-21

AWARDS AND DECORATIONS
Distinguished Service Medal
Legion of Merit with two oak leaf clusters
Defense Meritorious Service Medal
Meritorious Service Medal with two oak leaf clusters
Air Medal with three oak leaf clusters
Aerial Achievement Medal
Air Force Commendation Medal with two oak leaf clusters
Joint Service Achievement Medal
National Defense Service Medal with bronze star
Southwest Asia Service Medal with three bronze stars
Kuwait Liberation Medal (Kingdom of Saudi Arabia)
Kuwait Liberation Medal (government of Kuwait)

EFFECTIVE DATES OF PROMOTION
Second Lieutenant May 11, 1985
First Lieutenant Sept 1, 1987
Captain Sept 1, 1989

Major Sept 1, 1995
Lieutenant Colonel April 1, 2000
Colonel Jan. 1, 2006
Brigadier General Nov. 3, 2010
Major General June 27,2014
Lieutenant General Feb. 22, 2017

(Current as of February 2017)

Major General Scott A. Vander Hamm
Retiring effective December 01, 2017

Maj. Gen. Scott A. Vander Hamm is the Assistant Deputy Chief of Staff, Operations, Headquarters U.S. Air Force, the Pentagon, Washington, D.C. He is responsible to the Secretary of the Air Force and the Chief of Staff for formulating policy supporting air, space, irregular warfare, counterproliferation, homeland security, weather and cyber operations. General Vander Hamm determines operational requirements, capabilities and training necessary to support national security objectives and military strategy.

General Vander Hamm received his commission through Officer Training School in 1986. His background includes both flying and staff assignments and command at the squadron, group, wing, task force, joint functional component and numbered air force levels. He also served twice in the Joint Staff and in a major command staff. Prior to his current assignment, Gen. Vander Hamm was the Commander, 8th Air Force, Air Force Global Strike Command, and Commander, Joint Functional Component Command, Global Strike and Task Force 204, US Strategic Command. He has flown and employed both the B-2A and B-1B in combat for Operation Iraqi Freedom, Operation Enduring Freedom in Afghanistan and Operation Odyssey Dawn in Libya.

General Vander Hamm is a command pilot with 4,600 hours in the T-37, T-38, T-43, B-52, B-1 and B-2.

EDUCATION
1985 Bachelor of Arts degree, Grand Canyon University, Phoenix, Ariz.
1990 Master of Arts degree in Defense Administration, Northern Michigan University, Marquette
1991 Distinguished graduate, Squadron Officer School, Maxwell AFB, Ala.
1996 Air Command and Staff College, by seminar
2000 Master of Military Studies degree, Marine Corps Command and Staff College, Quantico, Va.
2001 Air War College, by seminar
2004 Back to Basics, Executive Business Training, Darden Graduate School of Business, University of Virginia
2005 Secretary of Defense Corporate Fellowship, 3M Company, St. Paul, Minn.
2006 Executive Leadership Development Program, Center for Creative Leadership, Greensboro, N.C.
2007 Air Force Enterprise Leadership Seminar, Kenan-Flagler Business School, University of North Carolina at Chapel Hill
2011 System Acquisition Management Course for General and Flag Officers, Fort Belvoir, Va.
2011 Joint Force Air Component Commander (JFACC) Course, Maxwell AFB, Ala.
2012 Senior Joint Information Operations Application Course, Maxwell AFB, Ala.
2012 Enterprise Perspectives Seminar, Capitol Hill Club, Washington, D.C.
2013 Joint Flag Officer's Warfighting Course, Maxwell AFB, Ala.
2016 Coalition Force Maritime Component Commander (CFMCC) Course, U.S. Southern Command, Miami, Fl.

ASSIGNMENTS
1. April 1986 - January 1987, Student, undergraduate navigator training, Mather AFB, Calif.
2. January 1987 - August 1987, Student, B-52 combat crew training, Castle AFB, Calif.
3. September 1987 - March 1990, B-52H Senior Instructor Navigator, and Standardization and Evaluation Flight Examiner, K. I. Sawyer AFB, Mich.
4. April 1990 - June 1991, Student, undergraduate pilot training, Williams AFB, Ariz.
5. July 1991 - August 1995, Flight Commander and B-1 Instructor Pilot, Dyess AFB, Texas.
6. August 1995 - March 1997 , B-2 pilot, Mission Commander, and Chief of Scheduling, 393rd Bomb Squadron, Whiteman AFB, Mo.
7. March 1997 - September 1998, Assistant Director of Operations; Chief of Standardization and

Evaluation; Flight Commander; and B-2 instructor pilot, 394th Combat Training Squadron, Whiteman AFB, Mo.
8. September 1998 - July 1999, Wing Executive Officer and B-2 Instructor Pilot, 509th Bomb Wing, Whiteman AFB, Mo.
9. July 1999 - June 2000, Student, Marine Corps Command and Staff College, Quantico, Va.
10. June 2000 - June 2002, Operations Officer, Strategic Operations Division (J38), Joint Staff, the Pentagon, Washington, D.C.
11. July 2002 - June 2004, Commander, 325th Bomb Squadron, Whiteman AFB, Mo.
12. July 2004 - June 2005, Secretary of Defense Corporate Fellow, 3M Company, St. Paul, Minn.
13. July 2005 - May 2007, Commander, 7th Operations Group, Dyess AFB, Texas
14. April 2006 – Sep 2006, Commander, 40th Air Expeditionary Group, British Indian Ocean Territory, Diego Garcia
15. June 2007 - June 2009, Commander, 28th Bomb Wing, Ellsworth AFB, S.D.
16. June 2009 - August 2010, Assistant Deputy Director for Global Operations (J39), Operations Directorate, Joint Staff, the Pentagon, Washington, D.C.
17. August 2010 - June 2012, Commander, 509th Bomb Wing, Whiteman AFB, Mo.
18. July 2012 – October 2013, Director of Plans, Programs, Requirements and Assessments, Headquarters Air Education and Training Command, Joint Base San Antonio-Randolph, Texas
19. October 2013 – April 2015, Commander, Eighth Air Force (Air Forces Strategic) and Commander, Task Force 204, Barksdale AFB, La., and Joint Functional Component Commander for Global Strike, U.S. Strategic Command, Offutt AFB, Neb.
20. April 2015 – present, Assistant Deputy Chief of Staff, Operations, Headquarters U.S. Air Force, the Pentagon, Washington, D.C.

SUMMARY OF JOINT ASSIGNMENTS
1. June 2000 - June 2002, operations officer, Strategic Operations Division (J38), Joint Staff, the Pentagon, Washington, D.C., as a lieutenant colonel
2. June 2009 - August 2010, Assistant Deputy Director for Global Operations (J39), Operations Directorate, Joint Staff, the Pentagon, Washington, D.C., as a colonel and brigadier general
3. October 2013 - April 2015, Commander, Joint Functional Component Command for Global Strike, U.S. Strategic Command, Offutt AFB, Neb., as a major general

FLIGHT INFORMATION
Rating: command pilot Flight hours: 4,600 hours
Aircraft flown: B-1, B-2, B-52H, T-37 and T-38

MAJOR AWARDS AND DECORATIONS
Distinguished Service Medal
Defense Superior Service Medal
Legion of Merit with two oak leaf clusters
Distinguished Flying Cross
Bronze Star Medal
Defense Meritorious Service Medal
Meritorious Service Medal with two oak leaf clusters
State of Missouri Meritorious Service Medal
Air Medal with three oak leaf clusters
Aerial Achievement Medal
Joint Service Commendation Medal
Air Force Commendation Medal
Joint Service Achievement Medal
Combat Readiness Medal with silver oak leaf cluster

OTHER ACHIEVEMENTS
1986 Distinguished graduate, Ira J. Husik Memorial Trophy, undergraduate navigator training
1991 Distinguished graduate, ATC Commander's Trophy; Flying Training Award, undergraduate pilot training

EFFECTIVE DATES OF PROMOTION
Second Lieutenant March 11, 1986
First Lieutenant March 11, 1988
Captain March 11, 1990
Major Sept. 1, 1997
Lieutenant Colonel May 1, 2000
Colonel Aug. 1, 2004
Brigadier General July 16, 2010
Major General Nov. 15, 2013

(Current as of November 2016)

WITNESS RESPONSES TO QUESTIONS ASKED DURING THE HEARING

MAY 25, 2017

RESPONSE TO QUESTION SUBMITTED BY MR. COURTNEY

General BUNCH. The FY18 President's Budget adequately supports ongoing B–52 modernization efforts. FY18 RDT&E and Procurement requests for B–52 decreased $52M from FY17 President's Budget request due to revised program estimates and schedule revisions.

B–52 Modernization assures viability to perform current/future wartime missions by sustaining and modernizing the fleet to ensure relevance, lethality and survivability. The FY18 PB request continues B–52 modernization and addresses issues required to maintain nuclear and conventional credibility. [See page 17.]

QUESTIONS SUBMITTED BY MEMBERS POST HEARING

MAY 25, 2017

QUESTIONS SUBMITTED BY MS. BORDALLO

Ms. BORDALLO. Directed energy offers a deep magazine and an affordable way to engage threats. Can you address how the Air Force is working with the other services to ensure synergy is achieved in program development? The Navy has a directed energy system deployed on the USS *Ponce,* is the Air Force working with the Navy to build on their operational findings? Describe the ways the Air Force is potentially fielding directed energy? Are there plans to work this capability into our current integrated air defenses?

General BUNCH. The Air Force has developed a Directed Energy Weapon (DEW) Flight Plan to identify activities required across the doctrine, organization, training, materiel, leadership, personnel, facilities, and policy spectrum to transition DEW technologies from the Science and Technology (S&T) portfolio to operationally deployed Air Force weapon systems in a deliberate manner to minimize cost and maximize efficacy.

Signed by the Secretary of the Air Force and the Air Force Chief of Staff in May 2017, the DEW Flight Plan identifies the revolutionary opportunities provided by DEW technologies. The Air Force DEW Flight Plan also charts a course that enables the Air Force to explore and exploit the opportunities DEWs offer to accomplish future missions in support of national military objectives. It provides guidance for a range of coordinated follow-on activities across the Air Force enterprise, including an experimentation campaign focused on operationalizing DEWs. The plan builds a transition path from technology development to a fielded weapon system, and provides feedback to the S&T, acquisition, and operational communities on efforts needed to support transition. To ensure directed energy technologies transition from opportunity to full potential, the Air Force must maintain a preeminent posture in the development of those technologies while also exploring a variety of new operational concepts and strategic military effects that address emerging U.S. military vulnerabilities and opportunities.

One of the principal ways that DEW synergy is maintained across the services is the Joint Directed Energy Transition Office, formerly the High Energy Laser Joint Technology Office, through its cross service technology efforts, Strategic Planning meeting, and Annual Review meeting. There are also many relevant presentations and sidebars at the various Directed Energy Professional Society meetings. The DEW subgroup of the Government-only Weapons Community of Interest is also a valuable resource. All of these provide opportunities for both senior officials and program managers to discuss matters regarding DEW technologies.

The Air Force supplied some beam control technology to the Navy laser system on the USS Ponce and we will follow their effects and system reliability data. There are vast differences in the vulnerability of Service targets, which range from close-in rubber boats, drones, artillery, rockets, and missiles, to long range cruise missiles, aircraft, and air-to-air missiles. The Joint Directed Energy Transition Office maintains the principal effects data base for the Services.

The Air Force is looking at several DEW applications with different fielding opportunities. One application is aircraft self-protection using lasers. This is one of our more challenging applications, as it requires significant progress in size, weight, power need and power on target, especially in modern fighters. Another application is airbase defense. The Army has a ground-based integrated Air Defense mission, for which the Air Force and Army are working a joint S&T effort in ground-based beam control. The Air Force is also looking at airborne directed energy capabilities to support this application, especially in remote locations. In addition, as part of the execution of the DEW Flight Plan, the Air Force recently issued a Capability Request for Information to assist in determining possible candidate systems for an upcoming FY18 directed energy counter-unmanned aircraft systems experiment. A third Air Force application is using high power microwaves to defeat electronic systems. The Air Force demonstrated this capability in 2013 from a cruise missile; the Air Force and the Navy now have a joint effort to demonstrate an advanced capability in a more appropriate platform.