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ON

NATIONAL DEFENSE AUTHORIZATION ACT FOR FISCAL YEAR 2019

AND

OVERSIGHT OF PREVIOUSLY AUTHORIZED PROGRAMS

BEFORE THE

COMMITTEE ON ARMED SERVICES
HOUSE OF REPRESENTATIVES

ONE HUNDRED FIFTEENTH CONGRESS

SECOND SESSION

FULL COMMITTEE HEARING

ON

ASSESSING THE FISCAL YEAR 2019 BUDGET REQUEST AND ACQUISITION REFORM PROGRESS

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ASSESSING THE FISCAL YEAR 2019 BUDGET REQUEST AND ACQUISITION REFORM PROGRESS

HOUSE OF REPRESENTATIVES,
COMMITTEE ON ARMED SERVICES,
Washington, DC, Tuesday, March 20, 2018.

The committee met, pursuant to call, at 10:02 a.m., in Room 2118, Rayburn House Office Building, Hon. William M. "Mac" Thornberry (chairman of the committee) presiding.

OPENING STATEMENT OF HON. WILLIAM M. "MAC" THORNBERRY, A REPRESENTATIVE FROM TEXAS, CHAIRMAN, COMMITTEE ON ARMED SERVICES

The CHAIRMAN. The committee will come to order. Today, the committee will hear testimony from the three service secretaries on the administration's fiscal year 2019 budget request as well as on their progress in implementing the acquisition reforms already passed into law.

The two are closely tied because both branches of government have a responsibility to get more defense value for the taxpayers from the money that's spent, as well as a responsibility to get innovation into the hands of the warfighter faster. Acquisition reform has put more authority and more responsibility with the services. We have begun to reverse the decline in funding. Now DOD [Department of Defense] and the services have to deliver results.

The budget agreement, which Congress must complete by passing the appropriations bill this week, begins to repair and rebuild the military. But our adversaries are not waiting around for us to catch up. We must reform as we rebuild. We must be prepared across the full spectrum of modern warfare, from nuclear deterrence to the kind of political and information campaigns we will discuss at greater length at our hearing tomorrow. And we must measure success by output and results rather than inputs and process.

The budget agreement gives us an opportunity, but the legislative and executive must work together to make the most of it. Business as usual will not adequately defend the Nation in today's world. I know I speak for all my colleagues on this committee in saying that we stand ready to do our part to get us on the right track.

I yield to the ranking member.

[The prepared statement of Mr. Thornberry can be found in the Appendix on page 59.]

STATEMENT OF HON. ADAM SMITH, A REPRESENTATIVE FROM WASHINGTON, RANKING MEMBER, COMMITTEE ON ARMED SERVICES

Mr. SMITH. Thank you, Mr. Chairman. I appreciate that.

And I appreciate all the secretaries being here and I agree completely with the chairman's opening remarks. I think he perfectly outlines the challenge. There is the tiny little hurdle of actually passing those appropriations bills which seems to always be like we are just around the corner from doing it. That has been going on now for 14 months and it is still going on even as we are 3 days away from when it has to be done.

But let us assume for a moment we get that done and there is a reasonable amount of money available to the Pentagon for 2018 and 2019. And this is an enormously important opportunity for two reasons, number one, because it is a—well, three actually. There is a lot of money there so we have to make sure that we spend it wisely, as the chairman said.

Number two, we face an incredibly complex threat environment, so we are going to want to do like 5 million things at once and prioritizing is going to be enormously important. And, number three, that money is very quickly going to be gone because when you look at our fiscal situation as we push towards $22 trillion in debt, we have, I think, the guess is it is going to be about a $1 trillion deficit this year and, of course, the Budget Control Act does have two more years, 2020 and 2021, to come back into place.

You never know, but the odds are this is the largest the defense budget's going to be for probably about the next decade. So we have to make sure that we spend this money wisely and we also spend it in a way that does not lock us into sort of long-term obligations that can't be met given the fiscal restraints that are coming.

But I think the most exciting and most promising aspect of this as I have met and worked with all three of you and also the Secretary of Defense, the Deputy Secretary and the Acquisitions Under Secretary. And I think we have a great team together that is really focused on efficiency and is really focused on getting the most out of the money we spend and trying to make the mother of all bureaucracies, which is the Pentagon, work. I just had a good conversation with Secretary Spencer about this. I think we are headed in the right direction.

I will just close by saying as we head into the 2018 NDAA [National Defense Authorization Act], if there is anything that we can do or not do in the NDAA to help you with that acquisition reform process, please let us know, because I think that is what's going to be most important is to make sure that we spend the money as wisely as is humanly possible to meet all the challenges that we do face.

With that, I yield back and look forward to the testimony.

[The prepared statement of Mr. Smith can be found in the Appendix on page 60.]

The CHAIRMAN. The committee is pleased to welcome the Honorable Mark Esper, Secretary of the Army; the Honorable Richard Spencer, Secretary of the Navy; the Honorable Heather Wilson, Secretary of the Air Force as witnesses today.

Without objection, your full written statements will all be made part of the record. And we will be interested in hearing any oral comments you would like to make at this time.

Secretary Esper, we will start with you.

STATEMENT OF HON. MARK T. ESPER,
SECRETARY OF THE ARMY

Secretary ESPER. Chairman Thornberry, Ranking Member Smith, distinguished members of the committee, good morning and thank you for the opportunity to be with you today.

Let me say upfront that the Army's readiness across its formations is improving, and if called upon today, I am confident we would prevail in any conflict. This is due in part to the increased funding Congress provided last year. For this, I would like to say thank you.

The Army's mission to defend the Nation has not changed, but the strategic environment has. Following 17 years of sustained combat, we now face a future characterized by the reemergence of great power competition and the continued challenges posed by rogue states and non-state actors, making the world ever more complex and dangerous.

To address these challenges, the Army is changing. We have a comprehensive plan to ensure our long-term dominance, but we must have predictable, adequate, sustained, and timely funding. Fiscal uncertainty has done a great deal to erode our readiness and hamper our ability to modernize.

While the Army must be ready to deploy, fight, and win anytime, anywhere, against any adversary, the National Defense Strategy [NDS] has identified China and Russia as the principal competitors against which we must build sufficient capacity and capabilities. Both countries are taking a more aggressive role on the world stage and either possess or are building advanced capabilities that are specifically designed to reverse the tactical overmatch we have enjoyed for decades.

In support of the NDS, the Army is increasing our lethality along three focused priorities: readiness, modernization, and reform. Readiness is the top priority because only a ready total Army—Regular Army, Guard, and Reserve—can deter conflict, defeat enemies, and enable the joint force to win decisively.

We are refocusing training for our soldiers to be more lethal and more resilient on the high-intensity battlefield of the future. We are increasing home-station training, getting more repetitions for our formations at the company level and below. We are giving training time back to commanders by reducing certain self-imposed mandatory training requirements not tied to increased lethality and by eliminating excessive reporting.

We have maximized the number of Combat Training Center rotations to 20 per year, 4 of which are dedicated to the Reserve Component. These rotations are focused on the high-end fight, replicating near-peer competitor capabilities including increased enemy lethality, degraded communications, persistent observation, and a contested environment.

And while the quality, training, and the esprit of our soldiers are what make the U.S. Army the most ready and lethal ground com-

bat force in history, our superiority is enabled by the best weapons and equipment we can provide.

As such, my second priority is modernization for future readiness. To ensure our soldiers never enter a fair fight, the Army is now increasing its investment in modernizing the force. Our modernization strategy is focused on one goal, make soldiers and units far more lethal and effective than any other adversary.

The establishment of the Army Futures Command this summer is the best example of our commitment to the future lethality of the force. Army Futures Command will address the key shortcomings of the current acquisition system, providing unity of command, effort, and purpose to the modernization process.

The Army has also identified its top six modernization priorities for the coming years. Each of these priorities is detailed in my written statement and each is the purview of a newly established cross-functional team [CFT].

The purpose of these CFTs is to determine the requirements of needed capabilities to ensure all stakeholders are at the table from day one and to focus Army resources on accelerated experimentation, prototyping, and fielding. In order to ensure battlefield success, our doctrine must be updated to reflect the threat environment we face and remain at pace with our other efforts to modernize our equipment.

My third priority is reform, freeing up time, money, and manpower to enhance readiness, accelerate modernization, and ensure the efficient use of resources provided to us by the American people. Our reform efforts particularly within the acquisition system are long overdue. While Futures Command is probably the boldest reform we are pursuing, other reform initiatives owe much to the acquisition authorities delegated to the services in prior NDAAs.

Within these authorities, we are reinvigorating the Army Requirements Oversight Council, moving major defense acquisition programs back to the service, and using other transaction authorities to accelerate fielding in limited situations.

A ready and modernized Army is critical to defend the Nation, but we must not overlook what makes us remarkable. For this, I have outlined three enduring priorities: first, taking care of our soldiers, civilians, and their families; second, a service-wide commitment, recommitment to the Army's values, especially by leaders, to treat everyone with dignity and respect; and finally, strengthening our alliances and partners by building stronger ties to a number of initiatives. I look forward to discussing this with you as time permits.

With that, let me thank you again for this committee's continued support of the Army and specifically the defense authorizations and funding increases requested in the fiscal year 2018 and 2019 budgets. I look forward to your questions and appreciate the opportunity to discuss these important matters with you today. Thank you.

[The prepared statement of Secretary Esper can be found in the Appendix on page 62.]

The CHAIRMAN. Secretary Spencer.

STATEMENT OF HON. RICHARD V. SPENCER, SECRETARY OF THE NAVY

Secretary SPENCER. Chairman Thornberry, Ranking Member Smith, distinguished members, I want to thank you for the opportunity to appear before you today and give you the posture of the Department of the Navy. It is an honor to sit here before you with my fellow service secretaries.

On behalf of our services, the Navy and Marine Corps team, thank you for the effort put forth by Congress in reaching a bipartisan agreement and then support by the authorizing committees. Let me tell you on behalf of the Navy-Marine Corps team, we understand that this put people in the farthest edges of their comfort zone and we are wildly supportive of that and we thank you for your efforts.

We look forward to getting those resources as soon as possible in order to enhance readiness and lethality in our department. These resources will be expended, in focused alignment with the National Defense Strategy, building our combat credible force.

I echo what Secretary Esper just said about the need for a steady state of resourcing. Today, 94,000 sailors and Marines are forward-deployed and stationed using the global maritime commons as a medium for maneuver, ensuring the maritime lanes of commerce remain free and open, assuring access to overseas regions, defending key interests in those areas, protecting United States citizens abroad, preventing adversaries from leveraging the world's oceans against us, 24 hours a day, 365 days a year.

Our budget requests enhance readiness and continue increasing the capability and capacity of the Navy-Marine Corps team. As directed in the 2018 National Defense Strategy, our budget submission supports building a more lethal, resilient, and agile force able to deter and defeat aggression by peer competitors and other adversaries in all domains across the conflict spectrum.

My priorities for the Department center on three categories: people, capabilities, and processes. The ability to accomplish our mission relies on people: 800,000 sailors, Marines, Active Duty, Reserve, our civilian teammates, and all their families. We are building a more lethal and resilient, agile, talented, and rapidly innovating workforce as we speak.

The ability to accomplish our mission relies on having capabilities necessary to fight tonight, challenge the competitors, deter our rivals, and win. We are investing in the modernization of key capabilities and new technologies to attain that goal.

Lastly, the ability to accomplish our mission relies on having efficient processes in place that will speed the value and the ability to support our warfighters in a more effective and efficient manner. We are creating a continuous improvement mindset in both our culture, management systems in order to deliver performance with affordability and speed.

I deliver to you today a plan for the Department of the Navy with a sense of urgency. We cannot and will not allow our competitive advantage to erode. With your guidance, these planned investments will provide combat credible maritime forces for the future. We will ensure we are good stewards of providing these resources,

drive efficiency across the Department to maximize every dollar, and invest smartly to leverage the return on our investments.

I look forward to your questions.

[The prepared statement of Secretary Spencer can be found in the Appendix on page 72.]

The CHAIRMAN. Secretary Wilson.

STATEMENT OF HON. HEATHER WILSON, SECRETARY OF THE AIR FORCE

Secretary WILSON. Mr. Chairman, Ranking Member Smith, my statement is in the record and I would just like to highlight a couple of points that is really part of our budget. The first is that the Air Force budget for fiscal year 2019 aligns with the National Defense Strategy. It recognizes that we face a more competitive and dangerous international security environment than we have seen in decades. It also recognizes that great power competition has reemerged as the central challenge to U.S. security.

In our budget there really are two bold moves and one continuing theme. The first bold move is the acceleration of defendable space. We need to be able to deter, defend, and prevail against anyone who seeks to deny our ability to freely operate in space.

The President's budget reflects an 18 percent increase over the fiscal year defense plan for 2019, the 5-year defense plan, and that is on top of a 6 percent increase that we presented in the fiscal year 2018 defense plan. So accelerate defendable space.

The second bold move in this budget is the shift to multi-domain operations. And that is most visible in changing the way the Air Force plans to do command and control.

There is one continuing effort in our budget, and that is to keep improving readiness to win any fight any time. That is what you expect of your Air Force and I look forward to your questions.

[The prepared statement of Secretary Wilson can be found in the Appendix on page 79.]

The CHAIRMAN. Thank you, all. I want to ask each of you to respond to, well it will be two questions, but I would invite you to be brief because obviously there is a lot of members who want to have a conversation with you.

As the ranking member pointed out, we are talking about 2019, but we have not yet completed all of the work for 2018. We have a defense authorization bill signed into law. We have a budget cap agreement signed into law. This week we need to pass an appropriation bill to match that.

I would invite each of you to just briefly describe why this appropriation is significant for your service compared to a CR [continuing resolution], compared to a sequestration level, compared to the President's original budget, whatever level you would want to say. But I think it is important for members to hear from you directly now, why is this vote this week important.

Secretary Esper.

Secretary ESPER. Thank you, Mr. Chairman. Let me just say briefly with regard to modernization, what we call future readiness, as you know, there are restrictions under a CR that limit us from doing two things, new starts and increasing the quantities of munitions among other things. So those are two immediate impacts we

face right now with regard to materiel and, again, preparing for conflict. More broadly, because of the fact that we are operating under the CR and we have been now for nearly 6 months, it limits our ability to fund training exercises, to fill seats at our training base, and has an overall impact on the training and readiness of the force.

The CHAIRMAN. Secretary Spencer.

Secretary SPENCER. Mr. Chairman, I can only echo what Secretary Esper just said and add something on as far as the Navy is concerned. You have heard me speak before what CRs cost the United States Navy since they began: about $4 billion burned in a trash can.

But more importantly, we desperately need this new appropriations bill to be set forward. The capital assets and our cycling of maintenance for aviation, surface warfare, undersurface warfare, it is critical, absolutely critical that we get a continuous form of funding in order to manage the industrial base to put us back on a footing to be out there on the seas protecting that that we should do.

The CHAIRMAN. Secretary Wilson.

Secretary WILSON. Mr. Chairman, first, with respect to sequester, the sequester in the Budget Control Act is still the law of the land. And I would say that sequester did more damage to the United States Air Force and our ability to defend the Nation than anything our adversaries have done in the last 10 years. We did it to ourselves.

We cut 30,000 people out of the Air Force, reduced by 10 fighter squadrons, and weapon system sustainment and the problems that we are having with pilot retention can really be tied directly back to sequester several years ago.

With respect to the continuing resolution, we are limited in we cannot have any new starts of programs. So a lot of the programs that are going to take us into the future are just still pending, and we will have to execute those in the last 6 months of the year.

Particularly with respect to readiness, one of our major readiness issues is munition stockpiles. We want to be able to expand the capacity of our munitions production and we cannot do that until we get this budget through this week. Thank you.

The CHAIRMAN. One other brief question. This committee has helped enact significant acquisition reform for the last 3 years. A lot of that puts more responsibility on you-all's shoulders. My question is, based on what you know now, is there any area where we really messed up, where we made a mistake, where we did something that goes the wrong direction and need to be corrected? Obviously, there is going to be tweaks and small challenges, but based on what you have seen and what decisions you have had to make, et cetera, have we gotten anything significant wrong in the last 3 years?

Secretary Esper.

Secretary ESPER. Mr. Chairman, no, not that I have encountered yet. In fact everything that I have had to deal with in the 3-plus months that I have been on the job has been positive.

The CHAIRMAN. Secretary.

Secretary SPENCER. Mr. Chairman, again, I would say the same. There are some fascinating and interesting tools that we are using

and we are going to use and look forward to use, so thank you for those. I would ask for a stabilization period so we can digest what we have and have the ability to come back to you if we need more, but right now the knife drawer looks full.

The CHAIRMAN. Secretary Wilson.

Secretary WILSON. Mr. Chairman, there are several things we are taking advantage of. The other transaction authorities, prototyping, and experimentation are tremendously valuable as is the decision by the Congress to push down to lower levels of authority milestone decision authority.

There are a few other things that I would say are strings attached that I think might be worth looking at. There is a provision in there called Provision 807 on costing and fielding estimates that may require it go all the way up to the Secretary of Defense for every major acquisition program that probably should be put with the milestone decision authority.

There is an independent technical readiness assessment that also may have to go back up the chain. All of these, if you push authority down, but you still require some of the sub-decisions to go all the way back up the chain may not result in the speed that you really want. And then there is another Provision 808, which has to do with an acquisition scorecard which is a similar kind of issue.

So I would say, in general these are tremendously helpful. We are accelerating our use of them. But there are a few things that we need to make sure the details also get pushed back to the milestone decision authority.

The CHAIRMAN. Well, I just say we want to work with you in identifying those items. But as I mentioned at the beginning, a major premise of this reform is to give more authority and also more responsibility to the services. That is on you-all's shoulders.

And as you all well know, the world is moving so fast and in many ways is so complex and dangerous that we cannot afford to not take full advantage of those tools, but also move out much quicker than we have been.

Mr. Smith.

Mr. SMITH. Thank you, Mr. Chairman.

I was joking with staff up here that I think what we all ought to do is the only question we should ask about this entire hearing is we should ask Secretary Wilson to tell us what she thinks about the Space Corps and we should just have a constant conversation about that because I think that would be interesting. I will leave that to Mr. Rogers and Mr. Cooper actually.

[Laughter.]

Mr. SMITH. But the question I do want to ask is where can you save money, because I have often said that ever since I have been on this committee 21 years it has a very easy-to-track theme and that is people come over from the Pentagon and tell us all kinds of horror stories about what they do not have, about how short they are, about their unfunded requirements, about all the money that they need that they do not have, and how that lack of money is going to lead to one cataclysm after another.

And I do not discount the threat environment that the chairman just described. But if we are going to get to good on that stuff, it cannot all be up, up, up, up, up, up, up. There has got to be some

place in a $700 billion budget where you are going, "Gosh, I wish I did not have to spend that money because I would like to spend it over here."

So I realize that the odds of you guys actually answering this question are remote, but I am going to throw it out there anyway. If you would say whether it is a program or whatever, where can you save money in each of your services? Where are we spending money that we shouldn't be spending money?

Secretary ESPER. So, Mr. Smith, I will go first. I think there are three things that come to mind immediately; first and foremost is acquisition and acquisition reform. So we believe that as we stand up Futures Command and the structure, the processes, the culture that we hope to change alongside that will result in fewer dollars wasted going forward and actually maybe save dollars as well.

Number two, we are looking at a number of initiatives to tackle that problem as well, the problem of savings. One is contracting services. So we are looking to maybe save $1 billion-plus a year for a period of years just by consolidating and rationalizing our contracting services.

Mr. SMITH. Are you sure? I mean, as you well know, that is a battle that is very, very difficult.

Secretary ESPER. Yes, sir, these are all difficult.

Mr. SMITH. Do you have any sort of quick metric for when it makes sense to contract out and when it does not?

Secretary ESPER. Well, I am speaking more directly now to services that you may find on a garrison or post where maybe you have dozens of contracts all for a small amount of money——

Mr. SMITH. Okay.

Secretary ESPER [continuing]. Where you might be able to consolidate those, you can reduce the throughput going through your contracting command to handle those and you can find some efficiencies there.

Mr. SMITH. Okay.

Secretary ESPER. You are speaking to a different issue, which I also agree we can find, and that is contractors. So I think the degree which, and this gets to the third point, the degree which we can, and I am looking at this now, rightsize our headquarters, rationalize them in terms of their functions and much like the Congress has done with pushing authorities from DOD down to services, how much authority responsibilities can we push down to lower level commands and maybe, again, save some manpower and resources that we could push back into other priorities or back into the field to make sure we have—our forces are fully fleshed out.

Mr. SMITH. Are there any programs, you know, any tanks, weapon systems, anything like that that you think we are forcing on you that probably is not necessary?

Secretary ESPER. We are looking at the entire range of 800-plus programs we have. I know that as part of our reform efforts we are probably going to look at the lower end of that and assess each for return on investment and probably postpone or cancel some programs.

Mr. SMITH. Okay.

Mr. Spencer.

Secretary SPENCER. Congressman Smith, I would say I would start by saying process, which is one of my areas that we are highlighting. I can address some of the things we are doing inside the Department of the Navy right now where we found close to $600 million just in de-obligation.

So changing the thought process and changing the attitude on how we actually contract. So when you are through with the contract, your work is not done. If, in fact, there is funds left over, put them back in the bin, don't send to the Treasury. Small moves like that are now starting to save us some big moneys going forward. So focus on process across the way.

Acquisition is the other big lever because that is where all the dollars are. If you look at the Navy, we have *Ford*-class, *Virginia* Payload, *Columbia,* H–53. Those are some very sizeable programs.

Two things that we need to address there. In the long term, we need to keep consistency of people involved with these platforms. They are long-term, long-lead platforms. We need to keep the expertise in place rather than removing people and causing seams in information.

More importantly, the acquisition process, once the contract is laid, it certainly is not on autopilot. It deserves the attention up and down senior management at all times to manage these programs. You will see it I think going forward with *Ford.* We have a new plan here. You heard we put out the two-ship buy. This was divined from conversations that started back in November with our supplier. And I would almost like to say it is a new world in that the way we are approaching this and it is a hands-on, very active management style.

Mr. SMITH. Thank you.

Secretary WILSON. Sir, I would identify a couple of things. One is the cost of sustainment, which for us is where a lot of the cost is for aircraft and let me give you a couple of examples. Additive manufacturing as a substitute for very long supply chains and that will require some help from you all with respect to intellectual property. And other things like predictive maintenance so that we can actually drive up the ability to have aircraft available and overall reduce the—we are going to focus a lot on sustainment cost and what we can do to improve our sustainment cost performance.

The second area I identify would be artificial intelligence [AI] tools for intelligence, surveillance, reconnaissance analysis. Right now we have a lot of intelligence analysis, a lot of people watching full-motion video. That is not a good use of money or time and in that case time is money.

Mr. SMITH. If I may just say, on that point just quickly. There is a lot of technology out there and software that is getting frighteningly better at being able to look through a massive amount of data and find what you are looking for so that people don't have to sit there and look at video after video. We have so much information. There is no way you could possibly see it all. What we need is we need the AI to get in there and find what we are looking for in that massive database. So that is technology I would really encourage our committee to pursue. Go ahead.

Secretary WILSON. Yes, sir. In fact, we are working several projects along that realm. The third that I would highlight has to

do with the way in which we are doing acquisition. And we just released a report on acquisition that includes a number of initiatives to systemically reduce the cost of what we are requiring, including things like better estimates on what something should cost so that we drive down the cost of things in negotiation with contractors.

We have over 450 very large acquisition programs, and when we do those things systematically and we invest in our workforce who are doing the contracting, we can over time drive down cost and some of that is included here. I would also say finally that the speed of acquisition, in the case of acquisition and manufacturing, time is money and so increasing the speed also helps to drive down the cost.

Mr. SMITH. Thank you.

Thank you, Mr. Chairman.

The CHAIRMAN. Mr. Wilson is recognized for 5 minutes.

Mr. WILSON. Thank you, Mr. Chairman. And I appreciate your success with Speaker Paul Ryan for appropriations to fund the military. Thank you for your leadership.

I want to thank each of you for being here today. Your service, as a grateful veteran myself who has sons and a nephew serving today in the Army, Navy, and Air Force, we are joint service, your leadership is reassuring to military families.

Over the years, Secretary Esper, I have had the opportunity and have been inspired to visit our Bulgarian and American troops at Novo Selo. Last year, it was incredible to meet with our NATO [North Atlantic Treaty Organization] troops in Poland, Latvia, Lithuania, Romania, and the Republic of Georgia. I want to commend you that I think it is highly appropriate, the State Partnership Program, is the State of Georgia with the Republic of Georgia. It is a wonderful experience to see so many Georgians together. What is the long-term vision for America's presence in Europe? What is the right balance between rotational and permanent troop presence in Europe?

Secretary ESPER. Well, thank you, first of all, for that comment on the State Partnership Program, Mr. Wilson. I agree it is a very important program. When I was in Europe recently, I had just witnessed the Illinois Guard coming out of Poland. They have had a relationship together since 1993 and I had the privilege of traveling to Ukraine where I saw the New York National Guard training our Ukrainian partners there. And as a former guardsman myself, I really appreciate the work that our Guard units are doing around the country.

With regard to your question, that is an issue that the Army is looking closely at on a constant basis. When I was in Europe, I had the chance to talk with the EUCOM [U.S. European Command] commander, General Scaparrotti, about this. Right now, there is great benefit to rotating an armored brigade combat team to Europe. It provides us the ability to send a highly trained, fresh out of National Training Center, ready force that is also trained to deploy onto the European continent. That is something critical as we find a large number of our forces here in United States, the need to train to deploy.

At the same time, we are also, as part of this fiscal year 2019 budget, building up pre-positioned stocks and additional set in Eu-

rope to fall in. And I think over time, depending on how we are able to build additional facilities, particularly the Poles, to maintain readiness, whether it is gunnery or maneuver, it starts changing the equation as to how much we would rotate and how much we would permanently station on the continent.

Mr. WILSON. Well, I greatly appreciate that, because to me it is peace through strength and to block Russian aggression in Moldova, Georgia, and Ukraine. And for each of you, in line with Ranking Member Smith, how are you planning to address the emerging technologies such as artificial intelligence, high-performance computing, directed energy, hypersonics, and autonomy? How are you resourcing these technologies within your budget request? And each of you, hey, we will begin with Secretary Spencer.

Secretary SPENCER. Congressman Wilson, thank you. If you look at the National Defense Strategy and you look at the key implementation levers when it comes to technology, the majority of them are the ones that you just mentioned. We are realigning dollars spent in our $18 billion research, development, testing budget to align with the National Defense Strategy in order to not only capture more dollars into those buckets but to enhance the studies and the research that we have been doing so we can not only apply it but get it out into the warfighter's hand as soon as possible.

Secretary WILSON. Sir, with respect to hypersonics, the Air Force budget includes $258 million for fiscal year 2019 for hypersonics. For directed energy, it is $280 million. What I would also say is that the three of us as secretaries have been getting together frequently to have breakfast. The Navy has the better coffee. But one of the things that we are doing is identifying high-priority areas of research and what all three of us are doing in those research areas, our services are doing in those research areas, to see where there are gaps, where there are overlaps, and where we can build off of each other's research including testing Navy systems on Air Force systems and it, I think, will start to bear fruit.

Secretary ESPER. Well, it is true the Navy has a better coffee. But we are also aligning our S&T [science and technology] for fiscal year 2019 and 2018. We have realigned 80 percent of our S&T funding along our six modernization priorities to make sure we get better bang for the buck, better ROI [return on investment] for those. Within that, those include things such as AI, hypersonics, as Secretary Wilson mentioned, where we are trying to collaborate on that in other areas such as directed energy where we think collaborating together, putting additional funding into this can really help us get to the next level with regard to these types of technologies.

Mr. WILSON. I thank each of you. And as the technologies change I am just grateful that you are in your leadership positions. Thank you.

The CHAIRMAN. Ms. Davis.

Mrs. DAVIS. Thank you, Mr. Chairman.

And it is good to see all of you here. Thank you very much for your service, for all your efforts right now as we go into this difficult period waiting for budgets and appropriations. And I want to applaud you on many of the points you have already made, but I wanted to talk to you about one that I think is dear, at least to I know, Secretary Wilson's heart as well as a number of us here.

Each of your memos discussed recruitment and retention, but none of you mentioned that today each of the military services experience challenges retaining women to a varying degree, with a particularly wide gender gap in operational specialties.

More women than men, as we know, leave the military at various career points. So, concerns persist that this attrition will result in a disproportionate impact to mission readiness if left unresolved.

What initiatives is each of your respective services implementing to address this gender gap, how are you evaluating that, and to what extent is there really a lot of good sharing that is going on between the services?

Secretary Esper, you want to start?

Secretary ESPER. Yes, ma'am. Let me address it a few different ways. First of all, I think we see a higher percentage of women being selected to enter the Academy as from a commissioning source.

Along those same lines, as you know in the past couple of years we have opened up the combat arms branches to women. They are doing very well. I have had the chance to visit with them, the units they are in in both the National Training Center and at Fort Bragg. And at this point under the "leaders first" policy we have dozens of women in the battalions, these battalion-size units, over 600 women in.

So, a lot of expansion happening there; we are expanding the number of posts they can travel to as well to make sure we have greater opportunity throughout the ranks.

I think there is a larger point here, too, and it is more of a strategic one that I have discussed with some members here, and it is one of my major lines of effort in terms of the future Army. And that is how do we reform our current personnel system to focus it more on talent, an individual's knowledge, skills, and attributes with their preferences so that you can allow, for example, if a woman wanted to time-out her career and start a family, then could come back in and restart the clock without any type of promotion penalties or those types of things.

So, I think we need to relook and I know we are internally, I've stood up a task force to look at what a future personnel system would look like to accommodate things such as you described to accommodate greater gender integration and opportunity.

Mrs. DAVIS. Thank you.

Mr. Secretary.

Secretary SPENCER. Congresswoman, as it applies to the Navy, I would, again, it is almost getting repetitive but echo what Secretary Esper just said as far as what we have for options and the ability to entice women to come in and join the Navy. All service sectors are open in both the Navy and Marine Corps as you know. All specialties are open.

But when it comes to retention, if you look at our efforts in Sailor 2025, what we are doing specifically in the Navy, the ability to have an off-ramp mid-career to go do whatever you would like to do, whether that is to go off and get a degree or go off start a family, go off and do whatever you would like to do, and come in without penalty. That has been an active program that we have had,

quite successful. And we are quite pleased with the results that it has.

Going forward, rest assured the Navy is really looking at this, it is game on, because all three of us fish from the same pool, and that pool is getting smaller and smaller both by qualification and by demographic size. We are going to be competing with the private sector, as the economy increases, we are going to see more competition there.

We are going to use every single tool available to us and I do believe we probably will be in front of you in the future whether it is addressing DOPMA [Defense Officer Personnel Management Act] or something along that line so it will allow us more flexibility in order to incorporate those people.

Mrs. DAVIS. Thank you.

Secretary WILSON. Ma'am, we have a higher percentage of women in the service than any of the other services and every position in the Air Force is open to women. We are also looking at different ways to be more flexible about how women and men can come in and out of the service depending on their life circumstances.

I would also echo my colleague's comment. I think this year we are expecting a higher percentage of women entrants into the service academy class than any in history. And I would also say that we are, I think, trying to change a little bit the way we talk and think about who the protectors are in this country, because I think sometimes the way in which we talk about the services may appeal more to boys than to girls. And that is important, the way we talk about these things.

And if I asked everyone in this room to think, just close your eyes for a second and think about the most protective person you know in your life; someone who would do anything to keep you safe. And half the people in this room are thinking about their moms.

We are the protectors. That is what the military does. We serve to protect the rest of you. And that is a very natural place for a woman to be.

Mrs. DAVIS. Thank you.

The CHAIRMAN. The time of the gentlelady has expired.

Mr. Rogers.

Mr. ROGERS. Thank you, Mr. Chairman.

I want to thank all the witnesses for being here and for your service to our country.

Secretary Wilson, first of all, I wholeheartedly agree with that last statement you just made and I applaud your effort in that endeavor. One of the primary things I try to do on this committee is keep Ranking Member Smith happy. And since he has charged me with asking you about Space Corps, I guess I will.

Secretary WILSON. So, that is because he did not want me to talk about the KC–46.

Mr. ROGERS. Yeah. President Trump last week endorsed the idea of a separate space force. Do you agree with the President's assertion that we should form a separate space force?

Secretary WILSON. Last week, the President of the United States said that the new National Defense Strategy for space recognizes

that space is a warfighting domain. I don't remember any President ever openly saying that.

He has relaunched the National Space Council under the leadership of Vice President Pence and nowhere is his leadership more clear than in the President's budget. And this year's budget accelerates our ability to deter and defend and protect our ability to operate and to win in space.

The President wants to consider different ways of organizing, and we look forward to supporting him in that effort.

Mr. ROGERS. Great. And I would also point out his words were we should have a space force; we will have a space force. I liked the way that sounded.

Last week, we had General Jay Raymond testify before my subcommittee and he talked about space being a priority and an elevation of its priority status within the Air Force. Then he also talked about $351 million worth of requirements that are unfunded requirements. If in fact space has this enhanced priority status within the Air Force, why are those $351 million worth of requirements unfunded?

Secretary WILSON. Sir, first of all, I appreciate the increased top line that came from this committee and from the Congress as a whole. We are required by law to put forward an unfunded priorities list.

And what we have done in our unfunded priorities list is to accelerate things that are already in our 5-year plan so that when you ask us if there is higher top line, if there is more money available, what would we do with it and the answer is we would accelerate what is already in our 5-year plan and that was in three areas. The first was space. The second was nuclear modernization. And the third was military construction.

Mr. ROGERS. Well, in your opening statement, you made reference to the fact that there was an 18 percent increase over the FYDP [Future Years Defense Program]. But yet, there is only 6 percent increase proposed for the 2019 budget. I would really like to see those numbers reversed at least for the 2019 budget. I think more than 6 percent would be a better illustration of priority status.

Secretary Esper, my understanding is that the Army's modernization budget went up 14 percent from 2018 to 2019 and that is great news. And you have used that money to fund a variety of very important programs. But you forgot one—the Stryker program. Can you tell me why that is the case?

Secretary ESPER. Mr. Rogers, we are actually putting money into the Stryker program based on an urgent operational needs request from the commander in Europe. What we are doing is improving their lethality and survivability.

On the lethality front, we are looking at arming them with 30 millimeter cannons and with anti-tank missiles. I will tell you that when I was in Germany a month and a half ago now, I had the chance to spend some time on the vehicle and talk to the crew and was very impressed by what I saw.

They will be taking those vehicles through their trials over the coming months and we will assess the effectiveness. I think in principle I think it is very good where we are going with regard

to both up-gunning them and making them more survivable, survivable in the sense of adding double-V hulls, for example.

Mr. ROGERS. What are your long-term plans for the Stryker or do you know right now?

Secretary ESPER. Well, right now, we plan to keep them in the inventory. I think our focus really is on the next-generation combat vehicle. That is one of our cross-functional teams and that is viewed more as a replacement, the next generation for the Bradley Fighting Vehicle, if you will.

Mr. ROGERS. Okay. Thank you.

Mr. Chairman, I yield back.

The CHAIRMAN. Mr. Larsen.

Mr. LARSEN. Thank you, Mr. Chairman.

Thank you all for coming. So, we have been hearing testimony in the committee and a couple of subcommittees specifically with regards to the investment in emerging technologies from other countries, China and Russia in particular, and how that could change the military balance of power.

So, the current S&T budget for the Department as a percentage is I think lower than it was when I was first here in early 2000s, but right now it is about 2.3 percent of the total budget. So, the question I have is, if this is a concern and a high priority, the S&T budget does not seem to be reflecting that.

So, for each of you, briefly, can you tell us what your plans are for investing in your own S&T budget over the next 5 years as opposed to just today.

Secretary ESPER. Yes, sir. Let me first say from 2017 to 2019, we were seeing nearly a 20 percent increase in terms of RDT&E [research, development, test, and evaluation] funding, so about $8.5 billion to $10.2 or so.

Alongside that, what we plan on doing is looking at the 80 percent of the S&T budget and making sure that is fully aligned with our priorities. What we found last fall going into this that they were not aligned to any particular priority.

So, I think we expect to get a lot more bang for the buck, return on investment, if you will, from greater alignment and greater focus. Knowing, of course, that S&T, the RDT&E budget is the seed corn for future readiness, we plan to continue investing in that because we know that it is critical to achieve what we need to achieve in order to be able to meet the threats, the challenges that are outlined for us in the National Defense Strategy.

Mr. LARSEN. Mr. Spencer.

Secretary SPENCER. I am actually not tremendously concerned as far as the overall S&T numbers because when you look at 2017 compared to 2019, we are up $1 billion in Navy research and development.

From where I came from, the first thing I noticed is that we are going to have to really harness the discipline of portfolio management. The great thing about having a strategy is you do have alignment.

In the NDS implementation, we have our six lanes of effort. We will focus our dollars on those six lanes of effort, not to the disregard of other projects that we might have going on, but it is going to be a more focused, tailored application of funds.

Secretary WILSON. Sir, we had a slight increase from fiscal year 2018 to fiscal year 2019 in our S&T budget from $2.5 billion to $2.6 billion. I would say that my concern is that most of that is on the test and evaluation side and not on the pathbreaking research side.

The Air Force has launched a 12-month review of our science and technology strategy to look at both where we invest and then how we partner with universities and industry to get more out of our research dollar and particularly how to spin-on technology developments that may have been developed outside of national security to get them into our weapon systems.

Mr. LARSEN. Yes. And that is probably where you ought to be headed. I appreciate the answers here. They are not settling for me but I appreciate the answers.

So, Secretary Spencer, I will just ask you specifically on this because of the time. It has to do with EW [electronic warfare] and EW EXCOM, executive committee. The Growlers are all stationed at NAS [Naval Air Station] Whidbey Island and, of course, they are just airplanes until you put a lot of good stuff on them and that is all that electronic warfare.

But we have had problems in the past getting the Pentagon to focus on EW more broadly, each service. Air Force dropped out of that business for a while, come back in. Army did not really have an organic capability till that was stood up in about 2006, 2007, 2008 or so because of Iraq.

Maybe not on behalf of all the services but maybe just focusing on your service, can you talk a little bit, help me understand what you are doing to support EW EXCOM not just in terms of ideas, but to get that acquisition process to move faster when we make that investment into electronic warfare so that we have things like Next Gen [Generation] Jammers which are finally coming online after a lot of time. How can we shorten that timeframe?

Secretary SPENCER. Congressman, it is the focus of what we are doing right now. As I said it before in another committee, one of the secret weapons that took us 3 months to convince to come join us was Mr. "Hondo" Geurts out of SOCOM [U.S. Special Operations Command], and his abilities and his proven track record in expediting the acquisition process within government confines, that is going up and down the ladder on all platforms.

EW is a key component for not only our Navy-Marine Corps team but for our other fellow services on battle force management. So, it is a key area that we are working on. It develops across the board. We are in conversations at all times.

Again, back to your question as it pertains specifically to the Navy, it is our focus. We will get the Next Gen Jammer out there ASAP [as soon as possible].

The CHAIRMAN. Mr. Conaway.

Mr. CONAWAY. Thank you, Mr. Chairman.

Ms. Wilson, Secretary Wilson, I have never heard the case for who should be serving in our uniforms better put than the way you have said that. I do not know if you have noticed but it got real quiet in here when you were finishing up your statement and I think it is because your words were reverberating through the minds of everybody in here. So, thank you for that statement.

And I am blessed to have been reared and raised by a mom who fit that category, so thank you for that.

Secretary Spencer, we had four shipwrecks in 2017. As a result the Vice Chief of the Naval Operations and the Secretary ordered a review of what was going on, and one of the recommendations was that we take that decision as to putting a boat in harm's way further up the food chain and not allocating resources to a combat commander that were not ready to go there. Can you talk to us about where that recommendation is and what has been the reaction among the various folks who were looking at that?

Secretary SPENCER. Yes, Congressman. Just to add a little meat on that, not only did we do a comprehensive review at the CNO's [Chief of Naval Operations] level but we also put the strategic review in place at my level to go after the root causes. And one of the things that is one of the items, the recommendations that came out of the Strategic Readiness Review was our C2, our command and control.

And you will soon be hearing a result of the last, I believe it was 2½ months of deliberation we had in the Navy, to provide a clear point of view from the commander on his ship looking up as to what resources he can ask for, who is responsible for providing them, and his chain of command to make it crystal clear that responsibilities are in place.

As far as the combatant commanders go in tasking the demand signal, that is in place. I can tell you that robust conversations go on at all times. I think it has been heightened to a higher level, but interestingly enough, it is not so much the generator of the demand signal that is the issue, it really comes back to resource funding when it comes to surface ships and the Navy and even subsurface ships and aviation for that matter.

With continual funding, we can get these capital assets through maintenance back out into the fleet on a regular drumbeat and that will be the biggest solution to providing readiness and troop wear going forward.

Mr. CONAWAY. Thank you.

Mr. Esper, Secretary Esper, the fight in Afghanistan, you are doing something called the security force assistance brigades [SFABs] which seems to be a more tailored approach to assistance using maybe more experienced personnel as an idea, as a way to try to make sure the brigade combat teams are ready to go. But then, it looks like we are asking for those to come in on top of those security force brigades.

Can you talk to us about the operational tempo of that security force brigade and why that is more or less than what it would be now and the impact it has on your ability to keep folks ready to go?

Secretary ESPER. Yes, sir. As you noted, we are standing up six security force assistance brigades; five in Active Component, one in the Guard. One has been stood up and is now in Afghanistan. It began in Fort Benning. The second one is being stood up now at Fort Bragg.

And as you rightly noted, the purpose is to provide specially trained ready and equipped forces that can relieve infantry brigade combat teams of the challenges of maintaining readiness while they

are deployed. So, infantry brigade combat team is 3,000-plus people. An SFAB is 816 or so.

And what that does is you can allow better-trained equipped forces to train allied or partners at a much lower cost without degrading the readiness of a brigade combat team. So, as we said, the first brigade combat—I am sorry—first SFAB is on the ground now in Afghanistan beginning operations and we are anxious to see how well they do.

And as you noted, there is an IBCT [infantry brigade combat team] there currently. I think over time, the purpose is to replace and not have a dual capability on the ground.

Mr. CONAWAY. So, what would be the operational tempo for that security force brigade? How often will they go in and fight, coming and going?

Secretary ESPER. I think it would on the same type of rotational basis. I don't know that we have determined whether it is a 6- or 9-month rotation. That is something I know the chief and the staff are considering. But, again, the aim would be to replace an IBCT and IBCTs are typically on a 9-month rotation.

Mr. CONAWAY. So, will they go back to the same spot kind of like your special forces guys do to make sure they get familiar with the area?

Secretary ESPER. Yes, sir, depending on the need from the combatant commanders.

Mr. CONAWAY. All right.

Thank you, Mr. Chairman. I yield back.

The CHAIRMAN. Mr. Courtney.

Mr. COURTNEY. Thank you, Mr. Chairman.

Secretary Spencer, in the last couple of weeks, our committee has heard from two combatant commanders, Admiral Harris, who testified that he has basically been able to get, for the second year in a row, only about half the attack submarines that he needs in terms of requirements that he has. General Scaparrotti testified last week about the fact that they are seeing Russian submarine activity they haven't seen since the 1980s.

In your testimony, you talked about the fact that the shipbuilding plan is designed to sort of be able to take advantage of industrial capacity, to sort of move more aggressively, which is great. I guess the question I want to ask is the Block V process is underway right now for the next 5-year purchase of *Virginia*-class attack submarines; we had a great model in 2014 where the Navy built into the contract an option to go higher than the 9 subs that was originally requested by the Navy at that point, and they were able to get, as Admiral Johnson proudly proclaimed, 10 subs for the price of 9 by using that option as a way to incentivize the 2 shipyards to come in with a better price, which is all about acquisition reform obviously that we are talking about here today.

I have to say, we are getting sort of mixed signals right now in terms of on the one hand your visual chart that came over with the shipbuilding plan showed capacity in 2022 and 2023. Obviously, the NDAA last year, my friend Mr. Wittman and I, we sent a strong signal that we would like to see that block go higher than 10 subs. Yet what we are getting in terms of the narrative testi-

mony from the Navy is that they are really just proceeding on a two-a-year build rate for Block V.

So, I guess the question I want to ask is using again a successful model, I mean, what is your position in terms of using an optional structure to the Block V contract to at least give us the ability to go higher given, again, what we are hearing from the combatant commanders?

Secretary SPENCER. Thank you, Congressman. The whole purpose for the 30-year shipbuilding plan to be delivered alongside the budget was to open up an intellectual discussion about what is available out in the industry as far as capacity goes. And that was the whole reason we included the graphic.

As you all well know, the three of us sitting here are portfolio managers when it comes to allocation of resources for specific platforms. What I love to say, I can take as much money as you will give me and I will provide as much as I can up to industrial capacity, yes. But then, that would disbalance the portfolio.

That being said, when it comes to the *Virginia* class which, by the way, for any of those of you who are interested, it is probably one of our best-performing undersea contracts if not boat contracts that we have over its period of time as far as performance per dollar, yes, we have that option available to us.

Yes, we have the option available to us and we have been talking to industry, could we take that up to three boats a cycle. Yes, it is there if in fact the resources are there. It is the managing of the resources. If in fact through reformation I can find another $2 billion within the Navy and I can reapply those funds internally to that program or any other of the programs, totally available.

Mr. COURTNEY. So, that is good to hear. Again, I just want to emphasize that when the Block IV was done, the resources actually weren't sort of appropriated yet, but it created a structure where they were able to expand it as time went on, again, with the strong support of Congress.

And I just want to leave that point with you, that I think that hopefully will be the way to incentivize the shipyards as well as to give us that option to go bigger, and I know you know this, this is a real critical part of the fleet in terms of what is happening out there in the world today.

And just to follow up on that, again, you were so helpful during the conference committee in terms of getting the continuous production authority which, again, was another way to give the Navy some efficiencies in *Columbia* class. Again, the October report that came over really didn't talk about using those authorities in 2019. And that is about $380 million I think was the estimate of savings that we could get from that.

So, again, you were right there with us in terms of getting that language through, and I hope again we are going to take advantage of those authorities.

Secretary SPENCER. You will see us take advantage of those, Congressman. I think just if I could put a punctuation on the comment, in light of the discussions that we have had with our suppliers starting last fall, having candid discussions on what we need as far as requirements and expedition, and also asking what they need to go forward, the discussions now have risen to the level of

if I need 20 percent savings and I need a year and a half taken off, what do you need from me to get there.

And it is reframing the conversation so we are having a true insight as to the availability of production capacity within the system. We will exercise all that we can do to make sure that that is the most efficient application of dollars.

The CHAIRMAN. Mr. Wittman.

Mr. WITTMAN. Thank you, Mr. Chairman.

Secretary Esper, Secretary Spencer, and Secretary Wilson, thanks so much for joining us and thanks for your service.

Secretary Spencer, just yesterday the Navy announced a request for proposals for a two-ship buy for CVN 80 and 81. We know that that is a welcomed response by the Navy to the fiscal year 2018 National Defense Authorization Act which talks about accelerating the pace to get to 355 ships; 12 of those will be aircraft carriers, so we deeply appreciate that.

I think, too, it does several things. It sends a strong signal to the rest of the world that we are committed to having those 12 aircraft carriers. It is a commitment to the brave men and women in the Navy. It is also a commitment to the folks that build those ships. I think those are all extraordinarily important aspects of what we, as a team, Congress, the administration, need to do to make sure we have what is necessary going into the future.

We know, too, that it is been expressed as you said in the negotiations and conversations with the contractors that we can save at least $2.5 billion by buying these two ships at a time and, again, keep us on track to the 12 aircraft carriers that we need.

I wanted to get your perspective on this aggressive and innovative strategy you talked about how you all are working to save money, but more specifically what do you need from Congress as you continue down the road? Because obviously you will get these proposals in. What do you need from Congress to not only save the $2.5 billion, but hopefully save more in looking at buying two of these ships and things that we can do to enable the Navy to implement even more aggressively this strategy?

Secretary SPENCER. Congressman, I appreciate tremendously your support and your subcommittee's support and the support in this room when it comes to the capital assets the Navy is looking at.

When it comes to actual additional authorities they are going to be de minimis believe it or not. We have what we need to go forward. When it comes to funding of the two ships, we will come before you asking on the financial side for a path forward in that way.

But we really do believe that what you have given us when it comes to specifically surface ships, we have the authorities we need to go forward. Again, I go back to the understanding that we have presently in place, which was if we can find dollars in our reformation process, we can reallocate those dollars, coming to you obviously for approval, to put towards different platforms. That will be a battle cry within the Navy.

Mr. WITTMAN. Very good. Thank you. Thank you.

Secretary Wilson, I do want to talk a little bit about KC–46A, not to leave that off the table but to put in perspective, here is a plat-

form that has been flying since 1981 and it has already been delivered in a tanker configuration to two of our allies just last week. We saw, too, Boeing reported the KC–46A program had two category one deficiency reports—one in the remote vision system and the other in the centerline drogue system.

Are these deficiencies behind the Air Force's report last week that they are going to revise the timeline for first delivery? And if not, tell me the impact of these deficiencies, and it is not just these system deficiencies but it is also getting the FAA [Federal Aviation Administration] certifications which I believe are still on schedule. But if you will give us an overview about where things are, because Boeing are still saying they are going to deliver on time, the Air Force changing the timelines, can you give us a perspective on where things are?

Secretary WILSON. Yes, sir. Boeing is saying that they are going to deliver in the second quarter of 2018. The Air Force thinks it is more likely to be late 2018. And Boeing has been overly optimistic in all of their schedule reports.

There are a couple of things that impact this. One is they have had flight test delays, so the flight test, the FAA flight testing has not gone as fast as Boeing anticipated it would. And the Air Force was skeptical about its schedule when it was put forward.

As you mentioned, there are two critical deficiencies, one being the remote vision system and the second being a drogue disconnect that they are working on fixing. The Under Secretary of the Air Force went to Seattle last week for a deep dive with Boeing, and we have asked them to put their A team on this to get the problems fixed and get the aircraft to the Air Force.

Mr. WITTMAN. Okay. Very good.

Thank you, Mr. Chairman. I yield back.

The CHAIRMAN. Ms. Bordallo.

Ms. BORDALLO. Thank you very much, Mr. Chairman.

And welcome to the Secretaries Esper, Spencer, and Wilson.

Secretary Spencer, my question is for you. 2017 was challenging for the Navy, particularly with regard to the maintenance of the fleet. Numerous articles and GAO [Government Accountability Office] reports discussed the maintenance backlog for surface and submarine vessels.

I continue to be perplexed at the Navy's mixed messaging on the state [of] readiness in regards to depot-level ship repair. The 2017 Strategic Readiness Review highlighted that the constrained ship repair capacity is inadequate to meet the demand. Yet when we asked if the ship repair capability was insufficient to meet requirements in the Pacific, the response was that the Navy did not agree with this.

With 60 percent of our naval fleet operating in the Pacific region, what is the Navy's plan for depot-level ship repair in this area and is it a priority?

Secretary SPENCER. Congresswoman, we have had discussions on this and I appreciate your question. Obviously, depot-level maintenance is key to the Navy. You have heard me earlier as I was answering questions that we need to get the proper resourcing facing off our ability to access availabilities in a timely manner to get

what I call the battle rhythm of maintenance and ships out in the fleet back to normal.

We believe that in the North American market, with going back to appropriately funding availabilities and having the discipline to access those availabilities, we do have the capacity to get the fleet back on its feet and out the door.

Ms. BORDALLO. Mr. Secretary, then would you say it is adequate or inadequate?

Secretary SPENCER. Between public and private, I believe it is adequate.

Ms. BORDALLO. Thank you. Another question I have for you, the fiscal year 2018 NDAA also required the Navy to report to this committee on depot-level ship repair in the Western Pacific. Earlier this year, I asked that you provide periodic updates on the progress. So, what is the status of this report, and when do you expect for the report to be completed and transmitted to this committee?

Secretary SPENCER. I would hope that this report, Congresswoman, be ready by the end of spring, giving you the update that you need about the assets available.

Ms. BORDALLO. Good. Good. All right. My second question, Secretary, in 2011 the DOD made the "net negative" commitment to reduce land holdings on Guam as part of the relocation of the U.S. Marines from Japan.

Last year, the Navy submitted a report to this committee regarding the status of net negative, which included eight additional parcels pending transfer to Gov-Guam [Government of Guam] totaling some 114 additional acres. This commitment for the military to hold less land on Guam is key to maintaining support within our civilian community. So, will you commit to providing me and the committee with an update on the status of the Navy's efforts to return these eight parcels?

Secretary SPENCER. I will.

Ms. BORDALLO. All right. And additionally, I introduced the Guam Land Return Act yesterday that included seven additional properties requested by Gov-Guam agencies and Guam families for consideration as part of the net negative pledge. So, will you commit to reviewing these parcels for me?

Secretary SPENCER. We will commit to review it, Congresswoman.

Ms. BORDALLO. Thank you. And I still have a little time.

This question is for the panel as it relates to your area. After years of concern regarding readiness shortfalls and the impacts of sequestration, I am concerned that the 2019 budget request may not appropriately balance long-term readiness recovery through modernization with near-term efforts through sustainment and maintenance.

So, with regard to the fiscal year 2019 budget, how will the request support near-term readiness recovery and are there specific areas in the operations and maintenance accounts such as weapon systems and so forth. Could you help with this readiness recovery effort?

Secretary ESPER. Ma'am, we are putting substantial sums of money into both O&M [operations and maintenance] for near-term readiness and, of course, additional dollars for modernization ac-

count as well, double-digit spending if you will. And so, we are confident that this funding is sufficient for us to lay the groundwork to build the next generation of fighting vehicles, aircraft, et cetera.

At the same time, the essential piece for us, we believe in the Army is to reform the current acquisition process. So, we are putting a lot of effort into that, most notably the Army Futures Command which started this summer which will help us maximize every one of those dollars.

Ms. BORDALLO. Thank you, Mr. Secretary.

And for the Air Force, I have no questions. I yield back.

The CHAIRMAN. Mr. Lamborn.

Mr. LAMBORN. Thank you, Mr. Chairman.

Thank you all for being here this morning. And my first question will be for Secretaries Spencer and Wilson and then a couple of follow-ups. And I think I know the answer to this but it's important to put it on the record.

Under the previous administration the number one stated mission of the various branches, well, of the Department of Defense, was the nuclear enterprise and its role in providing a strategic nuclear deterrent.

Can you confirm that under this administration and under your stewardship, for the parts of the triad that are under your purview, that that continues to be our number one mission?

Secretary SPENCER. I can confirm to you, Congressman, that for the United States Navy in our understanding of the total NPR [Nuclear Posture Review] and National Defense Strategy, it is. And I can show you by data what I mean by that. The number one acquisition program in the United States Navy is the *Columbia* platform, which is the undersea leg of the nuclear triad. And that is our primary focus for the primary platform.

Secretary WILSON. Sir, one of our core missions is the nuclear deterrent and I believe that a safe and secure and reliable nuclear deterrent has helped to keep the peace since the Second World War. In the Air Force budget we are responsible for two of the three legs of the triad. Our budget includes the modernization of a long range standoff weapon which is the replacement for the air launched cruise missile, the modernization of the B–52s, the continued development of the B–21 bomber, as well as the ground based strategic deterrent, which is the replacement for the Minuteman III.

The one part that is not often focused on in the nuclear deterrent, but is funded in our budget as well as the Navy's, is nuclear command, control, and communication and that part is also modernized in this 5-year period and it's an extremely important part of the nuclear deterrent.

Mr. LAMBORN. Would you go as far as to say that these things you just described are your number one mission or at least that nothing is higher than those missions?

Secretary WILSON. Sir, I would say nothing is higher than those missions. The Air Force provides global reach, global power, global strike, global mobility. So we provide a lot of things to the joint force, but there is nothing higher than the nuclear deterrent.

Mr. LAMBORN. Thank you. I appreciate those answers. And Secretary Wilson, I am really glad to see that we are going to have

more money in the upcoming budget for nuclear modernization and for catching up in space. Will there have to be trade-offs though with the rest of your budget to accomplish those things? Or will that be able to be done with new money?

Secretary WILSON. So with respect to the nuclear deterrent, as I mentioned we are doing modernization of two legs of the triad and also nuclear command and control. With respect to space, we are not catching up. The United States of America is the best in the world at space.

And our adversaries know it. In any future conflict, we expect that they will seek to deny us the use of space as part of the—in any crisis or conflict. So, what we are doing in this budget is accelerating our ability to defend our assets on orbit.

The Air Force operates 76 satellites, of those 30 are GPS [Global Positioning System]. We are moving to jam-proof, or jam-resistant GPS. We also operate satellite communications, about 25 of the 76 satellites are satellite communications. We are moving towards jam-resistant satellite communications. So across the board and then we have things that we are doing to defend other assets on orbit. So we are moving to defendable space so that we can deter and defend our assists on orbit, which we did not have to do when we initially built this architecture. It's a challenge, but we are meeting that challenge.

Mr. LAMBORN. Okay. And I am really glad to hear that. To accomplish that and the acceleration you talked about, and I am totally in support and really happy to see that. But do you anticipate any trade-offs to get there or not?

Secretary WILSON. Sir, there are always trade-offs in any budget. We deeply appreciate the increase in the top line for defense, which has allowed us to meet many of our missions and try to do so cost-effectively, because our obligation is to take every dollar that you have appropriated for us and try to do the best we can to defend the country.

Mr. LAMBORN. Okay. Thank you very much.

Mr. Chairman, I yield back.

The CHAIRMAN. Ms. Tsongas.

Ms. TSONGAS. Thank you, Mr. Chairman.

And good morning to our witnesses. It is good to have you here. Secretary Spencer and Secretary Wilson, I first wanted to address the ongoing physiological episodes occurring in the F/A–18 community and increasingly in other aircraft throughout the Navy and the Air Force.

There have been two recent incidents that underscore the urgency and persistent nature of this issue. In January, an EA–18 Growler aircraft experienced a failure in the environmental control system causing temperatures in the cockpit to plunge to negative 30 degrees, resulting in a layer of ice covering the instrumentation and windows, rendering the pilots almost completely blind according to the report.

Both pilots survived, but suffered serious frostbite injuries. Most recently, two Navy F/A–18 pilots died after ejecting from their aircraft near Naval Air Station Key West just last week.

Now, while the cause of this latest incident has yet to be determined, I am gravely concerned not only about our efforts to correct

this ongoing problem, but also about the impact it may be having on the recruitment, retention, and confidence level of the pilots we ask to fly this aircraft. It is vitally important that we get to the root of this ongoing problem as soon as possible.

And in particular, Secretary Spencer, I encourage the Navy to maintain the constancy of effort and expertise to help get at the bottom of this and help solve it. It is just a statement. It is something we have been monitoring in the Tactical Air and Land Subcommittee.

I hear from families quite often about it. And in a recent meeting with the Chief of Naval Operations there was a young pilot in the room who herself had had three physiological episodes while flying for the Navy. So something we have to stay on top of and just wanted to make that statement.

Switching topics, Secretary Esper, I commend you and Army leadership for establishing a Futures and Modernization Command within the next year. Too often, too many years and too many taxpayer dollars have been misused in developing capabilities that the military services ultimately determine are no longer relevant in the face of rapid technological change and a changing threat environment, oftentimes just as you are about to make a very important investment and move forward.

This problem impacts all the services, but two recent examples are top of mind: the Army's network modernization strategy and the Air Force's follow-on JSTARS [Joint Surveillance Target Attack Radar System] program. The services may well learn from programs that are cancelled or head in a new direction.

But the amount of time, the amount of money, and in particular the amount of talent we waste in learning those hard lessons is of great concern, particularly, when the reasons behind these course corrections were foreseeable, had our Nation's greatest innovators had a seat at the table. So with that said, Secretary Esper, how do you aim to get at this problem through the proposed Futures and Modernization Command?

How will the command work through anticipating what capabilities we will need in the future? The threats are not always as unknown as sometimes suggested. And equally important, what capabilities our adversaries will have in a way that is better than our process.

And you said today, the focus is to save money, but to make sure we are more effective, more lethal, you have a more effective, more lethal Army. How do you see the Futures Command and modernization command achieving that goal?

Secretary ESPER. Congresswoman, the Army Futures Command will likely do two things. One, we'll have the talent inherent from both military and civilian to look deep into the future about what the strategic threats and the operational environment may look like. That in turn will help inform the material solutions that we may need in that future state. And like——

Ms. TSONGAS. How will that change compared to what you do now? What will be different about that?

Secretary ESPER. What we find now is that capability—the need to look into the future often gets lost because of the demands of the present. And by putting that responsibility in a separate command,

and just focused on the future, the sense is that we will have greater focus on the future and not get lost by the present.

There will be another organization responsible for maintaining focus on the near fight. The other part of what Futures Command will do, of course, is to consolidate the entire acquisition process, achieving unity of effort and unity of command, which is essential to holding people accountable and to making the system as efficient and as effective as possible.

And in that way we can line up everything under a single commander, whether it's from the concept to the requirements process, to the material development plan, all the way through engineering, manufacturing, development, sustainment, testing, et cetera.

We will bring all those people together upfront. And more specifically to the point you raised, and we are doing this now in the cross-functional teams, is we bring everybody to the table early, to include the private sector and academia where need be, to get those best ideas that are happening out there.

Ms. TSONGAS. I think it requires a deep dive, and to do that you have got to have people whose job and life has been focused on looking ahead.

Secretary ESPER. That is right.

Ms. TSONGAS. And not just solving a near-term problem as has been too often the case. Thank you.

The CHAIRMAN. Mr. Scott.

Mr. SCOTT. Thank you, Mr. Chairman.

Mr. Spencer, this is more of a request. I know that there is a proposal to draw down either the *Mercy* or the *Comfort,* one ship operates on the east coast, one in the west. If those current ships are not the right platform for the mission, I can certainly understand that. They are very old. But I just want to reiterate my support for that mission and tell you that when I was in Djibouti, the Chinese had a hospital ship over there. Certainly providing health care to countries I believe is a vital part of our soft power.

And look forward to meeting with the Navy about how they intend to carry out that mission if the *Mercy* and the *Comfort* are not the right platforms for that.

Secretary SPENCER. Rest assured, Congressman, that is front of mind. 2021 is when we have our first decision point, but obviously we are going to address it prior to that.

Mr. SCOTT. Yes, sir.

Secretary SPENCER. We will keep you informed.

Mr. SCOTT. Thank you.

Secretary Esper, Fort Stewart, we have plenty of room for another security forces brigade or a full brigade. I hope that you will consider Fort Stewart for any additional platforms or teams I should say. Obviously very close to the Savannah Port. Easy getting in and out of there. And we would love to have the additional men and women in Georgia.

Secretary ESPER. Yes, sir.

Mr. SCOTT. Madam Secretary, Secretary Wilson, you talked a little bit about sustainment, the 3D manufacturing, additive manufacturing, predictive analysis, and how we can use that for sustainment operations and speaking of acquisitions. Would you expand

on that a little bit and include in that how we are going to handle the intellectual property contracting and the data?

It seems to me that no private sector company would pay somebody to develop a computer program for them, and then find out at the end of the contract that they didn't actually own the program, and how the Air Force is addressing those issues?

Secretary WILSON. Sir, with respect to intellectual property, this is one where we may need to work with the Congress. We are pushing the limits of our negotiations on intellectual property on new contracts upfront.

What we do find is that when we are trying to maintain older equipment, when we go out with requests for parts, that many of the manufacturers are no longer in business and then we realize we don't have the intellectual property for the door handle on the back door of a KC–135.

And so, we then—and in some cases, the A–10 is one example, the prime contractor is not even in business anymore. So we are actually trying for our contracts going forward to get more of the data rights over time.

There are a lot of different ways to negotiate that. But if we can do that we think we can reduce the cost of sustainment over time by keeping competition in place and by being able to get other people to build parts when companies go out of business, which they do over the 20-year or 30-year period for a piece of equipment.

With respect to additive manufacturing and advanced manufacturing in general, we think it has tremendous promise for maintaining weapon systems and for the long logistics pipeline. So instead of having 30,000 parts, you have material, and you can make the parts as you need them. We think there is tremendous opportunity there.

Mr. SCOTT. Yes, ma'am. I represent Robins Air Force Base, and with the CNC [computer numerical control] machining and 3D printing that can be done, as long as you have got the schematic and the raw materials you can manufacture the part right there as you need it.

So, I certainly appreciate all of your service. Look forward to continuing to work with you. And with that I yield the remainder of my time.

The CHAIRMAN. Mr. Norcross.

Mr. NORCROSS. Thank you, Chairman.

Last year, we had General McDew, TRANSCOM [U.S. Transportation Command] commander, talk about some of the challenges he faces each and every day. And one of the items he talked about that keeps him up at night are the refuelers, we heard some questions earlier today.

We go back in time, late 1950s, our KC–135s came online. And in the early 1980s, the KC–10s. We have been looking at a replacement plane for those refuelers for about a decade.

Secretary Wilson, we are here talking about acquisition reform. Given that the dates for these KC–46s have slipped from August of 2017 to January 2018, we are not sure what exactly the timeframe is now.

What would you do differently in the acquisition process to avoid some of the issues that we are looking at right now?

Secretary WILSON. Sir, one of the first things to point out is that it is a fixed-price contract with Boeing. So they are not getting any more money from us.

Mr. NORCROSS. But the timeframe?

Secretary WILSON. But the time is an issue and schedule is an issue. When they had the last slip of schedule we got consideration from them, so they gave us—they basically compensated the government for their lateness on the schedule.

I expect that that will be an issue in the coming months with Boeing as well for these most recent slips. We will also probably have to keep the KC–10s on longer unless they are able to catch up with producing aircraft once they get the line clear and get these problems worked out. And I expect that we will be working with them on that as well.

Mr. NORCROSS. But in terms of moving forward, what would you have done differently if we faced the challenge of picking a new contractor today? Would you have structured it different? Would you put certain deadlines? I mean, this is a serious issue as you well know, as anybody who flies a plane knows. How could we avoid it next time?

Secretary WILSON. Sir, I do think that there is a place here for fixed-price contracting. And I think that in this case having done a fixed-price contract with Boeing was the right thing to do. And they are not—and we have other contracts where quite frankly I think we have more risk and we don't have a fixed price.

I do think that in this case, one of our frustrations with Boeing is that they are much more focused on their commercial activity than they are in getting this right for the Air Force and getting these airplanes to the Air Force. And that is the message we took to them in Seattle last week.

Mr. NORCROSS. So as you pointed out, there is a fixed price in—from the dollars and cents that is great. But extending out the two craft that we talked about, three additional years at minimum?

Secretary WILSON. I——

Mr. NORCROSS. You wouldn't change a thing in——

Secretary WILSON. No, I share your frustration, sir. I was not here at the time and I guess I have not thought in deep—I am not the kind of person who thinks about what I would have done in the past had I been here.

I do not really think that way too much. My focus right now is to get the aircraft from Boeing and get them up there flying, so that we can modernize the fleet. We currently have 457 tankers; that will grow to 479. And as the KC–46 comes online, we will retire the KC–10s.

Mr. NORCROSS. Thank you. I yield back.

The CHAIRMAN. Mr. Byrne.

Mr. BYRNE. Thank you, Mr. Chairman.

Secretary Spencer, good to see you. I listened very carefully to your opening remarks and I appreciate two words I heard loud and clear, one was people and the other was, urgency. In your written testimony you say that the 30-year shipbuilding plan sets, quote, "The conditions for an enduring industrial base," close quote.

Industrial base is people. The people that work at the now just seven shipyards to build the Navy, the Navy ships. Unfortunately,

your acquisition plan for small surface combatants fails to provide for an enduring industrial base. In fact, it will erode the industrial base for those ships. The Navy requested only one littoral combat ship [LCS] for fiscal year 2019 before the transition next year to the frigate.

Now, the threshold problem is that Navy was supposed to have gotten the frigate done for fiscal year 2019. And that predates you. But you used the word urgency, the Navy has not had urgency about this. So we are in the conundrum we are in right now because of a lack of urgency. And I have to tell you, Mr. Secretary, since you have come onboard I haven't seen the Navy pick up the urgency on this program.

In fact, I see the opposite. I think you are slowing down. In fact, some people from the Navy have been to the shipyard in my hometown and said they want to know what happens if it slides further from fiscal year 2020.

So, I think the urgency is missing there. Both of these shipyards that are making LCSs now are telling us that if we go to one littoral combat ship that they will have a dramatic erosion of the industrial base.

They will lay off thousands of shipyard workers and would look at the prospect of losing one or both of those two shipyards, shrinking the number of shipyards from seven to five. That is the industrial base.

Now, Admiral Neagley, who is the LCS program executive officer, I know you have renamed that program, but he was at the time when he said this. He has testified that the optimal sustaining rate for both shipyards is a total of three ships per year, and that is where we have been authorizing and appropriating in the last several years.

At the beginning of this month, Assistant Secretary Geurts said before this committee that, quote, "Certainly, one LCS a year is not near the optimal rate," close quote. And said further, "That this will probably cause some work turndown in those yards as we build back into the frigate," close quote.

And you yourself said to the Defense Appropriations Subcommittee just a little while ago that the purchase of a single LCS was, quote, "Not optimal," close quote. Okay. You may say that you are concerned with the enduring industrial base, but it seems to me you have overlooked the industrial base problem we are facing this year.

So please tell me, sir, why we in Congress should accept a, quote, "not optimal," close quote request for the littoral combat ship program.

Secretary SPENCER. Thank you, Congressman. First of all, I could not disagree with you more about urgency and I would like to invite you over for lunch and show you the programs we are doing.

We are going to bring the frigate on from first discussions in 2018 to contracts award in late 2019 and get that thing out the door in 3 years after that. I would like to see a comparison to any other platform we have done on that timeline.

And that is what is happening under my tutelage just so you know. But to address the question at hand which I totally agree

with you, we have to have a balanced flow through the industrial base.

The way that we are looking at it now, I can only deal with what I am funded directly in the budget request. If in fact, and we have had success right now of finding the dollars in reformation inside the Department, can I allocate those dollars for other platforms.

I am being told, yes, now, I can do that. And that is what we are doing. If you look at the $650 million that we actually extracted from de-obligation discipline, that would be an example of something that could be put towards another platform.

That is the portfolio management we are struggling with. I totally understand where you are coming from. I am working within the confines that I have. Is my desire to keep everybody healthy? Yes it is. Will we work to get everyone healthy? Yes, we will do everything within our bounds.

Mr. BYRNE. Well, I appreciate and I accept your offer for lunch, by the way. Be happy to come over there. I was listening to some of the questions to Secretary Wilson. Ten years ago last month, the tanker was awarded to a different company, a company that has produced a tanker that is fueling American jets when we are working with our allies in NATO in Australia.

If we had gone with that company, we would have a tanker right now. You have got programs at Wisconsin and Alabama that will produce your frigate for you, right now. You do not need to go to other companies.

So I can't wait to have our lunch because I look forward to talking to you about how we can avoid the mistake the Air Force made when they did what they did on the tanker program, so that we can have a frigate quicker and substantially under the cost that we are hearing from the Navy. With that I yield back.

The CHAIRMAN. Mr. Moulton.

Mr. MOULTON. Thank you, Mr. Chairman.

I have a question about, we have had a lot of talk about cyber and artificial intelligence, and we mentioned briefly the conflict in space. We have not specifically mentioned China's development of anti-satellite weapons and how they now claim to be able to take out the majority of our satellites within 28 hours, 48 hours rather at the beginning of a conflict.

These are game-changing developments in our strategic balance. My question to the service secretaries is how are you working to address these as a whole? And how are you coordinating your development of AI, of cyber capabilities, of autonomous vehicles, and whatnot amongst yourselves?

Secretary Wilson, would you start?

Secretary WILSON. Thank you, sir. Let me start out with the cyber side. In our budget, we actually look at what are the biggest challenges we are facing on cyber. One of them is the area of joint cyber warfighting.

And for us, we actually have $71 million in our budget for joint cyber warfighting command and control systems. And so, that is intended to meld together the different cyber tools we have so that a commander can see everything and be able to apply those to the fight.

With respect to space and your comment with, specifically with respect to Chinese capabilities, without going into too much detail the things we worry about are jamming, direct ascent anti-satellite weapons, which the Chinese demonstrated in 2007, and they also have claimed certain co-orbital capabilities. Our job is to ensure that we deter any attack on our satellites, we are able to defend when someone attacks our satellites, and we are able to continue to operate in spite of any country's attempt to interfere with satellite communications.

There is not a military mission today that does not in some way depend on space. And I think all of us at this table understand that. And it is our obligation to accelerate our ability to defend those assets on orbit and to make clear to any adversary that if they attack us in space, we will respond.

Mr. MOULTON. Madam Secretary, you said earlier that it is clear to our adversaries that we are the unequivocal leader in space. Do you feel confident today that we have the resources to defend against such a Chinese attack?

Secretary WILSON. Sir, I would like to go into some detail with you in classified session on that matter if I could.

Mr. MOULTON. Okay.

Secretary Spencer.

Secretary SPENCER. If I look at earlier in the testimony that we were here, Secretary Wilson hit the nail on the head. We as three secretaries are meeting with regularity, and one of the first programs that we decided to focus on was S&T.

We put our top three or four programs that we are working on, and ironically, I think three of them overlapped. And we are now working with Mike Griffin and others to see how we can best pool our dollars to make sure that we are going in the most effective and efficient manner most expeditiously, rather than going up three stovepipes separately.

Mr. MOULTON. Secretary Spencer, China has made an unequivocal statement that they intend to be the world leader in AI, in artificial intelligence, by 2020 or 2030. Are you prepared to counter that statement? Do you think——

Secretary SPENCER. I think we have to. And we have to put the resources against it. If I look at the assets available to us, the Naval Postgraduate School is a fine example. It's a national treasure that we need to leverage in this area.

Mr. MOULTON. Secretary Esper, if I may change subjects briefly because I am running out of time, I am concerned about numerous reports that my office has received about a reduction in training standards of our ground forces.

Now, this applies, Secretary Spencer, to reports we have heard from the Marines as well. But if you could answer, do you intend to allow any reductions in training standards, which seems to me would counter the emphasis that you have put on the need to have a ready force?

Secretary ESPER. Thank you, Congressman. We are not reducing training standards. If anything we are increasing them. For example, we are looking at a new physical fitness test that will improve across the board the physical fitness of our soldiers and prepare them for the demands of combat.

We are looking at a change to basic training that would extend it and also put additional skills in there and a crucible type exercise at the end. So there are a number of things that we are doing to enhance the readiness of the soldier both physically and tactically and with their skills so that they are ready——

Mr. MOULTON. Secretary Spencer, can you just comment quickly on the reports of the Infantry Officer Course in the Marine Corps lowering the standards?

Secretary SPENCER. Yes, no standards are being lowered, Congressman. One of the things that we did do was we amended the actual logistics on how people go through the IOC course, but standards remain the same.

Mr. MOULTON. Thank you, Secretary.

Thank you, Mr. Chairman.

The CHAIRMAN. Ms. McSally.

Ms. MCSALLY. Thank you, Mr. Chairman.

I want to first note for the record that I remain strongly opposed to the Army's decision to close down Apache battalions in the National Guard while at the same time growing attack aviation battalions from scratch in the Active Duty force.

As I have said many times, this wastes millions of dollars, thousands of years of specialized experience invested in hundreds of pilots and maintainers. We went to the mat to fight for more resources for our military over these last months.

And the very week the budget deal was signed into law, a combat ready unit in Arizona was told to transfer its Apaches and shut down. And a Pennsylvania company will come home from deployment and lower their flag.

I don't want to take the rest of my time to hear again the justification for this decision, but I want to note for the record my very strong opposition.

On to another attack asset. Secretary Wilson, 2 years ago we sat in a similar hearing with previous Air Force leadership arguing strongly about the need to keep the A–10 Warthog. We won. Since then the A–10 has been pivotal, shwacking ISIS [Islamic State of Iraq and Syria], deployed to the European defense, been ready south of the DMZ [demilitarized zone], and we have now been sent back to Afghanistan.

I am grateful for your support for this critically unique capability, including funding for the A–10 in the last two years' budget request and the commitment to the re-winging of the remaining 109 of the 281 A–10s that need it.

There have been some reports though that divestment will still commence in a few years and other public statements saying it will fly well into the 2030s and beyond. So can you state for the record how long you plan to have the A–10 in the inventory?

Secretary WILSON. Ma'am, we expect the A–10 to continue flying at least until 2030. The fiscal year 2018 budget, if the omnibus comes out in the way that we expect it to, will restart the line for the re-winging and will include enough money for about 4 more re-wings on top of the 170-plus that are already re-winged.

The fiscal year 2019 budget request includes $80 million for additional re-wingings of the A–10. We will go out for a bid, but we think that will get us between 8 and 12 more in fiscal year 2019.

Ms. MCSALLY. Great. Thank you for clarifying that. And I want to—I know you mentioned in your testimony but if you have any insights on in order to conduct the National Defense Strategy, we are down to now 55 fighter squadrons, we used to have 134 fighter squadrons around Desert Storm, and many of those squadrons are actually 18 PAA, primary aircraft assigned, versus the 24 PAA we had in the past.

So how many fighter squadrons do you think you need in order to execute the National Defense Strategy?

Secretary WILSON. Congresswoman, we currently have 56 fighter squadrons. We have just gone through a 53-day deep-dive exercise on readiness. And we are also looking at the total number of squadrons required to execute the National Defense Strategy.

And so, we are doing that over this year leading up to the fiscal year 2020 POM [program objectives memorandum]. I would say that one of the things on readiness that we are really focused on is the 301 operational combat squadrons and how do we better support the structure that we have.

The guidance in the National Defense Strategy was to increase capability before we increase capacity. In other words, make sure we have got ready forces now before we just try to expand force structure.

Ms. MCSALLY. Great. Thanks. So you expect when you will have a sense of how many squadrons you——

Secretary WILSON. Ma'am, I think we need to do that in preparation for the fiscal year 2020 budget submission, which for us is the over the next 6 months.

Ms. MCSALLY. Okay, great. I know there has been some discussion as to whether that will, as you are growing, if we keep the A–10 into the inventory which I appreciate, well into the 2030s whether that will be the nine squadrons that we currently have or going down to the six.

I am concerned at the rate that will be re-winging the remaining 109 that we are going to have a bathtub and lose that capability, so can you comment at all about where that fits in there, and are you looking to build squadrons back from 18 to 24 PAA in the process?

Secretary WILSON. Ma'am, one of the issues on 18 to 24 aircraft per squadron is what does it do for readiness, particularly when you do split operations which you understand better than—certainly better than I do and a lot of other people.

And that is one of the things we are looking at when we are going into a high-end fight. And one of the things we have seen is that over the last 17 years we have been cannibalizing the Air Force to roll forces forward on a mature infrastructure and command and control.

That is not what we are being asked to do in the new National Defense Strategy. So how do we organize ourselves for that high-end fight, and it affects A–10s as well as all of our other aircraft.

The other thing that I would also mention with respect to squadrons is that we have the continued funding in our budget for the light attack aircraft, which is not a substitute for the A–10, but could expand the number of squadrons that we have in this 5-year period.

And our intention is to try to use light attack aircraft to reduce the operating tempo on fourth- and fifth-generation aircraft that should be focusing on training for the high-end fight.

Ms. MCSALLY. Great. Thanks. I am over my time.

The CHAIRMAN. Mr. Carbajal.

Mr. CARBAJAL. Thank you, Mr. Chairman.

I thank you all for being here. All of you have mentioned that we need to take the necessary steps such as investing in modernization and further improving the acquisition process to ensure our service members have the best capabilities and training for mission success wherever they go.

However, one of the most important responsibilities is not just that they are ready to fight, but ensuring that they are healthy and fostering positive morale and well-being. And a part of that is looking at the conditions of their daily lives.

We are focusing on modernizing our capabilities, but I also want to make sure we are also taking a close look at the conditions where our service members eat and sleep. For example, I represent Camp Roberts in my district. It is a National Guard base where they train and house soldiers and Marines year-round. Many are trained and housed at Camp Roberts before they are deployed. And what concerns me is that they are allowing these service members, we are allowing these service members to sleep in facilities that are World War II era. And many of which I believe should be demolished and replaced. Some of these buildings are contaminated with asbestos and honestly, I believe this is unacceptable. I am fully aware these conditions are prevalent among a number of bases and installations.

And I understand military construction funding is all but vast. But as we look to modernizing the military, this is an area that cannot be ignored. Is this something that services are focusing on? Is there a capital improvement plan? Are there any timelines where our investments are focused as priorities? And how are we ensuring that our service members are not just being provided the best equipment and training, but the best accommodations?

Secretary ESPER. Thank you, sir. I will take a response to that question first. As I travel around the Army, and I have done a lot of that in the last 3 months, I spend a lot of time talking with soldiers across all components. And in my conversations with soldiers, we talk about these types of issues. And with regard to the Guard, I know there are those concerns out there with regard to facilities. So, I am not familiar with the situation at Camp Roberts. What we do do is endeavor as we look at our military construction projects to make sure that we bring all of our soldiers' living conditions up to a certain standard. I think the Guard prioritizes within their component, but this is something I will take back and go look at Camp Roberts and find out the specifics there, because I have not heard about this situation.

Secretary SPENCER. Congressman, as far as your Navy-Marine Corps team, when we talk about quality of life and specifically infrastructure, interestingly enough, when I talk about infrastructure and address it, it is under the readiness column. We truly believe that not only well-being of our people, well-being of our equipment, et cetera and the infrastructure that supports it is a major compo-

nent of readiness. It has always been an anathema to me that we fund at 70-plus percent.

We have moved it up. We are going to fund this year at 80 percent of the needed requirement.

But, this is where we get down to the painful nature of portfolio management as to where dollars should go. It is readily apparent not only with our soldiers but out in the Pacific Northwest at the shipyards, we went and saw people who are working on lathes with tents over them because of what was falling off the ceiling above them. Thank God we have workers that can actually put up with those conditions and keep producing for us, but we have to focus on the infrastructure, yes.

Mr. CARBAJAL. The last thing I will ask all of you and if we run out of time, if you could get me some answers, you know, we always hear about the continuous process improvements that all the branches are taking to modernize, to modernize our acquisitions process, all kinds of things that we are doing. But because of change of commands, how do you ensure that there is continuity of implementing priorities and implementing these continuous process improvements within personnel so that they could withstand change in their commands at different levels? How do you case manage that as branches?

Secretary ESPER. If you are talking writ large, Congressman, what we do is we have very established metrics, if you will, with regard to readiness that assesses training, equipment readiness, personnel deployability, et cetera with hard metrics that we continue to try and make more and more objective.

We do the same with regard to infrastructure in terms of the conditions of barracks or quarters or buildings. And, so the enduring piece of that is of course those metrics complemented by the fact that, you know, as the civilian workforce, which is fairly steady and not changing as much as uniform military, gives us also the means to track and ensure there is continuity throughout the process.

Mr. CARBAJAL. Thank you, I am out of time. If you can get me that in writing, I would appreciate it.

I yield back, Mr. Chair.

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

The CHAIRMAN. Mr. Kelly.

Mr. KELLY. Thank you, Mr. Chairman. And thank you, Secretaries, for being here. It is quite an honor to have all of you here at the same time.

First of all, Secretary Wilson, I disagree that 50 percent of us would have thought of their mothers. I think that number would be closer to 90 percent, if not greater. And I truly mean that. They are the protectors of all our families and I think your number—I think it was well said but I think the numbers were too low.

Second, Secretary Esper, I want to go back to the Apache issue. You cannot do 18 ships in a Guard unit and 24 in an Active Duty unit and tell me that they are the same. That is just not true. If we are going to buy this One Army, we have got to look the same across the board. We can't do it with Charlie models while the new Active guys get Echo models, that doesn't work.

And so, we have the best maintainers and pilots in the world in the Army National Guard, Apache pilots. They have more experience and our maintainers have more experience than their Active counterparts and I would just ask that we really push to make sure that we do not do away with that combat aviation in the Army. And I know you are all working on it, but I think ARI [Aviation Restructure Initiative] got it wrong and I think the 18 versus 24 ship is not a fix and I think long term it is going to cause issues. So, I just hope you will relook that.

Second, I want to talk about engineers. We have been talking about new engineer equipment since I joined and got commissioned as an engineer lieutenant in 1988. And we are talking about new short gap crossing and wet gap crossing and all those things and we have all kind of plans and equipment, but we have never implemented any of those. And so, we still have the same bridges that we had when I was a second lieutenant in 1988, the same AVLB [armored vehicle launched bridge]. There is technology that is stronger, lighter, quicker that we can do.

Sometimes though I think we forget about our engineer, our gap crossing, and if we do not have mobility or freedom of movement, we cannot do anything. And so, I hope that the Army will look at not just talking about what the new plans for our mobility is, but look at the bridging requirements that we have in some theater of operations. We won't always fight in Iraq and Afghanistan.

And, I really do not need a question. I hate that. But, I think you are doing a great job. Continue that, but those are two things. And, I do want to touch one more thing on as far as how we live as the Guard; let me just tell you, many times when a Guard unit mobilizes, they live in lesser conditions that the Army would not even live in. And if it is because we are practicing being remote, I am fine with that as my 155 soldiers are about to do at Bliss. But if the Active Component is not doing the same thing, we need to fix that. And we do not need to ask the Guard guys to live in tents when the Active guys are living in nice barracks.

So, I just want to make sure it is for the right reasons and thank you so much for your service.

Secretary Wilson, ISR [intelligence, surveillance, and reconnaissance], the JSTARS, that is a mistake. Let me tell you, when you have a thirst for intelligence as all our services have and we are talking about taking a platform out of service to have something that replaces it in 2035, yet the requirements are not going down, that is not an acceptable answer for a guy who lives and dies by the intelligence on the ground.

So, can you tell me there is a plan in place to do something for the intelligence that JSTARS is currently collecting between now and 2035 when the replacement starts coming online?

Secretary WILSON. Yes, sir. One of the things that makes this possible is in fact the assessment that we will continue to fly JSTARS through the mid-2020s. So what we are doing here comes in three increments.

The first increment is kind of now to 2023 where we will have the current JSTARS. We will build additional MQ–9 Reapers that have ground moving target indicators. We will modernize the E–3G AWACS [Airborne Warning and Control System] system includ-

ing support for the new ground moving target indicator software and we will enhance their Link 16 capability which has to do with their communications as well as building additional space-based capability with the National Reconnaissance Office. So, that is the first increment.

The second increment starts in——

Mr. KELLY. If I can let you finish the other, I will just tell you, I think there is still an ISR capability gap from 2025 to 2035 that we can't afford and I am sorry, but I wanted to get with Secretary Spencer real quickly.

This hospital ship is a big deal and the same thing, we do not need to be talking about what we are going to do in 2021 about removing something from the inventory. We need to have a replacement before we remove that, whether that means upgrading what we currently have or getting something else.

My understanding is, and I may be wrong, tell me if I am, is that we have a national security requirement for two hospital ships, yet we are not going to meet that starting in 2021 because we are retiring one of the two hospital ships, and again, that is a capability gap in soft power and also serving our ally or serving us at a time of war.

Just can you assure me we are not going to have a capability gap in hospital ships?

Secretary SPENCER. Congressman, I can. Much like the *Ticonderoga,* it was coming up for decommissioning and we put a SLEP program, a service-life extension program on. We will address this and make sure that we do not have the gap.

Mr. KELLY. Thank you, Mr. Secretary.

And, I yield back, Mr. Chairman.

The CHAIRMAN. Mr. Brown.

Mr. BROWN. Thank you, Mr. Chairman.

I want to thank each of you for not only your service to our warfighters and their families, but also to each of you for your prior service in uniform. Thanks for being here today.

Secretary Esper, it was a pleasure meeting you, sitting down with you 2 or 3 weeks ago in my office. I would like to follow up on the Army Futures Command and ask you a question or two about that.

You identified that as one of your three priorities to improve modernization. You said today as well as in your written statement, it is integral to reforming our acquisition process. Your Under Secretary McCarthy has sort of characterized it as a realignment. You have characterized it as a consolidation. General Murray testified last month on the Senate side. He testified that it is projected, the Army Futures Command is projected to be at least initially operationally capable by June or July of this year and fully operational next year.

When are we going to see a concept plan or some other document that sort of, at least in an outline form, lays out the purpose, the organization, the resources, what the realignment and consolidation might consist of? When will see something like that?

Secretary ESPER. Sir, the Under Secretary of the Army will be coming up this week to brief the committee staff on it and members who are interested.

Mr. BROWN. Great. Well, while you are here, can you make your best elevator pitch? Because there are some skeptics, there are a lot of supporters, what is the pitch, why a new command and new processes and not just improving current processes in existing commands?

Secretary ESPER. Well, I think—I do not need to cite some of the past failures the Army has had with regard to major acquisition programs. When you look at the various reports that have come out in the past such as the Decker-Wagner report and testimony of experts in committees such as this over the years, they cite a number of consistent items, first of which is a requirements process which is unwieldy and is in some ways never-ending. And they speak to a culture of risk aversion, and they speak to a lack of accountability. So those are just three things. There is a longer list, of course.

What the Army Futures Command proposes to do is to take these disparate functions that are currently spread out across the Army and align them. So you could either say you are aligning them or you are consolidating, but the bottom line is you are putting under a single commander who is now responsible for materiel acquisition from concept all the way through production.

Sustainment will remain with Army Materiel Command. And so that is what you have. So, you have a single person responsible. You have accountability. You have unity of effort, so now a single commander can work that technology from, again, concept S&T, all the way through. You can utilize the lessons we have learned so far with regard to the use of the cross-functional teams whereby you bring everybody to the table at the beginning of the process. You bring the PMs [program managers]. You bring the contractors. You bring the budget folks. You bring the testers all the way around and you make sure they sit at the table when we discuss requirements then and there, so that you don't get requirements——

Mr. BROWN. But, we will see something next week?

Secretary ESPER. You will be briefed if you want and certainly the staff will be briefed this week on some of the details.

Mr. BROWN. Thank you.

Secretary Spencer, I had some of that good Navy coffee. I was aboard the USS *Gonzalez* just last week in Norfolk. And I was on the bridge. I was on the bridge on that destroyer. Last year I was on the USS *Nimitz,* and as you know that space is very busy, a bridge on a destroyer or an aircraft carrier. It is sophisticated, a lot of requirements, a lot of technology, a lot of moving people.

That same day I visited a simulator, a bridge simulator, and we looked at the USS *Porter* scenario which happens in the Strait of Hormuz and now they will be training on the *Fitzgerald* and *McCain* simulation.

My concern that I want to raise to you is I was struck by the disparity in the level of, let us say, modernization on a real deck or bridge and the lack of sophistication in the simulators. It would be like asking an F–35 pilot to train on a F–4 Phantom simulator. I would just ask that you take a look at that and as we are fielding a variety of vessels in the Navy that we give our seamen an opportunity to train in what I think would be a more realistic scenario,

which is a space that more closely resembles what they will actually be driving on the high seas and in the narrow straits.

Secretary SPENCER. Congressman, I look forward to inviting you over probably this fall to see some of the new training aspects that we are going to introduce to the fleet. The CR [Fleet Comprehensive Review] that was signed out by the CNO addresses our biggest dollar request out of the CR which is bridge commonality, to bring the technology amongst all the surface ships we have into some sort of uniformity and the training that go along with that.

Mr. BROWN. Great. Thank you.

I yield back, Mr. Chairman.

The CHAIRMAN. Mr. Turner.

Mr. TURNER. Thank you, Mr. Chairman.

I want to thank each of you for your service. You are serving at an incredible time. This is the time where Congress will be reversing the cuts and diminishing of our capability in our military and providing funding for the purposes of rebuilding, trying to address the issue of readiness, trying to address the issues of stalled modernization and then look to the future as to what other modernization that we need to do.

Now some of our programs that we have currently ongoing, Madam Secretary I want to ask you a question about the F–35, a couple of questions. One, you know, as you know as we look to the F–35, one of the major criticisms are cost, and that relates both to production and to sustainment. We always think of a to-do list with respect to the contractors that are involved, but what things should we be looking to that are our responsibility that we could do better to help reduce those cost with the F–35, both in sustainment and acquisition.

And then secondly, the Nuclear Posture Review recommends that the United States retain the longstanding ability to forward deploy dual-capable aircraft. Part of that is dependent upon our NATO allies and right now our NATO allies are going through the process of determining whether or not they participate in the F–35 in its dual-capable aircraft capability.

Right now, Belgium is in the process of making a decision that may not go in our favor, and certainly would affect that ability. So if you could give us a description of what should we be doing on—what is our to-do list with respect to reducing cost. And secondly, on the dual-capable aircraft, what else should be on our to-do list to ensure that our allies participate and that we are able to keep that important capability of forward-deployed aircraft?

Secretary WILSON. Thank you, sir. With respect to the F–35, there really are two pieces; one is the purchase price and the second is sustainment. With respect to the purchase price, for the F–35A by fiscal year 2019, we expect the purchase price to be less than $80 million a copy for the F–35A, which actually compares favorably with fourth-generation aircraft. So the capability that we get with the F–35, particularly when you combine it with other systems in the air, is actually quite good value for the money.

We are continuing to drive down the cost of purchase, and as you know, this is a joint program that is managed by the Office of the Secretary of Defense for all of the services. But I have been pleased

to see their seriousness in their negotiating with Lockheed Martin to drive down the cost of the purchase price.

We are now shifting to look at the sustainment issue. And I think as customers for the F–35, we have been a little bit frustrated at how quickly or not quickly we have moved forward to look at sustainment and making sure that we have the parts and competition for parts going forward to drive down those costs.

I think the F–35 is probably a good example of where we can use new ways of getting parts and supplies, and we had a discussion about that here before on intellectual property, and new ways of doing advanced manufacturing and advanced logistics, predictive maintenance to drive down the cost of sustainment and to get airplanes in the air at a cheaper cost.

With respect to the allies and the dual-capable aircraft, if I could take that question for the record, I will get you a more full answer.

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

Mr. TURNER. Thanks. Now turning to the Army, Mr. Secretary, part of our European Reassurance Initiative also included forward deployment of capability, and we found in undertaking that that a number of the allies did not have infrastructure that would allow basic equipment to move across their borders or even through their country, which of course inhibits our ability overall to defend that territory.

As part of that, the European Reassurance Initiative had a number of costs that the United States taxpayer was billed to fix those things. How do we capture what those bills were and make certain that our allies fix those permanently?

Secretary ESPER. Yes, sir, you outlined a very critical problem with the European theater, as I have been able to talk to units that come back from training there and during my visits there, you are correct. There are infrastructure challenges that prevent or inhibit intra-theater movement, so it is everything from inadequate bridging, paperwork, insufficient road networks. And I have talked to European allies about it and I know it is something they are addressing.

With regard to dollars in ERI [European Reassurance Initiative] or EDI [European Deterrence Initiative] that goes specifically to that, I am not familiar with that, so what I would like to do is take that back for the record and get you an answer.

Mr. TURNER. Great, thank you.

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

Mr. TURNER. Madam Secretary, we undertook a study on Space Corps that is in the [inaudible] National Defense Authorization Act. We expect that report to come out. What are some of the things that you would expect to be in the report?

Secretary WILSON. Sir, we gave you kind of an update on where we are in doing that assessment, but the assessment won't be complete until August. But I think one of the areas where we are making a lot of progress right now is focusing on acquisition, and Space and Missile System Center out in California is leading that effort to look at how do we move faster with acquisition in space and

then how do we systematically focus on innovation in the area of space.

The CHAIRMAN. Mr. Gallego.

Mr. GALLEGO. Thank you, Mr. Chair.

This is a general question for the panelists. Russia will likely never actually present us with an Article 5 violation, instead they will act like petulant little teenagers as I have said this before many times in this committee and just try to do just go below a full invasion, but enough to I think cause havoc for our allies, whether it is hybrid warfare or other pre-stage invasion plans.

So what are we doing specifically to fortify ourselves, our NATO allies as well as our near-NATO allies, such as Sweden and Finland, in preparation for some type of action of that nature that Russia would likely take? And we could just start with Secretary Esper and move to the right.

Secretary ESPER. Well I think as we have discussed, funding such as the European Defense Initiative gives us a lot of additional funds to conduct these heel-to-toe armored brigade combat deployments every 9 months to and from the European theater. That provides great assurance to our allies where they are deployed.

We also have forces deployed in Poland providing reassurance and deterrence there, particularly in critical elements. We support some of the enhanced forward presence packages in the Baltics. We are conducting multinational training at the Joint Maneuver Readiness Center in Germany. I had the privilege of being there where a Polish brigade was conducting multinational training with a U.K. [United Kingdom] Recce [Reconnaissance Corps] unit, Italian artillery unit, U.S. forces stationed under it.

So we are doing a lot of things from the training aspect to deployment. I spoke earlier today about how we are upgunning Stryker vehicles and putting in an additional brigade combat team set in Europe, again to further enable our employment of forces in theater and further deter any type of Russian bad behavior.

Mr. GALLEGO. Great. Secretary Spencer.

Secretary SPENCER. Looking at Secretary Mattis' compete, deter, win, he has his three primary drivers which are combat credible forces, a constellation of allies, and reform. Under constellation of allies, I can tell you, the Department of the Navy has been working very closely with both allies and friends, specifically when it comes to the Russian irritant. If I could bring you into a different environment, I can tell you things we are doing with Norway, the U.K., et cetera, but well known that we are talking to them actively, supporting them any way we can both in training, equipment, strategy, and policy.

Mr. GALLEGO. Secretary Wilson.

Secretary WILSON. Sir, I will just add to that, the National Defense Strategy is driving what the Air Force is doing and the refocus on both the Russian and the Chinese threats in addition to the European Defense Initiative, or under the European Defense Initiative which my colleagues mentioned, the Air Force is putting an effort this year into five bases which would be forward bases that we would rotate to in the event of conflict in Europe.

We also have a bomber presence that we have been rotating through and exercises in Europe and I think those are part of dem-

onstrating to our allies that we are good allies and partners and countries that have allies thrive and those that don't have allies do not.

Mr. GALLEGO. Thank you.

Secretary Wilson, I just actually met with the former Supreme Allied Commander General Breedlove and he published an issue briefing calling for a significant beefing up of our air defense plans and capacity in the NATO airspace. What are you proposing to enhance our capabilities and capacity to respond to threats—to those threats and to our allies also?

Secretary WILSON. Sir, our budget proposal includes I think it is $11 billion total for next-generation air dominance. It is a family of systems approach that intends to be able to gain air superiority including in contested domains, which is what we find in Europe and also in the Indo-Pacific. In that family of systems, there will be renewed emphasis on electronic warfare which we do in concert with our allies from the Navy.

But when you think of air dominance and air superiority, no country can put a wooden block over in its airspace. It is more like Swiss cheese. And our effort as an Air Force is to try to exploit the holes and take down those air defenses so that we can operate as a joint force in Europe.

Mr. GALLEGO. Thanks. And Mr. Spencer, if we control the sea, we control, obviously, our fate. Specifically talking about Russian aggression, what are we doing right now in terms of our wider national security strategy to make sure that we have dominance in the Atlantic, the Baltic Sea, and the Wadden Sea to counter what I would say is Russian aggression right now for later stage war?

Secretary SPENCER. Topically, Congressman, I can address some things right now, but I would like to do it in a different environment. We can get much more granular. But needless to say it is both in the air, on the sea, and under the sea where we are focusing on all movements in that area.

Again, in concert with both our other two services when it comes to on land, in air, it is a fairly well tightly woven tapestry.

Mr. GALLEGO. Thank you. I yield back.

The CHAIRMAN. Mr. Gallagher.

Mr. GALLAGHER. Thank you, Mr. Chairman.

There was a comment made at the beginning of the hearing, I do not know if it might have been the ranking member, but to the effect of this will likely be the largest the defense budget will be over the course of the decade. I hope that is not the case because that means we would have failed in our effort to rebuild the military. And I just bring that up to suggest that the topline fight, while we may have won an initial skirmish here, is going to be increasingly important and more difficult precisely because we are giving you more money going forward, and we are going to need your help in making the case.

And I would like to follow up at some point on Moulton's question about lowering of standards for IOC [Infantry Officer Course] because it is my understanding that we have got rid of the initial INDOC, but I don't want to spend much of my time on that.

Secretary Spencer, I would like to ask about the 30-year shipbuilding plan because I do think it is an unusual document. And,

by that I mean, on one hand, in no uncertain terms, it states that a plan to achieve today's warfighting requirement in three decades represents an unacceptable pace with the worldwide threats that we are facing.

And I just want you to elaborate if you can on the factors that make this plan unacceptable from the Navy's perspective and why the Navy put forth a plan in the first place that failed to meet this basic threshold.

Secretary SPENCER. The whole reason for that document to be put out there, Congressman, was to have the discussion that we are having right now. We wanted to put forth the two curves that we talk about in that document. One is a curve that is sustainable within the budget and portfolio management that I have been charged with, and two, if in fact we wanted to enhance that curve, it allowed you to see where the industrial capability was to tackle that.

I cannot sit here and balance, to be very frank with you, the portfolio I have, or I will rephrase that. I believe we have balanced the portfolio we have in the best way we have with the resources available to us, even with the top line you have provided us in that plan. Could we do it better, could we do it stronger if in fact there were the resources? Yes, we could.

Mr. GALLAGHER. But does the Navy believe that it is in fact unacceptable for us to get to 355 ships in three decades, in less than three decades or?

Secretary SPENCER. If we are charged with the task that we are charged right with now, it is going to be difficult, yes.

Mr. GALLAGHER. Okay. And then just on what my colleague, Mr. Byrne, brought up. I know we have had this conversation many times, but I just do want to emphasize that if we zero out additional work as we are currently at risk to do, as in no congressionally added LCS or EPFs [expeditionary fast transports] and no foreign military sales in fiscal year 2019 to fill the gap, in your opinion, Mr. Secretary, would only one ship of any class, in total between the two yards be an acceptable outcome with respect to the health of the industrial base?

Secretary SPENCER. That is what I was speaking to Congressman Byrne about is, again, it is in our purview to find the resources necessary to balance the health of those—any of the industrial base that we have. Does one work? No, one is definitely not optimal. Can we sit here within our bounds and try to move foreign military sales to the left? That is a lever. Do we have the ability to actually find resources to fund a different platform internally within our budget? That is a lever.

Those are the things that we will be looking at.

Mr. GALLAGHER. I appreciate that and really look forward to working with you on that. I think as I have said to you many times, we all want the same thing. We want a robust and open, we want the best frigate possible, and we want to keep the yards alive, to make that competition robust, and also to make good on the investments we have made there.

Secretary Wilson, there was a memo reportedly directing the Air Force to share less with the public. I am paraphrasing grossly, I apologize, but I am running out of time. But I am sure you are

aware of the memo, and I just want to know, did concerns driving that memo originate within the Air Force or were they in response to external direction in the Department? And if so, have the other services received the same direction to be more closed-mouth for whatever reason, perhaps operational security?

Secretary WILSON. That memo came from the Chief of Staff and I, and it has to do with operational security. We have an obligation to be transparent, but not with things that our adversaries could use against us. And it was time to do a reset and a retraining of our commanders and public affairs officials which we have done.

Interesting to me, the press did not know that we had done the reset until they found the memo, so it obviously did not affect how we were engaging with the media. What we do need to make sure is that our commanders do not release operational details that are classified or that could help our enemies.

Mr. GALLAGHER. I appreciate that. I think we all want the same thing. At the same time though, and I know I have said this to the Navy before, we are really going to need your guys' help in making the case publicly for what the fleet of the future looks like, what Air Force of the future looks like, so that we can have that public support to make the argument for a higher top line in a very difficult security environment going forward. With that I yield.

Secretary WILSON. That is my intent, sir.

The CHAIRMAN. Mr. Hice.

Mr. HICE. Thank you, Mr. Chairman.

Secretary Esper, let me start this with you. In your written testimony, you stated that an important part of the Army's effort to maintain readiness for major combat operations includes this security force assistance brigade.

Can you explain further as to why SFABs are so important for readiness in the Army?

Secretary ESPER. Yes, Congressman. If you look at what the situation has been in the last several years as we had provided assistance and training to our Afghan partners, what that has done is consumed an infantry brigade combat team, 3,000-plus personnel who are separated from their command, not conducting the missions, and therefore quickly losing their readiness. And in the context of what we face now, consistent with the National Defense Strategy, less prepared to fight these high-end fights if you will.

So the solution, the idea of the Chief of Staff, was to create a security force assistance brigade that requires fewer troops, in this case 816 versus 3,000-plus, that were also especially trained and equipped to do this type of training. And the personnel are specially selected. They have already had a company command or battalion command and so they come with it with their own skills as well, and the view is that this would, again, relieve the demand and therefore help preserve the readiness of our infantry brigade combat teams that have been doing that type of training for years now.

Mr. HICE. Thank you. And I would just urge as well your consideration for Fort Stewart on that. I think we are well prepared for that.

Let me ask each of you. Let me do this each of you real quickly because all of you have mentioned the problems with acquisition.

Of course we have made great strides in trying to deal with acquisition reform on this side. But each of you have mentioned it and I have done a little bit of research and it seems that the Section 809 Panel has come out with some interesting ideas to try to streamline the process.

So my question is, are each of you looking at their recommendations?

Secretary SPENCER. Yes, Congressman. I can tell you that we are. Secretary Wilson hit on something that we are really kind of drilling down in the Navy and that's OTAs, other transactions. We have had that ability to do that and it has always kind of intrigued me that we have not grasped that with greater vigor. And I think it really is just an educational process amongst the acquisition professionals.

Secretary ESPER. Okay. So we are making much greater use of OTAs for examples as well. I will tell you from over fiscal year 2017 and fiscal year 2016, we have seen a 60 percent increase in our use of OTAs. It reinforces the approach, the new approach we are taking whereby we prototype, test, fail, prototype, test, fail, repeat until we, again, refine the requirements and really get a good understanding of the technology. So that authority has been very helpful.

Secretary WILSON. Sir, with respect to other transactional authorities, our light attack experiment was done under other transactional authority and we went with four pages of requirements. We went from a letter of invitation to having aircraft on the ramp to test in 5 months. But it is not just light attack. We are doing it in command, control, communication, intelligence, surveillance, reconnaissance. We have a consortium through the Air Force Research Lab that have plug-and-play capabilities for intelligence, surveillance, and reconnaissance.

We have more than 70 companies involved in that effort. We use an other transactional authority for that. And we also put together what we call a space enterprise consortium. We announced it in January. We put $100 million into that pot to do other transactional authority agreements to get some innovation going and prototyping into space. We now have, in 2 months, we have over 100 companies that are part of that consortium using other transactional authorities.

Mr. HICE. So you are looking at those recommendations?

Secretary WILSON. Yes, sir, we are.

Mr. HICE. Okay, all right. And Secretary Wilson, you have already hit on this, so let me hit on the other two secretaries as it relates to cybersecurity and cyberwarfare priorities, how have you prioritized this in the fiscal year 2019?

Secretary SPENCER. It is definitely a priority. If you look at both the Navy and the Marine Corps, Navy Digital Warfare Office, the Marine Corps, the Cyber Warfare Office. We are totally front and center on it, staffing it and standing it up.

Mr. HICE. Okay.

Secretary ESPER. Sir, I was very pleased when I came into this job a little over 3 months ago to find that the Army has stood up an Army Cyber Command. We have a cyber MOS [military occupational specialty], a cyber branch. We are building capabilities. We

have 42 teams across the Army right now with another 21 coming onboard in the Guard and Reserve, and then thinking about how we employ them in our formation, so the Army is all in on cyber and we are putting the monies necessary to make sure that we can conduct both defensive and offensive operations.

Mr. HICE. Well, I am glad to hear that. Obviously, what is happening at Fort Gordon with the cyber command is enormously critical and we all know the importance of cyber across the board, so I thank each of you for that.

And with that, Mr. Chairman, I yield back, thank you.

The CHAIRMAN. Mr. Bacon.

Mr. BACON. Thank you very much. I appreciate your leadership here today and what you are doing.

One of the things that we put in our NDAA priority list out of our offices are trying to speed up the delivery of electronic warfare capabilities. For example, the replacement of the Compass Call. So I look forward to working with you on that, because I think it is really needed. We have very old airframes flying out now and they are used nonstop every day.

My first question to you is we talk to the service chiefs, they say our readiness levels are the lowest they have been since 1977. Now, with the new NDAA we have upped spending by 10 percent and if we can hold this with inflation over the next 2, 3, 4 years, what is your prognosis on when are we going to get healthy again? Is it going to take 3 years, 5 years? If we can hold it with this spending level with inflation.

Secretary WILSON. Sir, we are actually, and I mentioned it before, doing a deep dive on readiness to see if we can accelerate the readiness recovery, particularly with the frontline forces, the blunt forces if you will. I would say for the Air Force, readiness recovery is first and foremost about people. We lost 30,000 people in the Air Force in the wake of sequester, and we have hollowed out a number of units, particularly on the maintenance side of things, but also on logistics, and so we need to put people back.

We are recovering on the maintenance side, but now I have got to season those people from being apprentices up to being master craftsmen. The second area is parts, spare parts, and spares. So we are putting a fair amount of money into that. And the third has to do with training, and having the right simulators and the right ranges to be able to train and prepare for the high-end fight.

I think we just got this report from the readiness task force that we stood up, and I may have more information to share with the committee once we completely digest it as to how we think we can get back to readiness faster.

Mr. BACON. Thank you.

Secretary SPENCER. If I am to look at the Navy, sir, every single major readiness account is funded either to 100 percent or industrial capacity except for infrastructure which is funded at 80 percent. The easiest algorithm to use for the Navy is cycle, deck-to-dwell, so we want to make sure we can get back on a deck-to-dwell both the Navy and Marine Corps for the quality of life for our sailors and Marines. And the same goes for our capital assets, to get them back into availabilities on a regular basis, hold the discipline

of keeping those calendar days in place while also managing the demand signals from the combatant commanders.

But I would say 2020 is probably the target we are looking for.

Mr. BACON. Thank you. That is better than I thought.

Secretary SPENCER. That is not without a lot of work, Congressman.

Mr. BACON. We like you working hard.

Secretary ESPER. Congressman, the Army is more ready today than we were a year ago, that is the good news and that is due in large part to the support of Congress. Going forward, we anticipate meeting our readiness goal or the Chief does in the fiscal year 2021 to 2023 timeframe. That is assuming that we get predictable, adequate, sustained, and timely funding. So as we have talked earlier, the challenges of CRs is it inhibits that type of readiness growth.

But we are on target in terms of people, equipment readiness, the training we need to conduct, and of course a lot of the moneys for fiscal year 2019 will go into upgrades and other improvements that we need to meet the National Defense Strategy. Again, that is barring no change in demand as well.

Mr. BACON. What I want to do is just make a point on this next topic I want to bring up. Each of you have installation authorities or are taking care of installations, say in Europe. One thing that has come to our attention is some of our installations in Europe are dependent on Russian gas, which does not make sense because they are why we are there and if hostilities or tensions rose, you could expect that gas to be shut off.

So I just wanted to ask you to maybe take a look at that and see what kind of resilience we need there; it was in our most recent NDAA to analyze.

Secretary Wilson, how are we doing on the pilot shortage, for one; and two, if I could, it's a related question, how do we know the bonus works, because when I ask the Air Force this, they will say well, this is our retention, but we do not know even if we did not have the bonus how many of those would we have retained anyway. Because I think there are other factors than the bonus such as new aircraft, flying time, and all that, so I appreciate your insights.

Secretary WILSON. Sir, with respect to the pilot shortage, we were 2,000 pilots short at the end of the last fiscal year. Just so everyone understands, we take that risk, we underfill pilot positions in staffs and we are more than 95 percent covered in our cockpits. So we put people in our cockpits to keep our readiness high.

We are trying to solve this with really two parts. One is to produce more pilots. We have a national shortage of pilots and the airline industry is hiring over 4,500 pilots a year, and it is very hard to get into an airline cockpit now unless you come from the military and a small number of crop dusters and other things. So we have got to produce more pilots.

In fiscal year 2016, we produced about a thousand pilots. We are trying to grow our pilot production to about 1,400 a year. Second is retention and some of it is financial. Most of it is non-financial

and quality of life, quality of service, and I am happy to follow up with you.

Mr. BACON. Thank you.

And Mr. Chairman, I yield back.

The CHAIRMAN. Ms. Cheney.

Ms. CHENEY. Thank you, Mr. Chairman. Wonderful to see everybody and I appreciate your sticking around to the end or close to the end here.

Secretary Wilson, my first question is for you. We have worked very hard to make sure that we are lifting those things that have handcuffed—in ways we have handcuffed ourselves, things like beginning now the process of getting the resources the military needs in order to begin to rebuild.

One of the things I am very concerned about though is the INF [Intermediate-Range Nuclear Forces] Treaty and the ongoing danger frankly that we put ourselves in. We heard just last week in open testimony here the extent to which our obligations under the INF Treaty are constraining research and development of hypersonic capabilities.

So, could you talk a little bit about that issue in particular and how we get to a place where we recognize we are now the only nation in the world that is constrained by the INF Treaty, and how we get ourselves out from under that situation.

Secretary WILSON. My colleague—my other colleagues may want to comment on this. I do not think it constrains our hypersonic research or our other research.

Ms. CHENEY. Maybe we can talk about that separately.

Secretary WILSON. Yeah.

Ms. CHENEY. But last week, the open session testimony was very much that it has an impact and constraints because we conduct our research in a way that we are sure is not going to violate our obligations under the INF Treaty when deployed.

Secretary WILSON. And let me take that one and get back with you.

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

Ms. CHENEY. Second question, cyber and I appreciate very much the efforts and the points that you have made in terms of stressing what we are doing, all three secretaries, with respect to cyber. But we as a committee remain deeply concerned about the lack of a cyber strategy from the administration. And we are now 14 months in. We welcome the National Security Strategy, welcome the National Defense Strategy, the Nuclear Posture Review, but I would really like to hear from each one of you how you can be confident that you are in fact building the kind of force we need, kind of modern force we need in the absence of an overall cyber-operation, cyber-deterrent strategy. Secretary Esper.

Secretary ESPER. Congresswoman, we fully recognize the threats that are out there. We are doing everything we can as I meet with the leads of the cross-functional teams, what I am reinforcing to them is that at their level making sure that all of our systems are both hardened and resilient. At the same time, as we discussed, I am looking at how we address cyber on the battlefield to ensure that we are defensibly protected and have offensive capabilities.

And then of course, there is the enterprise side of our networks making sure they are protected as well. So we are doing everything we can within our scope of authorities and what I have under title 10 at this point.

Secretary SPENCER. Congresswoman Cheney, it is a challenge. I will be very honest with you. I am looking down here, the Navy has $448 million over the FYDP for cybersecurity efforts, everything from hardening HM&E [hull, mechanical, and electrical] to base hardening, and then if we look at the Digital Warfare Office, $27 million in fiscal year 2019 and going up from there.

We are doing what we can, but to be very frank with you, when it comes to the personnel side, we are going to have to be very creative to get the minds that we need to actually attack this and get down to it. We are going to have to come to you probably for some relief on DOPMA. We are going to have to have on and off tracks, we are going to have to have different abilities to attract people to get them in and after the problem.

But as far as dollars and activity right now, we are focused on protection primarily and secondarily offensive actions.

Secretary WILSON. I would highlight three things. One is that we are prioritizing. The first is we are charged by Cyber Command with producing 39 cyber mission teams, and we are on track to do that. In fact I think they all become fully operational this year. The second is when we look at what are the most important things we need to do, one of them is our network infrastructure is pretty old. We are shifting to enterprise IT [information technology] as a service so that we move a lot of the kind of enterprise IT, our email and those things to companies that provide that and taking our 1,700 cyber people who are in uniform and putting—training them to be more cyber defenders, so we use their skills in a way that is beyond what they serve me in the help desk.

The third thing has to do with cyber operational improvements, and the fiscal year 2019 budget for the Air Force puts $900 million into more tools and mission defense teams, to improve our cyber protection for our bases, but also for our weapons systems.

Ms. CHENEY. I thank you all very much for that and again, I know you are doing the best you can, but I think that it is very difficult to justify the fact that we are now 14 months into this administration, facing the kind of grave threat that we face, in particular from Russia and China, and have no official cyber policy. So we will continue to focus on that as a committee. Thank you very much. I yield back.

The CHAIRMAN. Mr. Gaetz.

Mr. GAETZ. Thank you, Mr. Chairman.

Secretary Wilson, thank you for coming to my district recently to recognize the valor that was displayed downrange by several of my constituents. And I appreciate the time you spent with me during that visit.

You will recall we discussed the Gulf Test Range in the eastern Gulf of Mexico and the fact that we currently enjoy Military Mission Line that preserves the eastern Gulf for that test and evaluation mission. As I sit here today, some of my colleagues are taking the position that that line ought to move further east, creating less

space for the Air Force and the Navy in particular to engage in the training and testing mission that is so essential.

You indicated to me at that time that there was no space between your view and the view that General Goldfein has placed into the record that the Air Force needs absolutely all of that space going forward for the missions that we have planned and those that we anticipate in the future.

Has there been any change in the Air Force's view on that matter?

Secretary WILSON. No.

Mr. GAETZ. And can you describe for me some of the consequences, particularly as it relates to munitions testing, if we were to have less space as some of my colleagues have suggested?

Secretary WILSON. We do testing of missiles off of Eglin as you well know, but we also do training over the Gulf. And I think, you know, I happen to believe that we should be able to exploit natural resources of the United States for our prosperity, but we also have to maintain our national security.

If there are ways in which to do that going forward that allow for both of those things, of course the Air Force is very open to that. But once we lose the ability to train, particularly in fifth-generation aircraft and hypersonics and other things, it is very hard to get back, so we are very cautious about that.

Mr. GAETZ. Has the Air Force reviewed any plan from the Department of the Interior or any other element of the United States Federal Government that would alter the position of the Military Mission Line that would still preserve the important work that you have described?

Secretary WILSON. I have not personally myself.

Mr. GAETZ. Are you aware of anyone within the Air Force that has been presented with such a plan to alter the Military Mission Line?

Secretary WILSON. I do not know, but I can take that question for you.

Mr. GAETZ. Thank you.

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

Mr. GAETZ. And Secretary Spencer, I am also aware that the Navy utilizes the Gulf Test Range. Just this last week I spent time at Boca Chica Field and they were incredibly proud of the unique assets that the Navy has that maybe would not be able to be used in every setting, that is unique to some of the assets we have in the southeastern Gulf.

Would a movement of the Military Mission Line concern the Navy?

Secretary SPENCER. It would. And I will tell you that professionally, there is no light in between Secretary Wilson and myself on this position.

Mr. GAETZ. Thank you, Mr. Chairman. I yield back.

The CHAIRMAN. Thank you all. I would just end related to some discussion you all had with Mr. Bacon and Mr. Gallagher. At some point this week, we are going to pass or we are going to finally finish the fiscal year 2018 funding for the military. And we know how much will be spent in 2019 because of that budget deal, but it

would be a mistake for any of us to leave the impression that this cap agreement and the money that flows from it fixes all our problems. It does not.

And I recognize the point. We do not want to give the enemy our playbook and show our vulnerabilities, but on the other hand as Mr. Gallagher pointed out, we have got to talk frankly to the American people if we are going to have public support for continuing to work to finish our problems.

And a lot of that responsibility falls on each of you for your respective services. So I just want to emphasize, we have got to manage expectations a little bit here. Not everything is fixed because we have a substantial increase in one year. The problems run deep and the closer—I see it. The closer you look, the deeper the problems are. And it is really important for each of you all to talk frankly about those problems and about what it takes to fix them.

And Mr. Secretary Spencer, I just want to—I think your ship plan helps highlight that and I did not really know what was going on, I appreciate your explanations today. I think that shows the difference between what we say and what we are actually doing. And I think that is a useful thing.

Ms. Murphy coming in late. Do you have a scintillating question that is just going to change the world?

Mrs. MURPHY. I am not sure that my question will change the world, Mr. Chairman, but I do want to get it in for the record if that would be okay.

The CHAIRMAN. The gentlelady is recognized.

Mrs. MURPHY. Thank you. I, of course, I want to thank you all for appearing before the committee today and I also wanted to thank the chairman and ranking member for holding this hearing on such an important issue. I wholeheartedly agree that the Department's traditional acquisitions process is too slow and cumbersome especially given the life cycle of tech today.

Secretary Esper, I appreciated the opportunity to meet with you recently and I know that the Army is currently evaluating potential locations for its new Futures Command. Can you elaborate on the search process and highlight a few of the qualities that you feel are essential for this new headquarters?

Secretary ESPER. Yes, Congresswoman. The task force has developed a course of action for Futures Command and has completed that task. They are now developing a set of criteria upon which we would consider locations for the actual Futures Command. So that will be coming to me sometime in the next week or two for approval. And then beyond that point, we will start putting locations through that filter and seeing how things come out.

There will be a number of factors, I think one of which of course will be easy access, quick access to very good civilian talent, so we could leverage those types of folks from academia, from industry, whatever the case may be in terms of either thinking about the future or thinking about materiel solutions that we need down the road.

Mrs. MURPHY. Thank you. And as you may know, I represent a district known for its growing prominence in the high-tech clusters of innovation such as modeling and simulation as well as world-class educational opportunities. The very things that you are talk-

ing about as far as the civilian workforce that is talented, hooked in with the second largest research and development university in the country. I think that it is critical that the Army Futures Command is located in such a center of excellence to capitalize on the existing academic, business, and workforce infrastructure.

So thank you and I will yield back.

The CHAIRMAN. I thank the gentlelady. It is an important topic. Thank you all for being here, for answering our questions and for our chance to work together in the future. The hearing stands adjourned.

[Whereupon, at 12:39 p.m., the committee was adjourned.]

A P P E N D I X

MARCH 20, 2018

PREPARED STATEMENTS SUBMITTED FOR THE RECORD

MARCH 20, 2018

Chairman William M. "Mac" Thornberry Opening Remarks

House Armed Services Committee Hearing on "Assessing the FY 2019 Budget Request and Acquisition Reform Progress"

March 20, 2018

Today the Committee will hear testimony from the three Service secretaries on the Administration's fiscal year 2019 budget request, as well as on their progress in implementing the acquisition reforms already passed into law.

The two are closely tied because both branches of government have a responsibility to get more defense value for the taxpayers from the money that is spent, as well as a responsibility to get innovation into the hands of the warfighter faster. Acquisition reform has put more authority and more responsibility with the Services. We have begun to reverse the decline in funding. Now DOD and the Services have to deliver results.

The budget agreement, which Congress must complete by passing the Appropriations bill this week, begins to repair and rebuild the military. But our adversaries are not waiting around for us to catch up. We must reform as we rebuild. We must be prepared across the full spectrum of modern warfare—from nuclear deterrence to the kind of political and information campaigns we will discuss at greater length in our hearing tomorrow. And we must measure success by output and results rather than inputs and process.

The budget agreement gives us an opportunity, but the Legislative and Executive must work together to make the most of it. Business as usual will not adequately defend our nation in today's world. I know I speak for all my colleagues on this Committee in saying that we stand ready to do our part to get us on the right track.

Ranking Member Adam Smith Opening Remarks

House Armed Services Committee Hearing on "Assessing the FY 2019 Budget Request and Acquisition Reform Progress"

March 20, 2018

Thank you, Mr. Chairman, for holding this hearing. I also wish to thank each of the service secretaries for appearing today. Their perspectives on the President's budget request for fiscal year 2019 and on the status of acquisition reform efforts within their respective services are vital to our deliberation of many important issues in the coming legislative cycle.

According to the Summary of the 2018 National Defense Strategy of the United States of America (the NDS Summary), two of its three pillars for achieving strategic objectives rely on building a more powerful joint force and on departmental reforms for effecting improved performance and affordability. The NDS Summary sets specific goals for producing a joint force "that possesses decisive advantages for any likely conflict, while remaining proficient across the entire spectrum of conflict" and for transitioning "to a culture of performance where results and accountability matter." As the military departments are charged with organizing, training and equipping the joint force, service cultures, service performance, and the results produced by service efforts will be essential to securing our country and to advancing strategic goals.

The President's budget request for fiscal year 2019 matches the Bipartisan Budget Act of 2018 in providing $716 billion for national defense. That is a considerable sum. Approximately $570.2 billion of the request is reserved for the military services to sustain operations, to restore readiness, and to invest in future capabilities. We need to find the right balance in resourcing these needs. Given the current security environment, increases in defense spending are justifiable, but we clearly need to find new ways to realize savings within the defense budget. We must also guard against making adjustments that could compromise military effectiveness. The modern joint force is a sophisticated and carefully orchestrated body of specialized roles and capabilities. Too much attention to any one element or detail risks the cohesion of the whole. We should consider the preferences of the individual services holistically and with the overriding purpose of optimizing the joint force. We must invest wisely when it comes to national security.

I am pleased to see that the budget request significantly increases the Army's procurement and research accounts. While the Army has focused on rebuilding readiness, it also needs to accelerate equipment modernization across the board, and the budget request makes some progress in this area. I am especially pleased with the Army's prudent use of prototyping in several areas to foster competition and to assess actual needs before starting new programs.

The Navy recently submitted a 30-year shipbuilding plan that does not support its fleet requirement of 355 ships, which only highlights the difficulty of

fulfilling that requirement. It is essential that the Navy utilize all of the unique authorities that Congress has given it, if it hopes to have a realistic chance of building a 355-ship Navy. After 17 years of providing continuous support for land combat operations, the Marine Corps is reestablishing itself as an expeditionary force. I look forward to learning more about how the Marine Corps' budgetary priorities will address the challenge of conducting contested amphibious operations in a denied environment.

The budget request provides the Air Force with big increases for aircraft research. While it is good that the Air Force is exploring several new technologies, some of the new initiatives appear to be "inventing-on-a-schedule." Similar innovate-as-you-go efforts have failed in the past. In particular, the Next Generation Air Dominance program and the Advanced Battle Management System appear to be based on very optimistic assumptions about technology development, and they will likely need to be closely overseen. I am also skeptical of some of the Air Force's recapitalization programs. The White House claimed savings of over a billion dollars on the Presidential aircraft replacement program, yet the details are unclear.

I am very concerned that the Department is continuing to delay hard choices with respect to nuclear weapons. We are investing billions of dollars each year in unaffordable programs that will cost $1.3 trillion dollars over thirty years to sustain and modernize every segment of the nuclear weapons enterprise in a manner that could exacerbate a nuclear arms race and reduce the threshold for using nuclear weapons. While we need to maintain a strong deterrent, we must understand how the trade-offs will affect investments in much-needed conventional capabilities. We do not need overkill capacity to destroy the world several times over.

Lastly, with respect to acquisition reform, Congress recently empowered the Service Acquisition Executives with milestone decision-making authority for more major acquisition programs with the aim of expediting programmatic developments. Congress also changed the procedures for evaluating commercial item pricing. I am interested in learning from our witnesses how the services are embracing these reforms and utilizing new authorities.

Thank you, Mr. Chairman. I look forward to our witnesses' testimony.

RECORD VERSION

STATEMENT BY
THE HONORABLE MARK T. ESPER
SECRETARY OF THE ARMY
UNITED STATES ARMY

BEFORE THE

HOUSE ARMED SERVICES COMMITTEE

SECOND SESSION, 115TH CONGRESS

ON THE POSTURE OF THE UNITED STATES ARMY

MARCH 20, 2018

NOT FOR PUBLICATION UNTIL RELEASED BY THE
HOUSE ARMED SERVICES COMMITTEE

Introduction

America's Army is lethal and effective. Our lethality provides the assured capability to defeat enemy ground forces through sustained land campaigns in defense of our vital national interests. To maintain our land power dominance, we will concentrate our efforts on our priorities—Readiness, Modernization, and Reform—to ensure America's Army is always ready, now and in the future. We also live by enduring priorities to take care of our Soldiers, Civilians, and their Families; to re-commit to the Army values and warrior ethos that guide us; and to strengthen relationships with allies and partners.

We thank Congress for its strong support, which has enabled the Army to halt the decline in our warfighting readiness. Importantly though, the Army needs timely, predictable, adequate, and sustained funding to preserve these readiness gains now and in the future. The Army's fiscal year 2019 (FY19) budget prioritizes our resources based on the President's guidance, and our strategy is consistent with the National Defense Strategy. This year's budget allows us to continue to build readiness for high intensity conflict and begin building our future force through key modernization efforts. It also enables us to continue to take care of our people and institute reforms across the Army to free up time, money, and manpower. Army leadership, with congressional support, is committed to ensuring America's Army is ready now and modernizing for the future.

Strategic Environment

Our Army faces a complex and demanding strategic environment. This will require the Army to remain ready for a wide range of missions to defend American interests. We must build readiness for high-intensity conflict and modernize our forces to ensure overmatch against near-peer competitors, while sustaining irregular warfare as a core competency.

Our competitors are seeking to alter global strategic realities for their own benefit, often at the expense of U.S. interests and those of our allies and partners. Russia and China continue to assert themselves in an effort to gain dominance in key regions, and are developing advanced weapons to achieve parity both strategically and in close combat. North Korea has pursued nuclear weapons and ballistic missiles for decades with significant advances over the last year. Iran is attempting to expand its regional influence by developing more advanced ballistic missiles and supporting insurgent groups against U.S. allies in the region. Additionally, these state actors use a range of actions short of armed conflict, from

cyber-attacks to irregular warfare through proxies that destabilize regions without attribution. Finally, terrorist groups continue to threaten the U.S. homeland, U.S. citizens, U.S. interests abroad, and our allies and partners.

Soldiers directly contribute to our Nation's efforts to counter these challenges by serving combatant commanders worldwide with over 178,000 Soldiers operating across a wide array of missions. The Army is committed to maintaining peace, stability, and security in the Asia-Pacific with nearly 80,000 Soldiers assigned, deployed, and forward-stationed throughout the region. 24,000 Soldiers continue to deter North Korean aggression, with the Army focused on building readiness to respond to any contingency, including potential conflict. In Europe, the Army has over 30,000 forward stationed and rotational forces. In the Middle East, the troop increase in Afghanistan has already begun to advance the train, advise, and assist mission at the tactical level. In support of homeland defense, the Army provides over 15,000 Soldiers as well as a Global Response Force of 9,500 personnel, capable of deploying anywhere in the world within 96 hours. Over the last year, Army forces were critical in disaster relief efforts in Puerto Rico and the U.S. Virgin Islands resulting from Hurricanes Maria and Irma, the California wild fires and mud slides, and widespread flooding in the central United States.

The Army's competitive advantage is our Soldiers' ability to rapidly deploy when and where required, gain and maintain overmatch, and achieve decisive victory against any adversary. This produces a combat-credible deterrent against potential adversaries who are hostile to our Nation's interests. Sustained, predictable, adequate, and timely funding will secure the Army's ability to continue to defend our Nation's interests.

The Army's Budget Request

The Army's total FY19 budget request totals $182.1B which consists of $148.4B in the base budget and $33.7B for Overseas Contingency Operations (OCO). This represents an eight percent increase over our total FY18 President's Budget plus amendments. Our request reflects the Army's priorities: grow and maintain a ready high-end force; build our future force through key modernization efforts; continue to take care of our people; and institute reforms that lead the Army to be even better stewards of taxpayer dollars.

Readiness to Fight Tonight

Ready forces ensure that the Army can compete against our adversaries, deter conflict, and win decisively. FY17 and FY18 authorizations and FY17 appropriations provided critical support to fill manning requirements, fund important gains to training such as increasing combat training center rotations, increasing equipment operational readiness rates, building and modernizing Army Prepositioned Stocks, and beginning to address munitions shortfalls. Barring a significant increase in demand for land forces, the Army will attain our Total Force readiness recovery goals in 2022. To ensure that we meet this goal, we need predictable, adequate, sustained, timely funding, enabling us to sufficiently organize, man, train, and equip our formations.

We are growing the Army by both recruiting and retaining physically fit, mentally tough Soldiers without lowering standards. Increased end strength has enabled the Army to fill manning shortfalls in key formations. Soldiers within the ranks are also increasingly deployable, with a four percent decrease in Regular Army non-deployable rates over the past year, and an overall goal of a five percent non-deployable rate by FY21. Contributing to this is increased holistic fitness, improved medical tracking, unit injury prevention and physical therapy programs, and leveraging end strength increases to raise operational unit manning levels. These are accompanied by new policies intended to rebuild a culture of deployability across the force. As a result, the number of brigade combat teams (BCTs) in the highest state of personnel readiness has more than doubled.

Tough, realistic training is key to maintaining our competitive advantage in the current security environment. In order to increase Soldiers' opportunity to conduct training focused on lethality, we have reduced, and will continue to reduce, ancillary mandatory training, requirements, and distractions at home station. We are also using virtual simulations to increase training repetitions for small units, creating greater proficiency at unit collective tasks. Leaders across the Army are taking steps to ensure a predictable training management cycle, and returning our training focus to preparation for a high-end fight validated at combat training centers. However, these units can only remain ready if they remain together, so we must also find innovative ways to meet combatant command demand without breaking apart our baseline combat formations.

An important part of the Army's effort to maintain the readiness of the Army's BCTs for major combat operations is the security force assistance brigade (SFAB). The SFAB will provide combatant commanders with a skilled advisory force to team with our security partners worldwide. Previously, we assigned BCTs to conduct advisory missions, breaking those formations apart. The first SFAB deployed to Afghanistan in the spring of 2018. We request congressional support to man, train, and equip six SFABs: five in the Regular Army and one in the Army National Guard.

In addition to improved training, our Army must have sufficient equipment. We are modernizing our equipment, refining our supply distribution systems, and enhancing our Prepositioned Stocks to balance our capabilities across multiple threats and theaters. However, we continue to have shortages of some critical preferred munitions. As a result, Holston Army Ammunition Plant in Tennessee is expanding production capacity, and Pine Bluff Arsenal in Arkansas and McAlester Army Ammunition Plant in Oklahoma are beginning repair and upgrade programs. We request congressional support as we continue to reform and align requirements and resources within the Organic Industrial Base.

Modernization: Ready for the Future Fight

Over the past decade, the Army made necessary but difficult choices to defer modernization in order to support combat operations. We upgraded current weapons systems rather than acquire new or next generation technologies. However, we can no longer afford to delay modernization without risking overmatch on future battlefields. Thanks to congressional support, the Army now has the means to modestly increase investments towards modernization and lay the groundwork for increased funding in the coming years. To improve modernization we will focus on three things. First, we will establish the Army Futures Command to reform our acquisition process through unity of command, unity of effort, and increased accountability. Second, through the efforts of eight cross functional teams, we will focus these additional resources towards six modernization priorities to ensure future overmatch. Third, Army leadership will strengthen our relationship with industry, our allies, and the top intellectual and innovative talent our Nation has to offer. Collectively, these improvements and others will help ensure our lethality and future readiness.

The Army must adapt quicker than our adversaries to maintain our competitive advantage. This is the rationale for the Army Futures Command. The formal establishment of

Army Futures Command in the summer of 2018 will represent the most significant organizational change to the Army's structure since 1973. The new command will consolidate the Acquisition process under one organization with a mission to deliver integrated solutions for increased lethality and capabilities to the Soldier when and where they are needed.

The FY19 budget coupled with our reforms will enable the Army to accelerate upgrades to critical capabilities, managing current risk while we innovate and prototype with a goal to begin fielding the next generation of combat vehicles, aerial platforms, and weapons systems by 2028. These vehicles and weapons must be better than anything our adversaries will deploy in the future. We will focus modernization, science and technology, and research and development efforts on six modernization priorities, managed and assessed by eight cross functional teams:

- Long Range Precision Fires—modernize a cannon for extended range, volume, and increased missile capabilities to restore Army dominance in range. Systems like the Extended Range Cannon Artillery, which has been accelerated to FY23, and the Long Range Precision Fires Missile, accelerated to FY21 protect and ensure freedom of maneuver to forces in contact with the enemy in deep, close, and rear operations. The Army has included $73.7M for Long Range Precision Fires in the FY18 Enhancement Request, with $22M in additional requested funds in the FY19 President's Budget.
- Next Generation of Combat Vehicles—develop prototypes that lead to the replacement of our current fleet of infantry fighting vehicles, and later tanks, in manned, unmanned, and optionally manned variants. A next generation vehicle is needed to enhance Soldier protection, increase mobility, and make our forces more lethal. Prototypes for both manned and robotic vehicles will arrive in FY21, with $13.1M requested in the FY18 Enhancement, and $84M in the FY19 President's Budget.
- Future Vertical Lift—incorporate manned, unmanned, and optionally manned variant vertical lift platforms that provide superior speed, range, endurance, altitude, and payload capabilities. These include the Future Unmanned Aircraft System, which is undergoing experimentation and will be prototyped in FY24, and the Modular Open System Approach, a software prototype that has been accelerated from FY28 to FY26. $25.1M is included in the FY18 Enhancement Request for Future Vertical Lift, with additional funds included in the FY19 President's Budget.

- Network—develop expeditionary infrastructure solutions to fight reliably on the move in any environment. The Army Network should incorporate electronic warfare; resilient, secure, and interoperable hardware; software and information systems; assured position, navigation, and timing; and low signature networks. $180M is included in the FY18 Enhancement Request to conduct Network related experimentation next fiscal year, including an Infantry Brigade at the Joint Readiness Training Center this summer, and a Stryker Brigade by early 2019.
- Air and Missile Defense—ensure our future combat formations are protected from modern and advanced air and missile delivered fires, including drones. We are focusing on capabilities that include Mobile Short-Range Air Defense with directed energy and advanced energetics. We are also accelerating the fielding of existing air defense capabilities over the coming years.
- Soldier Lethality—develop the next generation of individual and squad weapons; improve body armor, sensors, and radios; and develop a synthetic training environment that simulates the modern battlefield, allowing our Soldiers multiple iterations before they ever deploy. The FY18 Enhancement Request includes $81M to experiment and procure Enhanced Night Vision Goggles by FY21.

These modernization priorities illustrate how our Army will adapt to future threats. The cross functional teams are the driving force for the modernization priorities. Each cross functional team uses technical experimentation and demonstrations, in conjunction with increased engagement with industry and commercial sector partners, to inform prototype development and reduce the requirement process.

The Army remains concerned about preserving key skills and capabilities for our original equipment manufacturers and their key supplier bases. Collaboration with our private sector partners early in the process helps reduce risk. Efforts such as the Army Manufacturing Technology Program have provided affordable and timely manufacturing solutions that assist our industry partners to address manufacturing risks. Collectively, congressional support for the Army Futures Command, implementation of the future recommendations of the cross functional teams, and a strong relationship with the commercial base has one simple goal: make Soldiers more lethal and ready for the future.

Reform

To achieve these objectives, we are assessing everything we do across the Army, looking for ways to free up time, money, and manpower for our top priorities. In support of DOD reform efforts, we have placed increased emphasis on a number of business reforms and stewardship initiatives. Specifically, we are instituting Army-wide programs that address Acquisition Reform; Contract Management; Budget Execution; divestiture and consolidation of legacy information technology systems; and auditability of our resources.

The Army's Acquisition Reform Initiative shortens the development timeline and approval process of capabilities requirements. This reform initiative directs the consolidation of two oversight groups into one and provides Army leadership with access to decisions earlier in the decision cycle. The Army is creating strategic enterprise metrics through policies and procedures intended to drive significant savings from the reform of contracted services per year from 2020 to 2024. We are also monitoring de-obligating funds through the Command Accountability and Execution Review to increase Army annual buying power. Additionally, we are improving our auditability. This year, we plan to complete an independent audit that will further enable the Army to improve our business practices and management of our resources.

Another key area of reform is in Army institutions. We are undertaking efforts to optimize non-divisional two-star headquarters and above to enable faster decision making. We are beginning by optimizing key essential tasks at the Army Secretariat, Army Staff, and Army Commands to address manning requirement needs at the division level and below. Next, revised experimentation and war gaming will accelerate new Army warfighting doctrine, providing a comprehensive framework to underpin how we train and how we fight. And finally, a new talent management based personnel system will optimize individuals' effectiveness and professional development, and ensure we develop and retain exceptional Leaders and Soldiers of unmatched lethality.

Soldiers, Civilians, and Families: Our Greatest Asset

The United States Army is composed of Regular Army, Army National Guard, and Army Reserve Soldiers, Civilians, and Family members serving the Nation at home and abroad. The quality of Soldiers the Army attracts and retains is extremely high. Quality metrics for Army recruits are at their highest point, exceeding every DOD-mandated

education and aptitude threshold for the eighth year in a row. Waivers for recruits are down nearly eight percent over the past decade. The Army's long term success depends on developing smart, innovative leaders of character who bring a wide range of skills and experiences to our ranks. We will remain a standards-based organization and maintain the values that we have established for those who enter and serve the Army and for those Soldiers who remain for a career. We will not lower standards to meet our end strength goals.

The Army is committed to taking care of our Soldiers, Civilians, and their Families by maintaining opportunities for promotions and schooling, providing attractive career options, and continuing quality of life programs. We ensure the well-being of our people through world-class medical services, quality facilities to live and work, and child care and youth services. New civilian hiring initiatives for spouses promise to accelerate work opportunities on Army installations, while other reforms may allow them to sustain careers by reducing the frequency of moves. The cumulative effect of these programs is to increase retention through increased satisfaction with Army life.

We also take care of individual Soldiers and strengthen teams through Sexual Harassment/Assault Prevention and Response initiatives, active Suicide Prevention measures, Army Warrior Care, and transition assistance through our Soldier for Life program. In particular, a new task force is addressing suicide reduction in the Army National Guard and Army Reserve. Taking care of our people ensures Soldiers and Families have the support they need to focus on preparing to deploy, fight, and win our Nation's wars.

Conclusion

On behalf of the entire Army, we thank Congress for their support that allows us to continue to improve readiness and make an increased investment in our future Army. Our current security environment continues to have numerous challenges, and they are growing. With predictable, adequate, sustained, and timely funding, we will increase capacity, train advisory forces, close critical munitions gaps, improve modernization, and take care of our Soldiers, Civilians, and their Families. We are a standards-based organization accountable to Congress and the American people. We know that the only acceptable result of our efforts is a lethal Army, ready now, and prepared for the future.

Dr. Mark T. Esper
Secretary of the United States Army

Dr. Mark T. Esper was confirmed by the U.S. Senate, Nov. 15, 2017, and sworn in as the 23rd secretary of the U.S. Army, Nov. 20, 2017.

As secretary, he has statutory responsibility for all matters relating to the U.S. Army, to include the recruitment, organization, training, equipping, and care of 1.4 million active duty, National Guard, Reserve Soldiers, Department of the Army Civilians and their Families.

For the past seven years, Esper was a senior executive at the Raytheon Company as vice president for Government Relations. From 2008-2010, Esper served concurrently as executive vice president for the U.S. Chamber of Commerce's Global Intellectual Property Center and as vice president for Europe and Eurasian Affairs. From 2006-2007 he served as COO and executive vice president of Defense and International Affairs at the Aerospace Industries Association.

Esper also has extensive experience working on Capitol Hill. He served as national security advisor for Senate Majority Leader Bill Frist; policy director for the House Armed Services Committee; and as a professional staff member on the Senate Foreign Relations and Government Affairs Committees where he was responsible for national security issues. Esper also served as the legislative director and senior policy advisor to Senator Chuck Hagel.

His Pentagon experience includes serving as the deputy assistant secretary of defense (Negotiations Policy) in the Office of the Secretary of Defense and earlier on the Army staff as a war planner. Esper was also chief of staff of the Heritage Foundation, and taught at Missouri State University's Department of Defense and Strategic Studies program in Fairfax, Virginia.

Esper is a 1986 graduate of the U.S. Military Academy and received his commission in the Infantry. Upon completion of Ranger and Pathfinder training, he served in the Regular Army for over a decade, including service in the 1990-1991 Gulf War with the 101st Airborne Division. He later commanded an airborne rifle company in Europe. Following active duty, he served in both the Virginia and District of Columbia National Guard, and Army Reserve before retiring in 2007.

Esper holds a Master of Public Administration degree from the John F. Kennedy School of Government at Harvard University, and a doctorate in Public Policy from George Washington University. He is a recipient of the Department of Defense Medal for Distinguished Public Service. Among his military awards and decorations are the Legion of Merit, Bronze Star Medal, the Kuwait Liberation Medal, Kuwait Liberation Medal – Saudi Arabia, and the Combat Infantryman Badge.

Esper and his wife Leah have been married for 28 years and have three adult children.

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THE HOUSE ARMED SERVICES
COMMITTEE

STATEMENT OF

THE HONORABLE RICHARD V. SPENCER

SECRETARY OF THE NAVY

BEFORE THE

HOUSE ARMED SERVICES

COMMITTEE
ON

FISCAL YEAR 2019 DEPARTMENT OF THE NAVY BUDGET

20 MARCH 2018

NOT FOR PUBLICATION
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THE HOUSE ARMED SERVICES
COMMITTEE

INTRODUCTION

Chairman Thornberry, Ranking Member Smith, distinguished members of the Committee, thank you for the opportunity to appear before you today to testify regarding the Department of the Navy (DON) 2019 President's Budget request (PB19).

First, on behalf of our Sailors and Marines, I would like to express gratitude for the efforts put forth by Congress addressing the President's Budget request. We are very aware that this process has stretched members to their limits on many fronts. Please know that the resources we receive will be expended in focused alignment with the National Security Strategy (NSS) and National Defense Strategy (NDS) building our combat credible force.

Our Nation supports maritime operations worldwide. Forward-deployed and forward-stationed naval forces use the global maritime commons as a medium of maneuver, ensuring the maritime levels of commerce remain free and open, assuring access to overseas regions, defending key interests in those areas, protecting U.S. citizens abroad, and preventing adversaries from leveraging the world's oceans against the United States. The ability to sustain operations in international waters far from U.S. shores constitutes a distinct advantage for the United States – a Western Hemisphere nation separated from many of its strategic interests by vast oceans. Maintaining this advantage in an interconnected global community that depends on the oceans remains an imperative for the Sea Services and the Nation.

Our PB19 request enhances readiness and begins increasing the capability and capacity of the Navy and Marine Corps team. As directed within the 2018 National Defense Strategy (NDS), the PB19 budget submission will support the building of a more lethal, resilient, and agile force to deter and defeat aggression by peer competitors and other adversaries in all domains and across the conflict spectrum. Ultimately, our budget submission reflects the DON's efforts to protect the homeland and preserve America's strategic influence around the world. The Navy's overarching plan – the Navy the Nation Needs (NNN) – consists of six dimensions: Readiness, Capability, Capacity, Manning, Networks, and Agility. The Marine Corps' plan – Modernizing for the Future Force – focuses on investments in Modernization, Readiness, and Manpower; further increasing its competitive advantage and lethality resulting in a Next Generation Marine Corps. The resourcing of both services aligns with the NDS, ready to fight and win across the range of military operations (ROMO).

The strategic environment is rapidly changing and the Navy and Marine Corps is engaged in a competition that they have not faced in over twenty years. To meet the objectives of the NDS, and as part of the Joint Force, the Navy and Marine Corps' primary force contributors are Carrier Strike Groups (CSG) and Amphibious Ready Groups / Marine Expeditionary Units (ARG/MEU), and ballistic missile submarines – the most survivable leg of the nuclear triad. These units remain forward at all times, while additional CSGs and ARG/MEUs are ready to surge in support of Operational Plans. Our PB19 budget continues to make strides in achieving that requirement to once again re-establish the standard that has ensured preeminence. This will be imperative to winning peer-on-peer competition, as we move forward to deliver enhanced distributed lethality.

The Department is committed to follow reform guidance and has identified savings of over $1 billion in FY2019 and $5 billion over the Future Years Defense Program (FYDP) which will be reinvested in force structure and readiness. Savings were achieved through reform efforts focused on improving organizational effectiveness; eliminating, restructuring, or merging activities; and workforce management. One specific fiscal reform effort has been the Department's focus on improving the expenditure of funds through an emphasis on the quality of our obligations. Leadership is committed to ensure that a dollar appropriated to the Department is expended by the Department to achieve the direction laid out by the NDS. Additionally, the Department has also reviewed duplicative programs or programs that are no longer mission essential. This has resulted in the divestiture of legacy F/A-18

Hornets, the transition of the HH-60H reserve squadron from legacy aircraft to newer MH-60S aircraft, and a review of Marine Corps training munitions. Representative investments resulting from the reform initiative include an additional DDG-51, one additional F/A-18 E/F, increased procurement of Rolling Air Frame missiles and MK48 torpedoes, and funding afloat readiness to maximum executable levels. Moreover, the Department is focused on improving business processes heightened through the audit of our financial statements.

As we continue to look forward to the PB19 budget, our priorities center on *people, capabilities, and processes*, and will be achieved by our focus on speed, value, results, and partnerships. Readiness, lethality, and modernization are the requirements driving these priorities.

PEOPLE

The ability to accomplish our mission successfully relies on the Navy and Marine Corps team – 800,000 Sailors and Marines, active duty and reserve, our civilian teammates and families. We rely on their superior talent, recruiting the most promising workforce for the future, and making strategic investments in training and retention initiatives.

Our forward-deployed forces suffered tragic mishaps in 2017, both on the sea and in the air. We will never forget those we lost and we stand by our fellow Sailors and Marines along with their families in solidarity.

We do not take these losses lightly; both the Comprehensive and Strategic Readiness Reviews have examined the factors that led to the series of incidents on the sea and provided recommendations we are now implementing. The Strategic Readiness Review found that institutional deficiencies were the cumulative result of well-intended decisions developed over decades. Accepting deviations from our standards translated into the acceptance of higher risk, which then gradually became normalized, thereby compounding the accumulating risks. The entire Department of Navy leadership is committed to addressing these issues across the Force. The action plan, well underway, commands my full support and oversight and while we operate with a sense of urgency, we are steadfast in ensuring this is addressed correctly the first time.

Good order and discipline are key ingredients to unit cohesion and lethality. Sexual assault is a cancer effecting the aforementioned. The Department of the Navy has come a long way in addressing sexual assault, but until we get to zero, there is still work to be done. As with any cultural change in an organization, our challenge involves sustaining positive momentum. We continue to resource and monitor our progress and address preventing sexual assault along with prosecution. My commitment is enduring and fundamental, and my position of intolerance for sexual assault anywhere is unequivocal.

While the Navy and Marine Corps are achieving overall military recruiting objectives, the Department faces ongoing challenges from an increasingly competitive marketplace and a decline in the propensity for military service among young people as our accession goals are modestly increasing. The Department continues to explore systematic improvements to support recruitment and retention, to include programs which maintain the health and resilience of the force, and maximize professional, personal, and family readiness. Our success in sustaining maritime dominance relies on our ability to attract America's best. We will continue to recruit superior talent and invest in long-term measures to retain it, while fostering an environment where our Sailors, Marines, and civilians are provided the opportunities and resources they need to thrive and be successful. Aligned with our Core Values of Honor, Courage, and Commitment, we continue to strengthen our investment in the ethical development of our Sailors, Marines, and civilian employees. While competition for talent with the private sector continues to increase, I believe we are resourced and positioned to overcome our manning and retention challenges.

CAPABILITIES
As we build our lethal capabilities to fight tonight and challenge rivals, we must respond on all fronts, to include research and development, rapid prototyping, accelerated learning, and partnership with industry. These efforts and partnerships will be built on shared risks and shared benefits. We are now working with industry in a true partnership to achieve a sustainable acquisition process that will provide us solutions to problems we face in order to remain ahead of the competition.

The Department of the Navy has an overarching plan to meet warfighting requirements in support of the NDS. For example, the long range ship acquisition plan:

(1) Establishes acquisition profiles to grow the force at a steady, sustainable rate. This includes sustainment of the industrial base at a level that supports more affordable acquisition while growing an experienced workforce to support more aggressive growth if additional resources become available.

(2) Implements Service Life Extensions (SLE) based upon return on investment – we will modernize rather than replace when appropriate as good stewards of taxpayer dollars.

(3) Provides options for aggressive growth as resources and industrial capacity permit. PB19 includes four additional DDG 51 Flight IIIs over the FYDP, for a total of 14 Flight III ships and three additional fleet oilers across the FYDP. New ship construction totals have increased since last year's plan, with three additional ships (1 DDG 51 Flight III, 1 Expeditionary Sea Base, and 1 fleet oiler) added in this request for FY19. Throughout the FYDP, the Department added a net total of 11 battle force ships.

With sustained funding and SLEs, PB19 puts the Navy on a path to 355 ships while we are simultaneously increasing our capabilities. By setting the conditions for an enduring industrial base as one of our priorities, the Navy is postured to take advantage of additional funding that may be provided through reform initiatives in future years. This can be achieved without threatening the long-term competitive posture of a balanced warfighting investment plan while retaining an option to accelerate a targeted portfolio of weapons systems.

The Navy is aggressively pursuing cost reduction opportunities to deliver fully capable assets at the most efficient possible cost. The Ford Class Aircraft Carrier program refined the ship construction process for CVN 79 by, capitalizing on technological improvements, and enhancing shipbuilder facilities to drive towards the targeted 18 percent reduction in labor hours from CVN 78. The Navy is also executing advance procurement and negotiating long-lead time material for CVN 80, and full funding for CVN 81 begins in FY23.

Naval Aviation continues to operate forward, fully prepared for conflict across the ROMO while managing near-term service life extensions, mid-term procurement and modernization, and long-term investment in research and development. With the support of Congress, the U.S. Navy and Marine Corps are implementing our "Vision for Naval Aviation 2020." The Department has initiated a Next Generation Air Dominance Analysis of Alternatives (AoA) study that is investigating technology and program investment requirements to recapitalize Navy F/A-18E/F and EA-18G tactical aviation platforms. The future of DON tactical aircraft relies on a combination of F-35B and F-35C 5th generation aircraft. Continued investment in capability upgrades for both platforms is required to improve the lethality of the CSG and ARG/MEU. We will see our first operational deployment of F-35Bs later this year with our ARG/MEUs in the Pacific.

The MV-22B Osprey's unique combination of vertical flight and fixed-wing capabilities continues to enable effective execution of missions that were previously unachievable. Marine Corps MV-22B's

continue to extend operational reach, revolutionizing our ability to operate from the sea, austere locations, and previously damaged airfields within a contested environment. The DON begins procurement of the Navy CMV-22B variant in support of the Carrier On-Board Delivery mission in FY18.

Navy and Marine Corps Expeditionary Forces will soon receive the next generation protected mobility. The Joint Light Tactical Vehicle begins fielding in 2019. In FY19, the Marine Corps is set to receive the first Amphibious Combat Vehicle Low Rate Initial Production units in preparation for Operational Test and Initial Operational Capability in 2020. These capabilities are vital for our continued efforts to adapt and modernize our expeditionary forces with the requisite protected mobility. As we work through the programmatic schedule with these vehicles, we are continually looking at ways to improve their ability to counter ever changing threats from potential engagement with peer adversaries.

The Department of the Navy is determined to lead the way in the development and responsible integration of cyber metrics and artificial intelligence, establishing aggressive goals for the acceleration of integrating these unmanned systems. One of these future systems is the Snakehead Large Displacement Unmanned Underwater Vehicle which is designated as a Maritime Accelerated Capability Office program to fast-track this capability. Surface operations will be augmented through an integrated team of manned and unmanned enhancing capabilities and capacity. Investments in autonomous platforms and mine countermeasure technology will reduce the threat of mines in contested waters while reducing risk to our Sailors conducting this dangerous mission.

Steady progress will continue in developing and fielding unmanned aviation assets. Today the MQ-4C Triton Unmanned Aircraft System enhances awareness of the operational environment and shortens the sensor-to-shooter kill chain. The Navy is committed to future unmanned carrier aviation with the MQ-25 Carrier Based Unmanned Aerial System that will deliver an unmanned tanker. The Marine Corps continues development of the unique Marine Unmanned Expeditionary (MUX) system to further increase lethality and resilience of the fleet while also enhancing aggregate ISR capability.

We are also investing in strike weapons as well as theater and high value target multi-layer area defense weapons for the Fleet. Investments are enhancing warfighting capability and increasing magazine depth. Along these lines, the Marine Corps is pursuing ground based fires to restrict freedom of movement along sea lanes while requesting the integration of Vertical Launch Systems to amphibious shipping.

Efficiently operating Navy and Marine Corps installations are essential in generating naval forces. Over the last decade the DON has taken risk by underfunding infrastructure capital investments and installation operations to fund other warfighting, readiness, and modernization requirements. Under-investment has created a backlog of maintenance and repair requirements and reduced facility effectiveness. The DON's FY19 budget request acknowledges and begins to address these installation investment challenges. The budget funds infrastructure that supports new platforms and an increase in infrastructure sustainment funding; begins to address the significant requirement to recapitalize our naval shipyards; and recapitalizes critical enabling infrastructure.

PROCESSES

The Department is actively reforming business processes and driving efficiencies to increase speed, value, and support to the warfighter, while concurrently enhancing lethality and increasing readiness. We are identifying and clearing constraints caused by burdensome policies and regulations, and are increasing adoption of agile business models and technologies to support our need for urgency. Layers of overhead are being removed and organizations are being flattened to return decision-making authority further down the command structure. We are also demonstrating progress in the area of data-driven decision making and problem solving. The Department of the Navy's FY19 budget request reflects extensive use of modeled campaign and mission level outcomes to evaluate capabilities and force structure and maximize

naval power. We stood up a Digital Warfare Office to harness the power of data by executing digital pilot projects that informed decisions on operational effectiveness and readiness. Moving forward, the FY20 Navy budget features additional force level analytic tools, developed at our Federally Funded Research and Development Centers and in conjunction with industry that will further assist us in integrating valuation and capability assessments to optimize the Navy's budget for the highest warfighting return on investment.

Growing the Fleet requires a strong and integrated relationship with our private sector partners. We are working closely with our prime contractors to ensure suppliers are prepared to support the increasing demand of building a larger Fleet. We need industry to provide solutions and capabilities at the speed of relevance and at an affordable value. As the same time we also need to be a better customer. Industry needs predictable and stable programs, which require a stable budget. If we are effective at long-range planning, we can increase our buying power by using all of our tools to provide stable commitments to our industrial partners. We appreciate the much needed two year budget deal and look forward to working with you to produce stable and flexible funding that will drive improved productivity, efficiency, and competitiveness across the supplier base.

We continue to pursue acquisition reforms contained in recent legislation, with emphasis on provisions that increase Service acquisition oversight and the role of the Service Chiefs in the process, along with those that provide opportunities to accelerate the fielding of critical capabilities. We are employing new constructs, to include the Maritime Accelerated Capabilities, the Marine Corps Rapid Capability Office, and an Accelerated Acquisition Board of Directors. These solutions will improve innovation, speed, and agility through strategy-driven investments addressing our highest priorities.

The DON is undergoing its first full audit of all financial statements, which will help us gain a clearer picture of the effectiveness and an opportunity to improve our processes and internal controls. The Marine Corps was the first from our Department to complete the Full Financial Statement Audit for FY 2017, sharing lessons learned across the Department. As our data quality improves, we will be able to harvest savings generated through process reform and reinvest in lethality. We are committed to full accountability for every dollar.

CONCLUSION

I deliver you today a plan with a sense of urgency. The FY19 President's Budget request seeks to provide sustained and predictable investments to modernize and increase the readiness of our Navy and Marine Corps team. We cannot and will not allow our competitive advantage to erode.

These planned investments will provide combat-credible maritime forces for the future. I commit to you that we will not just look forward but will lean forward. I will focus the Departments support to the NSS and NDS. We will gain efficiencies and effectiveness through business reforms at my level while supporting both the Chief of Naval Operations and the Commandant of the Marine Corps' programmatic efforts to fulfil their needs to meet the challenges our Nation faces in the evolving strategic environment and maritime domain. We are grateful to Congress for their support and efforts. We will ensure we are good stewards of the provided resources, drive efficiency across the department to maximize every dollar, and invest smartly to leverage the return on our investments.

I appreciate this opportunity to present our plan and will continue to work with the Congress to provide our Nation the Navy and Marine Corps team it requires.

Richard V. Spencer

Richard V. Spencer of Wyoming was sworn in as the 76th secretary of the Navy Aug. 3, 2017.

A Connecticut native, Spencer graduated from Rollins College in 1976 with a Bachelor of Arts in Economics. Upon graduation he joined the United States Marine Corps and proudly served as an H-46 pilot until 1981 before departing active duty to enter the private finance sector.

Spencer worked on Wall Street for 16 years with responsibilities centered on investment banking services and a particular focus on strategic advisory services and capital market underwriting. After three years as president of Crossroads Investment Management LLC, a leading venture capital and private equity fund-of-funds investment firm, Spencer joined Intercontinental Exchange, Inc. (NYSE-ICE), the leading electronic commodity futures exchange, as chief financial officer. ICE introduced transparency and risk management to the global derivatives markets. As vice chairman he was responsible for the transition of the company from private to public, including initial board of directors recruitment, the initial public offering and the subsequent three secondary offerings, financial reporting, strategy development and implementation, and human resources management.

From 2007 to 2017 Spencer was the managing director of Fall Creek Management, LLC.

Spencer served on the Board of Directors of Global Atlantic Financial Group, ENGAGEcx LLC, 86Borders LLC and StarPound Technologies. His charitable activities include board service on the Marine Corps Heritage Foundation, The Community Foundation of Jackson Hole, Teton County Search & Rescue Foundation, Veterans Campaign/Center for Second Service, and Honoring Our Vets. Spencer served on the Defense Business Board and the Chief of Naval Operations Executive Panel.

USAF Posture Statement
Fiscal Year 2019

DEPARTMENT OF THE AIR FORCE
PRESENTATION TO THE U.S. HOUSE OF
REPRESENTATIVES COMMITTEE ON
ARMED SERVICES
2ND SESSION, 115TH CONGRESS



STATEMENT OF:
THE HONORABLE DR. HEATHER WILSON
SECRETARY OF THE AIR FORCE

MARCH 20, 2018

NOT FOR PUBLICATION UNTIL RELEASED
BY THE U.S. HOUSE OF REPRESENTATIVES
COMMITTEE ON ARMED SERVICES

AIR FORCE POSTURE STATEMENT
FISCAL YEAR 2019 PRESIDENT'S BUDGET REQUEST

STRATEGIC ENVIRONMENT

The United States now faces a more competitive and dangerous international security environment than we have seen in generations.

Great power competition has reemerged as the central challenge to U.S. prosperity and security. China is rapidly modernizing its military and seeks regional preeminence. Russia aims to restore its national prestige and has shown its willingness to use military force and coercion in Europe and the Middle East. North Korea uses the threat of nuclear weapons to secure the survival of the regime. Iran has been a source of instability in the Middle East through the sponsorship of terrorism and exploitation of internal conflict in the region. Violent extremist organizations rooted in the Middle East, North Africa, and South Asia create instability and threaten the U.S. homeland and our allies and partners.

With global trends and intensifying pressure from major challengers, our relative advantage in air and space is eroding in a number of critical areas. The projected mismatch between demand and available resources has widened. Any American weakness emboldens competitors to subvert the rules-based international order and challenge the alliance and partnership network that underpins it.

In accordance with the National Defense Strategy, the Air Force must build a more lethal and ready force, strengthen alliances and partnerships, and deliver greater, more affordable performance. The Air Force requires the right size and mix of agile capabilities to compete, deter, and win in this environment, brought to bear by Airmen steeped in the business of joint and combined warfare.

AIR AND SPACE POWER IN DEMAND

Air and space power is indispensable to every joint force operation. The Air Force's first responsibility is to integrate air and space capabilities across the domains—delivering unmatched global advantage as an equal member of the joint team. We must be ready to design and lead joint and combined operations in support of national objectives.

We have five core missions:

AIR AND SPACE SUPERIORITY ... ***freedom from attack and freedom to attack.*** Air and space superiority gives our military and coalition forces the freedom to operate. Accelerating the campaign to defeat ISIS, Airmen conducted more than 172,000 sorties and 98,000 precision air strikes last year—over 70% of the total in the campaign—to support Iraqi and partner forces in Syria and Iraq. In the NATO-led mission in Afghanistan, the Air Force executed a sustained air interdiction campaign of over 4,000 sorties to support Afghan partners, targeting Taliban so-called safe zones, command and control nodes, illicit revenue-generating ventures, and logistical networks. In space, the Air Force operates 6 constellations and 12 satellite systems vital to national security that provide communications, command and control, missile warning, nuclear detonation detection, weather, and GPS for the world. In 2017, the Air Force supported 28 space launches from our facilities at Vandenberg and Cape Canaveral, a 40% increase from 2016. We are planning 45 launches in 2018, sending both national security payloads and an increasing number of commercial payloads into orbit.

GLOBAL STRIKE ... ***any target, any time.*** Airmen maintain the continuous alert of our missile forces. Last year, Airmen conducted 16,425 intercontinental ballistic missile alert tours and 248 missile convoys across 3 missile wings and 5 states. Our bombers flew 580 missions in the Indo-Pacific, strengthening security and stability in the region

and reassuring our partners. Reinforcing NATO's eastern flank, American bombers flew 70 assurance and deterrence missions.

RAPID GLOBAL MOBILITY ... ***delivery on demand.*** In 2017, Airmen transported nearly 1 million personnel, the equivalent of moving the population of Montana, and delivered over 738 million pounds of warfighting equipment and humanitarian supplies, the weight of 82 U.S. Capitol Domes. Our tanker force extended joint power projection at intercontinental distances by passing more than 1 billion pounds of fuel in-flight, which could fill the Rose Bowl to the top, while aeromedical evacuation Airmen airlifted more than 5,000 patients to safety. Closer to home, Airmen delivered 13,600 short tons of relief supplies following the string of record-setting hurricanes, and helped combat multiple wild fires in the western United States.

INTELLIGENCE, SURVEILLANCE, AND RECONNAISSANCE (ISR) ... ***global eyes and ears on adversaries.*** Last year, the Air Force was tasked with nearly 25,000 ISR missions, collected 340,000 hours of full motion video, and produced 2.55 million intelligence products—which averages almost 5 products every minute that close intelligence gaps and support target analysis and development. Persistent ISR closely tied to precision weapons from the ground and air has been a linchpin element in the destruction of ISIS.

COMMAND AND CONTROL ... ***right info, right person, right time.*** Last year, our E4-B National Airborne Operations Center—the survivable mobile command center—conducted 53 alert tours and provided travel support to the Secretary of Defense. Our E-8C Joint Surveillance Target Attack Radar System flew over 5,000 hours, enabling a range of support for Combatant Commanders from command and control in the ISIS campaign to the interdiction of over 12,500 kilograms of illicit drugs before they entered our Nation's borders. The E-3 Airborne Warning and Control System was integral to coordinating search and rescue efforts during the 2017 hurricane season.

Increasingly, we are conducting these missions with allies and partners. The Air Force engaged in more than 85 exercises with international partners last year, including 5 focused on high-end combat. We furthered the international role of the F-35, training with partners in both Europe and South Korea, and began delivery of F-35s to Israel, Norway, and Italy. We concluded 42 International Arms Cooperation agreements worth $2.95 billion, including a cost-sharing agreement that launched the ninth Wideband Global SATCOM satellite which enables international partners access to shared high-capacity global communications. In 2017, Foreign Military Sales expanded nearly three-fold from the year prior to $22.7 billion. These sales strengthen the United States' position as the security cooperation partner of choice, and expand interoperable airpower.

STRATEGIC DIRECTION

The Air Force budget request of $156.3 billion for Fiscal Year 2019 builds on the progress made in 2018 to restore the readiness of the force, increase lethality, and cost-effectively modernize. Sustaining these efforts requires predictable budgets at the requested funding levels.

In alignment with the National Defense Strategy, this budget prioritizes long-term competition with China and Russia.

This budget moves the Air Force in the direction of multi-domain operations. Future wars will be won by those who observe, orient, decide, and act faster than adversaries in an integrated way across domains—land, sea, air, space, and cyberspace.

The squadron remains the foundational fighting unit of the Air Force. The Air Force currently has 301 frontline operational squadrons[1] to execute our core missions, supported by squadrons that directly enable the fight and provide reachback capability. Based on the new National Security Strategy, National Defense Strategy, and Nuclear Posture Review, the Air Force is in the process of determining how many squadrons we need to deliver the combat capability required to execute the new defense strategy.

1. Fighters, bombers, airlift, intelligence/surveillance/reconnaissance, command and control, special operations, space, cyber, missile, and personnel recovery squadrons are counted here.

CONTINUING EFFORTS

Some elements of this budget ***continue*** programs and strategies that are well established:

READINESS: Restoring readiness to win any fight, any time remains a primary objective. The budget funds 1.5 million flying hours—1.2 million executable peacetime training flying hours and 300,000 flying hours supporting overseas contingency operations—at a cost of $8.7 billion. We propose to buy 54,443 preferred munitions to reverse previous declining inventories at a cost of $1.8 billion. This budget also funds training ranges, simulators, instructors, and key infrastructure required to improve the quality of our training in alignment with the National Defense Strategy prioritization of peer competition.

PEOPLE: The FY19 budget proposal represents an increase in the size of the Air Force by 4,700 Airmen.[2] Our five-year plan calls for achievable, steady growth to approximately 339,000 active duty Airmen while we simultaneously review existing manning across the active duty, guard, and reserve components. In addition, this budget submission funds important support to Airmen and families with a 2.6% military pay raise, increased housing and subsistence allowances, and family support programs. We will invest in purposeful development of Airmen to strengthen our joint warfighting excellence—integrating education, training, and experience for our leaders and teams.

NUCLEAR DETERRENCE: Our budget proposal supports the Defense Department's principal priority to maintain a safe, secure, and effective nuclear deterrent that safeguards the homeland, assures allies, and deters adversaries. The budget improves our nuclear command, control, and communication systems as directed in the Nuclear Posture Review. It initiates development of B-52 replacement engines, continues development of the Long Range Stand Off missile, and continues development of the replacement for the Minuteman III intercontinental ballistic missile.

MODERNIZATION: The budget funds our priority modernization initiatives with the purchase of 48 F-35 fighters, 15 KC-46 tankers, and continued development of the B-21 bomber. This year, we will decide the new T-X advanced trainer aircraft and the replacement for the UH-1 helicopter. Critical to mission success is continued investment in our classified portfolio, which will be briefed in a closed session.

CHANGES TO IMPLEMENT NATIONAL DEFENSE STRATEGY

Some elements of this budget reflect a ***change*** to confront the reemergence of great power competition:

SPACE SUPERIORITY: The FY19 budget represents a 33% increase from last year in the research, development, test, and experimentation budget for Air Force Space to meet the threat from China and Russia. We will build more jam-resistant GPS satellites, improve missile warning, improve space situational awareness, and increase our ability to defend our Nation's most vital assets on orbit. We are taking advantage of changes in legislative authorities to return program decision authorities back to the Air Force, including 14 of the 19 Major Defense Acquisition Programs within the space portfolio. Using tools such as the Defense Acquisition Workforce Development Fund, we are investing in our people, ensuring they have the right skills and training to succeed.

MULTI-DOMAIN COMMAND AND CONTROL: Technological advances are changing the character of warfare. The budget proposes to change the way we execute battlefield management command and control in the multi-domain environment. We propose to modernize 7 E-3 Airborne Warning and Control System (AWACS) aircraft and keep the current E-8C Joint Surveillance Target Attack Radar System (JSTARS) operational through the mid-2020s, as we develop and transition to an advanced battle management system. This approach will integrate space, air, and ground based sensors on manned and unmanned platforms and satellites to meet more combatant commander requirements in both contested and non-contested environments.

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2. Total Force number including active duty, guard, and reserve.

AIR SUPERIORITY: Central to lethality is our ability to gain and maintain air superiority when and where needed against potential adversaries in 2030 and beyond. Over the next five years, we will develop an integrated family of systems that can establish and maintain air superiority in a contested environment. The FY19 budget includes $1 .0 billion as part of a $63.8 billion effort over the five-year plan. This will be a multi-domain effort with a renewed emphasis on electronic warfare, networked capabilities, and control of the electromagnetic spectrum.

LIGHT ATTACK: Retaining irregular warfare as a core competency at a lower cost and strengthening our alliances are key elements of our National Defense Strategy. The Air Force proposes to continue the light attack experiment, developing concepts of operation and further defining requirements in preparation for fielding a force of U.S. light attack aircraft during this five-year plan. We are focusing on rapid fielding and rapid procurement strategies that leverage existing capabilities with little or no development. Designed to be coalition at the core, we will invite and lead allies and partners to train in the U.S., buy common equipment for their own affordable light attack squadrons, and build those international squadrons on a network that shares information.

SCIENCE AND TECHNOLOGY: The Air Force launched a review of our science and technology strategy that will be complete later this year. This budget increases emphasis on basic and applied research to drive long-term innovation and dominance in air and space power.

BUDGET PRIORITIES

IMPROVING WARFIGHTING READINESS: Readiness is first and foremost about having enough trained people. We continue to address the aircrew shortage through a multi-pronged approach. This budget boosts pipeline capacity, expands pilot training and addresses experience shortfalls, continues incentive pay and bonuses, improves administrative support at the squadron level, and funds flying hours to executable levels. It also addresses gaps in space, nuclear, cyber, and intelligence career fields, and supports Battlefield Airmen, our air-to-ground integration force.

The budget proposal funds aircraft depot maintenance, parts, logistics support, and invests $2.8 billion in operational training infrastructure needed for relevant, realistic training for the multi-domain environment. It fully funds preferred munitions to industry capacity. This includes Hellfire missiles, Joint Direct Attack Munition bombs, the Small Diameter Bomb, and the Advanced Precision Kill Weapon System.

The Air Force recruits Airmen, but we retain families. To improve family support, the budget funds expanded childcare hours, increases off-base childcare support, and funds more respite care and support coordinators for special needs families. We are improving the assignment system so families can better plan for future assignments, sustaining our morale and resilience programs, and implementing initiatives that support unit cohesion in our squadrons.

The Air Force is also significantly changing the way we collect operational tempo metrics. Prior methods underreport how much time Airmen are away. By now accounting for temporary duties away from home station for training exercises or mission-related requirements in addition to deployment time, we more accurately capture the true impact of service demands on Airmen, families, and home units.

SAFE, SECURE, AND EFFECTIVE NUCLEAR DETERRENT: Deterrence works if our adversaries know that we can hold at risk things they value. We must concurrently modernize the entire nuclear triad and the command and control systems that enable its effectiveness. The Air Force stewards two legs of the triad and operates 75% of the Defense Department's nuclear command, control, and communication (NC3) capabilities.

Modernizing the air-based leg of the nuclear triad, the budget continues development of the replacement air-launched cruise missile, which is 25 years past its design life and faces improving adversary air defense systems. This weapon will equip the B-52, B-2, and forthcoming B-21 bombers to maintain flexible and effective stand-off capability that can penetrate and survive the most challenging environments.

This budget continues to update the B-52 bomber fleet and funds development of replacement engines. With adequate sustainment and modernization, including new engines, the B-52 will remain a key part of the bomber enterprise well into the future. Additionally, the budget proposal begins to replace our Vietnam-era UH-1N helicopter.

The budget moves forward modernization of the ground-based leg of the nuclear triad. The Ground-Based Strategic Deterrent program will replace the retiring Minuteman III, which has remained viable four decades past its design life through a series of costly service life extensions, but cannot be extended further beyond 2030.

Today's nuclear command, control, and communications system was last comprehensively updated almost three decades ago. The budget targets investments to modernize the integrated land, air, and space-based systems to ensure secure, survivable connectivity with the President and national command leadership.

COST-EFFECTIVE MODERNIZATION: Underfunded in modernization for over a decade, the Air Force must manage a bow wave in modernization over the next ten years.

The budget proposes to upgrade F-16 and F-15 C/D aircraft to retain affordable capacity. We propose to buy 48 F-35A aircraft in FY19 and 258 F-35A aircraft over the next five years. The F-35A fighter brings unparalleled global precision attack capability. The Air Force will integrate the F-35 with fourth-generation aircraft as well as space and unmanned aircraft, to maintain air superiority in highly contested environments.

Tanker recapitalization remains a top acquisition priority. The multi-role KC-46 is capable of refueling joint and coalition aircraft with both boom and drogue in the same sortie, and augments the airlift fleet with improved cargo, passenger, and aeromedical evacuation capabilities. This budget proposes to buy 15 more KC-46 tankers in FY19.

Our budget proposal continues to develop the B-21 bomber as a key component to the joint portfolio of conventional and nuclear deep-strike capabilities. The B-21 will be able to deliver both gravity bombs and the Long Range Stand Off missile, ensuring options for our Nation's leaders to hold targets at risk around the world.

MOVING FASTER TO DEFENDABLE SPACE: The FY19 budget accelerates our efforts to deter, defend, and prevail against anyone who seeks to deny our ability to freely operate in space. The budget recognizes that adversaries are developing the ability to deny our free use of space and includes capabilities to confront that threat. The development of these capabilities will continue over the future years defense plan and beyond.

Foregoing the continued buy of today's Space Based Infrared System satellites 7 and 8, the Air Force will develop the next-generation Overhead Persistent Infrared system. This system will detect and report on current, emerging, and anticipated threats, and will be designed for survivability.

The budget adds resilience features and user protection to the Advanced Extremely High Frequency and Wideband Global Satellite Communications systems, and continues to fund development of next-generation protected satellite communications services for both strategic and operational military users. We continue to explore more affordable and innovative ways to acquire satellite communications services with investment in both commercial industry and international partner capabilities.

The budget proposal increases funding for anti-jam, anti-spoof, and anti-tamper military GPS development and integration into multiple joint platforms, and continues to grow Space Situational Awareness and Space Control capabilities to enhance our ability to identify, characterize, and attribute threatening actions. The budget also funds a Weather Satellite Follow-on program using rapid acquisition authorities.

Building upon the foundational architecture for space warfighting, we will deliver highly responsive capabilities to connect tactical and operational systems to strategic-level decision makers. The recent stand-up of the National Space Defense Center supports this mission. The budget also funds the Standard Space Trainer that provides

realistic, live, virtual, constructive training to prepare our Space Mission Force Airmen to prevail in a contested space domain.

NETWORKED BATTLE MANAGEMENT: Integrating capabilities that span all domains of warfare will be required for success in future combat. With the other Services, we are shifting from a model of interdependence to one of integration, which includes better integrated communications systems, development of tailorable units, and policies in key areas that enable adaptability and innovation. Concurrently, we will advance our command and control systems to reflect the changing character of warfare.

The Air Force capability that delivers persistent battle management command and control and ground moving target indications to joint warfighters is in high global demand that far exceeds supply. We currently conduct battlefield command and control from JSTARS, AWACS, Combined Air Operations Centers, Tactical Operations Centers, and mobile Control and Reporting Centers, and monitor many targets on the ground from JSTARS, Global Hawk, and other unmanned aerial systems. We had planned to recapitalize our aging fleet of E-8C JSTARS on a newer aircraft, however, we believe that system will not be viable in future contested environments and the recapitalization plan brought no additional capability or capacity to meet future demands despite over $15 billion in total lifecycle costs. In developing an alternative approach that will meet more warfighter needs, we propose to keep the current E-8C JSTARS operational through mid-2020s and replace the recapitalization program as we transition to an advanced battle management system for the future. This approach, as directed in the National Defense Strategy, will network sensors from space, air, land, and sea, and fuse information to create a more comprehensive picture to support the joint fight, even in a contested environment.

STRENGTHENING ALLIANCES: The National Defense Strategy emphasizes the importance of alliances and partnerships. The FY19 budget reinforces the Air Force commitment to our allies and international partners through programs such as the European Deterrence Initiative and Indo-Pacific security initiatives.

REFORMING THE DEPARTMENT

While this budget proposes additional resources for the Air Force, we have to gain full value from every taxpayer dollar we spend. We will drive innovation, reinforce budget discipline and affordability, and deliver performance with the funds entrusted to us.

ZERO-BASED REVIEW: For the first time in more than two decades, we are conducting a zero-based review of all Air Force programs, budget accounts, and manpower authorizations to prepare for FY20 and the future years defense plan. We will examine the relevance of every requirement and program to align with the new defense strategy. Everything we do is "on the table" during this review.

HEADQUARTERS AIR FORCE STAFF REVIEW: Simultaneously, we are reviewing the structure and manning of the Headquarters Air Force staff. We are the smallest and most integrated of the service staffs and intend to stay that way. We will ensure each position is used efficiently and effectively to support the warfighter.

ACQUISITION: Enabled by the FY16 and FY17 National Defense Authorization Acts, we are streamlining Air Force acquisition. We have milestone decision authority for more programs and we are pushing authority to run programs down to lower levels and using new techniques to innovate, including rapid prototyping and experimentation. We appreciate Congress' continued support of the Acquisition Workforce Development fund and expedited hiring authorities to attract, recruit, hire, develop, and retain a high-quality workforce.

STREAMLINING: We are systematically reviewing, reducing, and clarifying onerous internal instructions, additional duties, and computer-based training. There are over 1,300 Air Force instructions that levy 85,000 requirements on our wings and squadrons. Every one of them will be reviewed, rescinded, or rewritten over a 24-month period. We will significantly reduce the number of Air Force publications and ensure the remaining ones are concise, current, and relevant. We have already rescinded over 100 Air Force Instructions. While

this review reduces stifling bureaucracy and associated cost, the more important impact is on our ability to fight. This supports the culture of centralized intent and decentralized execution we need for competent and entrusted Airmen to make decisions in future highly contested environments, where we cannot expect continuous centralized control.

AIR FORCE WARFIGHTING INTEGRATION CAPABILITY (AFWIC): The Air Force is implementing changes to program development that will better integrate the budget across the force and allow for more rapid change to meet emerging threats. This will improve force design analysis to support national defense priorities and improve our ability to engage in multi-domain operations.

REVITALIZING SQUADRONS: Squadrons are the warfighting core of our Air Force. We organize, train, and equip to deploy from the squadron up. By revitalizing our squadrons, we are reinforcing cohesive, ready, and agile fighting forces to defend our Nation's interests in the complex security environment. We depend on exceptional leaders to lead the world's most powerful Air Force and joint teams. We will develop future leaders, address cultural shifts to embrace 21st century talent management, and unlock the true potential of our Airmen.

Heather Wilson

Heather Wilson is the 24th Secretary of the Air Force and is responsible for the affairs of the Department of the Air Force, including the organizing, training and equipping and providing for the welfare of 670,000 active-duty, Guard, Reserve, and civilian forces as well as their families. She oversees the Air Force's annual budget of more than $132 billion and directs strategy and policy development, risk management, weapons acquisition, technology investments and human resource management across a global enterprise.

Wilson has more than 35 years of professional experience in a range of leadership and management roles in the military, higher education, government and private industry. Before assuming her current position, Wilson was president of the South Dakota School of Mines & Technology, an engineering and science research university.

From 1998 to 2009, Wilson was a member of the U.S. House of Representatives, where she served on the House Armed Services Committee, the House Permanent Select Committee on Intelligence and the House Energy and Commerce Committee.

Before being elected to Congress, Wilson was a cabinet secretary in New Mexico's state government responsible for foster care, adoption, juvenile delinquency, children's mental health and early childhood education.

From 1989 to 1991, Wilson served on the National Security Council staff as director for defense policy and arms control for President George H.W. Bush during the fall of the Berlin Wall and the collapse of the Warsaw Pact.

From 1991 to 1995, and again from 2009 to 2013, Wilson was in the private sector. In 1991 she founded Keystone International, Inc., a company that did business development and program planning work for defense and scientific industry. She served as a senior advisor to several national laboratories on matters related to nuclear weapons, non-proliferation, arms control verification, intelligence and the defense industrial base. Wilson also served on the boards of two publicly traded corporations as well as numerous advisory and non-profit boards.

Wilson was an Air Force officer from 1982 to 1989. She graduated from the U.S. Air Force Academy in the third class to include women, and earned her master's and doctorate degrees as a Rhodes Scholar at Oxford University in England.

Wilson was a collegiate rower at Oxford and is an instrument-rated private pilot.

EDUCATION

1982 Bachelor of Science, U.S. Air Force Academy, Colorado Springs, Colo.
1984 Master of Philosophy, International Relations, Oxford University, England
1985 Doctorate of Philosophy, International Relations, Oxford University, England

CAREER CHRONOLOGY

1985 - 1987, Plans and Negotiations, Headquarters, 3rd Air Force, RAF Mildenhall, England
1987 - 1989, Office of Defense Plans, U.S. Mission to NATO, Brussels, Belgium
1989 - 1991, Director, Defense Policy and Arms Control, NSC Staff, Washington, D.C.
1991 - 1995, President, Keystone International, Inc., Albuquerque, N.M.
1995 - 1998, Secretary, New Mexico Children, Youth and Families Department, Santa Fe, N.M.
1998 - 2009, Member of Congress, First District, New Mexico, Washington, D.C.
2009 - 2013, President, Heather Wilson & Company, LLC, Albuquerque, N.M.
2011 - 2012, Candidate, U.S. Senate, N.M.
2013 - 2017, President, South Dakota School of Mines & Technology, Rapid City, S.D.
2017 - present, Secretary of the Air Force, Arlington, Va.

(Current as of May 2017)

QUESTIONS SUBMITTED BY MEMBERS POST HEARING

MARCH 20, 2018

QUESTIONS SUBMITTED BY MR. LANGEVIN

Mr. LANGEVIN. In previous committee hearings, we've been told how AI and machine learning are helping to process, exploit, and disseminate enormous amounts of ISR data, and how we are working towards an increase in autonomous systems to provide logistics to forward units. These advancements need to continue, but I am also interested in how the services are using machine learning and automation to deliver cost-savings through better business practices and enhanced decision-making. Can you each describe how you are leveraging these technologies for internal benefit, not simply battlefield gains?

Secretary ESPER. There are several areas where the Army can use Artificial Intelligence/Machine Learning (AI/ML) to improve business practices and to enhance decision-making.

Artificial Intelligence and Machine Learning will be a critical part of the Army's Synthetic Training Environment (STE). Artificial intelligence (AI) and Virtual Humans with high fidelity Human Behavior Representation will be a critical part of the STE to create realistic autonomous or semi-autonomous Units (e.g., Blue Forces, Opposing Forces, and Role Players) that enable high quality training while reducing the overhead manpower requirements necessary to run an exercise. Artificial Intelligence and Machine Learning capability will be integrated into the Squad/Soldier Virtual Trainer's Heads Up Display 3.0 to enable rapid terrain and data analysis; rapid and predictive decision making for Soldiers and squads through enhanced perception and target recognition; and AI allows for a "thinking and improving enemy" during training which will allow Soldiers and squads to hone their cognition skills at a much quicker rate. AI allows for exponential improvements with each train, rehearse, and fight event.

The Army is also using AI/ML to enhance acquisition training for contracting operations and to develop individual competency models that can be used to map people to projects. The Army is taking a simulation with an integrated AI approach to create avatars that can interact with humans in a natural way to help them learn and improve acquisition functions, such as face-to-face contract negotiations, thus essentially tailoring workforce training by expanding adaptive instruction to training that would result in time savings and an increase in productivity in the workforce.

The Army is using big data, predictive analytics, and artificial intelligence to improve demand forecasting and understanding readiness drivers in the supply chain, leveraging conditions based maintenance to predict maintenance requirements, optimizing the use of air transport in Second Destination Transportation requirements, and applying data science to find contracting efficiencies

Also the Army is leveraging the advancements in AI/ML for cyber defense operations by developing automatic vulnerability detection, prevention, and remediation methods to provide proactive, network-level, rapid defense. We need to be able to identify and distill threats in real-time, and find the needle in the haystack. The Army expects to realize cost savings and improve decision-making by leveraging these technologies.

Mr. LANGEVIN. In previous committee hearings, we've been told how AI and machine learning are helping to process, exploit, and disseminate enormous amounts of ISR data, and how we are working towards an increase in autonomous systems to provide logistics to forward units. These advancements need to continue, but I am also interested in how the services are using machine learning and automation to deliver cost-savings through better business practices and enhanced decision-making. Can you each describe how you are leveraging these technologies for internal benefit, not simply battlefield gains?

Secretary SPENCER. The Department of the Navy (DON) is committed to improving the performance and cost effectiveness of its business processes and decision making through better use of data and advanced analytics. Machine learning offers clear benefits distinct from the promise demonstrated in warfighting mission areas. DON application of machine learning have focused on supply chain management consistent with our urgency to improve current readiness. These efforts are in the proof of concept phase and include:

- An algorithm was developed that automates an optimization in the allocation of aircraft parts. This algorithm allows the supply system to generate more immediate aircraft readiness, without any additional direct costs.
- Custom analytics was developed to monitor engine performances and revise maintenance schedules optimizing Military Sealift Command (MSC) engine plant operations.
- Machine learning software, using data from facility control systems, was utilized to deliver energy efficiency, predictive maintenance and operational savings.
- The integration of data from fuel sensors, flow meters, and transponders was automated to provide near real-time fuel consumption and levels. Machine learning is being incorporated in this process to increase efficiency in fuel distribution and storage.
- Advanced analytics was used to assess DDG–51 ship class readiness focusing on customer outcomes, improving supply support and increasing operational readiness.

To expand analytical proofs of concept across more business functions and accelerate broader adoption of promising machine learning use cases, the DON has established a dedicated function under the Chief Management Officer to advance the enterprise use of data and analytics in decision making and reform.

Mr. LANGEVIN. In previous committee hearings, we've been told how AI and machine learning are helping to process, exploit, and disseminate enormous amounts of ISR data, and how we are working towards an increase in autonomous systems to provide logistics to forward units. These advancements need to continue, but I am also interested in how the services are using machine learning and automation to deliver cost-savings through better business practices and enhanced decision-making. Can you each describe how you are leveraging these technologies for internal benefit, not simply battlefield gains?

Secretary WILSON. At this time the Air Force prioritizes researching technologies that will give our warfighters an asymmetrical advantage on the battlefield. The technology required to improve our business systems exists now in the commercial sector. Rather than develop our own unique systems we are in the early stages of adapting our business processes to rapidly acquire commercial or commercial-like technologies.

QUESTIONS SUBMITTED BY MR. SHUSTER

Mr. SHUSTER. The Army has been conducting a service-wide Munitions Readiness Study to ensure our inventories are sufficient to respond to future potential threats and conflicts. I understand that the Patriot Air Missile Defense Systems employs a mix of missiles to address a range of threats. The Guidance Enhanced Missile–TBM known as the GEM–T constitutes a significant portion of that inventory. Can you please comment on the Army's FY 2019 budgeting plans to recertify the inventory of over 1,300 missile to sustain adequate numbers of GEM–T in the face of emerging air and missile threats?

Secretary ESPER. The Army continues to increase Guidance Enhanced Missile-T (GEM–T) inventories with $12.97 million in the budget request for FY19 in support of GEM–C to GEM–T conversions. The Army has programmed GEM–T recertification starting in FY20 to ensure safe and reliable missiles.

Mr. SHUSTER. The Army All Terrain Heavy Crane provides mobility, survivability, and counter-mobility support across the entire range of theater operations supporting Route Remediation Units, Maneuver Brigade Combat Teams, and Expeditionary Engineer Brigades. The crane provides the capability to load and unload containers, support base camp construction, and force protection. Although the Heavy Crane is a commercially off the shelf item, the modifications for Army requirements necessitate a specialized and separate workforce. How is the Army planning to address funding for the All Terrain Heavy Crane in FY 2019 and meet minimum production going forward?

Secretary ESPER. The Army is focused today on readiness and our six Modernization priorities to ensure our greatest capability gaps are addressed as soon as possible. The Army plans to procure as many All-Terrain Heavy Cranes as necessary to ensure operational requirements are met as opposed to focusing on a minimum sustainment rate. In Fiscal Year 2019, this equates to a funding request that procures eight All-Terrain Heavy Cranes, supporting eight Engineer Companies.

Mr. SHUSTER. The Navy trains between 550 and 650 rotary-wing and tilt-rotor pilots annually for the Navy, Marine Corps, U.S. Coast Guard, and Foreign Military Partners at Naval Air Station Whiting Field, Florida. TH–57 Sea Ranger has been

the training platform for over 30 years, averaging approximately 70,000 flight hours annually. In the Navy's RDT&E Budget Justification Book, it states, "The TH–57 Training System is experiencing obsolescence, diminishing manufacturing sources and material shortages, training capability gaps (as identified in the Capabilities based assessment Naval Aviation Undergraduate Flight Training), and increasingly expensive operating costs related to aging aircraft issues."

What is the current readiness status of the TH–57 aircraft, and is that readiness status impacting the Navy's ability to train Navy and Marine Corps helicopter pilots?

In 2007, the Navy identified the replacement of the TH–57 as an "Urgent Need." Is its replacement still an urgent need, and what is the impact of continuing to delay acquiring a replacement for the TH–57?

Is the Navy on track with its program office and funding for a planned release of the TH–57 Request for Proposal in January–March 2019 with award October–December 2019? If not, what can this committee do to assist?

Secretary SPENCER. Current TH–57 inventory is 80 percent of the original inventory and is spread across two distinct models (Bravo and Charlie). Each model has unique maintenance and supply requirements, and supports specific portions of the Advanced Rotary and Tilt-Rotor Training syllabi. Only 95 percent of the rotary and tilt-rotor pilot training requirement is being met given the available aircraft inventory and aggressive maintenance and supply management posture that is needed to produce training ready aircraft. Training shortfalls will be exacerbated by a 15 percent increase in student helicopter/tilt-rotor pilot demand that begins in FY 2019 and is realized through FY 2025. Aging aircraft issues and parts obsolescence continue to impact aircraft readiness status. There is still an urgent need to replace the 35-year-old TH–57. The immediate issues of obsolescence, diminishing manufacturing sources and material shortages are being managed, but the ability to maintain the late 1970's era avionics will not last past the end of FY 2025. Thus, deliveries of a replacement training helicopter are needed to start in FY 2020 in order to divest of the TH–57 as soon as technically and programmatically feasible. A delay in acquiring a replacement will erode aircraft availability as mission essential avionics begin to fail without the ability to effect repairs. In addition to cited sustainment challenges, the TH–57 cockpit configuration lacks relational relevance to fleet aircraft and degrades training or presents training gaps attributable to a lack of modern aircraft technologies and interfaces. The Navy is on track to release a Request for Proposals (RFP) in January–March 2019 (Draft RFP to be released October–December 2018 (Q1FY19)) and contract award in October–December 2019 (Q1FY20), which would be at risk under a Continuing Resolution. No assistance is required with managing the acquisitions of the new helicopter, associated training systems, or maintenance support systems.

QUESTIONS SUBMITTED BY MR. COFFMAN

Mr. COFFMAN. How does the Air Force plan to acquire light attack aircraft following the OA–X experiment. How quickly does the Air Force plan to seamlessly transition from experiment to acquisition, and would Congressional funding help in FY19 to speed up efforts?

Secretary WILSON. The Air Force is currently developing and reviewing potential rapid acquisition alternatives for the light attack aircraft. Of particular focus are rapid fielding and rapid procurement strategies that leverage existing capabilities and emphasize little or no development.

At this time, Air Combat Command is finalizing the requirements for the light attack aircraft with a focus on operations in permissive environments. Also, the Air Force continues to examine force structure and funding options for this potential acquisition program. As the acquisition strategy is refined, the funding required to support the procurement of aircraft will be solidified.

QUESTIONS SUBMITTED BY MS. STEFANIK

Ms. STEFANIK. I understand the Army is making significant progress on the Improved Turbine Engine Program (ITEP)—the Army's stated top aviation modernization program. ITEP will provide the Army with the next generation engine for the Black Hawk and Apache helicopters. The ITEP engine will increase power by 50 percent and fuel efficiency by 25 percent, saving the Army billions of dollars while providing significantly increased capabilities for the Warfighter. Does ITEP remain the Army's number one aviation modernization priority? What is ITEP's near and

long term development timeline? Are you planning to adequately fund ITEP in FY 2019 and beyond?

Secretary ESPER. Improved Turbine Engine Program (ITEP) remains a top priority for our current fleets, providing our attack and utility helicopter fleets with significant increases in performance, fuel efficiency, and sustainability. ITEP is a bridge from our highly capable current fleets to Future Vertical Lift (FVL) platforms and has the potential to power certain FVL variants. We believe ITEP will achieve milestone (MS) B by 1st quarter Fiscal Year 2019 (FY19), which will allow development, building and testing of the capability. We anticipate that ITEP will achieve MS C in FY24, which will enable low rate initial production and initial operational test and evaluation to support initial operational capability in FY27. ITEP is fully funded in FY19 and across the Future Years Defense Program.

QUESTIONS SUBMITTED BY MS. HANABUSA

Ms. HANABUSA. For fiscal year 2019, end strength for each of the services is expected to increase. It is estimated that total active duty end strength would go from 1.32 million service members to 1.37 million, and the reserve component increasing from 817,000 to 821,000 service members. How did DOD determine by what amount each service's end strength would increase? Can you provide the number that each of your respective services are increasing by? What type of skills are being sought for new service members for each of the services?

Secretary ESPER. The Army seeks to continue increasing end strength at a rate that allows growth in critical capabilities while maintaining readiness and quality standards in both accessions and retention. For Fiscal Year 2019, we are requesting an increase of 4,000 in the Regular Army. This increase is based on an analysis of the end strength the Army will require in order to fulfill the demands set forth in the National Defense Strategy. The Army will use the requested growth to increase capacity in capabilities like air defense and long-range field artillery, as well as combat enablers. Questions regarding other services of the Department of Defense are best answered by the Joint Staff and/or the Office of the Secretary of Defense (OSD), as they have greater visibility over the other services' end strength increase efforts.

Ms. HANABUSA. Secretary Spencer, in your testimony you mention that ballistic missile submarines are "the most survivable leg of the nuclear triad." Can you elaborate on this statement and why you feel that this leg of the triad is superior than the other two? Additionally, if the two remaining legs of the triad are not as effective and/or adequate, shouldn't modernization focus on improving on and expanding the superior method, which you deem to be the ballistic subs? Given the tremendous costs involved in ensuring the effectiveness of our country's nuclear capabilities, how can you justify continuous investment in the dated and less effective components (i.e. land-based ICBMs and B–21 bombers) of our nuclear triad?

Secretary SPENCER. The 2018 Nuclear Posture Review (NPR) reaffirms that the triad's "overlapping attributes ensure the enduring survivability of our deterrence capabilities against attack and our capacity to hold at risk a range of adversary targets throughout a crisis or conflict. Eliminating any leg of the triad would greatly ease adversary attack planning and allow an adversary to concentrate resources and attention to defeating the remaining two legs." The NPR also reaffirmed the need to recapitalize each component of the triad. It states that the cost to recapitalize, "while substantial, are moderate in historical terms and represent a small fraction of the DOD budget." SSBNs are one of three complementary legs of the strategic deterrent triad. On patrol, SSBNs are virtually undetectable. The COLUMBIA Class Program is Navy's number one shipbuilding and acquisition priority. The Navy is taking the necessary steps to ensure the COLUMBIA SSBN is designed, built, delivered, and tested on time with the right capabilities at an affordable cost.

Ms. HANABUSA. For fiscal year 2019, end strength for each of the services is expected to increase. It is estimated that total active duty end strength would go from 1.32 million service members to 1.37 million, and the reserve component increasing from 817,000 to 821,000 service members. How did DOD determine by what amount each service's end strength would increase? Can you provide the number that each of your respective services are increasing by? What type of skills are being sought for new service members for each of the services?

Secretary SPENCER. The National Defense Strategy (NDS) directs the building of a more lethal, resilient, and agile force to deter and defeat aggression by great power competitors and adversaries in all domains and across the conflict spectrum. As such, the NDS determined the Military Services' end strength growth. The Active Navy end strength growth of 7,500 in FY19 is represented by the following skill

sets: Student Billets; Officer/Enlisted Transient Prisoner Patient Holdee billets required to support Fleet Manning Wholeness; Littoral Combat Ship billets; 2 Cruiser crews; SOF Growth; Osprey aircrews; Recruiters; Expeditionary Sea Base crew; and Surface Warfare Comprehensive Review manpower recommendations. The Reserve Navy end strength growth of 100 in FY19 is represented by the following skill sets: Maintenance manpower for 2 new fleet logistics aircraft; Officer/Enlisted Theatre Anti-Submarine Warfare billets; and Fire fighters/EMS crews to augment base support billets. The Active Marine Corps' end strength growth of 100 in FY19 is represented by the addition of general combat service support skills (e.g., logistics, utilities, and supply) as well as data/cyberspace and intelligence enablers specifically trained to support Marine Special Operations Forces. These skills will provide required enabler support for existing Marine Corps Special Operations Command operational units. There were no Marine Corps Reserve Force end strength increases in the FY19 Budget Request.

Ms. HANABUSA. For fiscal year 2019, end strength for each of the services is expected to increase. It is estimated that total active duty end strength would go from 1.32 million service members to 1.37 million, and the reserve component increasing from 817,000 to 821,000 service members. How did DOD determine by what amount each service's end strength would increase? Can you provide the number that each of your respective services are increasing by? What type of skills are being sought for new service members for each of the services?

Secretary WILSON. Our FY19 budget request builds on the progress we have been making in 2018 to restore the readiness of the force, increase lethality, and cost-effectively modernize by continuing our growth to 680,400 Total Force Airmen—329,100 Active Duty, 107,100 Air National Guard, 70,000 Air Force Reserve, and 184,200 Civilians*. The growth will accelerate our readiness and provide more lethal Airmen to protect and defend our Nation. Our budget prioritizes long-term competition with China and Russia in alignment with the National Defense Strategy and moves the Air Force in the direction of multi-domain operations.

The Total Force military growth between FY18 and FY19 is 4,700. The 4,700 end strength growth includes 4,000 Active Duty, 500 Air National Guard, and 200 Air Force Reserve. The growth, as represented in the FY19 accession plan, consists of 1,600 for aircraft maintenance; 1,160 for logistics, medical, and support career fields; 400 for rated and pilot production; 270 for operations in space, cyber, and others; 240 for intelligence; 220 for career enlisted aviators; and 110 for Battlefield Airmen. This growth in Active Duty end strength is a part of our deliberate strategy to improve the manning in Air Force units.

The 500-growth for Air National Guard includes 100 for aircraft maintenance; 100 for logistics and support career fields; 270 for operations in aeromedical evacuation, nuclear deterrence operations, rapid global mobility, global precision attack, and others; and 30 for intelligence.

Air Force Reserve's 200-growth includes 115 for security forces, 50 for intelligence and cyber, 31 for combat rescue, and 4 for rated and pilot production.

In short, this investment strategy increases pilot production, adds operations and maintenance manpower to Remotely Piloted Aircraft and continues our manpower investment in cyber and intelligence. Additionally, the growth provides the inventory the Air Force needs to right-size our trainee pipeline; improves squadron health and readiness; and gives us the competitive advantage for Air, Space and Cyber superiority.

*All AF civilians: including ARC techs and civilians in Combatant Commands, Defense Agencies and Field Activities where the AF is the Executive Agent.

QUESTIONS SUBMITTED BY MS. ROSEN

Ms. ROSEN. In Nevada we're proud to be home to Nellis AFB and Fallon Naval Air Station, the premier training sites for our nation's fighter pilots. I am very concerned about the pilot shortages facing the Air Force and Navy, with a lack of flight hours cited as the primary reason for pilots leaving the military for commercial airlines, particularly as they promote out of the cockpit and into an office space. How do we solve this problem and when can we expect to see improvements in pilot manning and squadron readiness?

Secretary SPENCER. Navy Aviation's inventory/accessions remain sufficient to meet operational requirements. However, declining retention in some communities presents challenges to aviation's long-term health. Leadership has identified a number of factors involved in the challenge to retain aviators including lack of flight hours, tactical training, and progression of qualifications, all associated with aircraft material readiness challenges. Last year, Navy established a readiness recovery

team to address maintainer retention and training issues, spare parts availability, and depot level maintenance challenges contributing to decreased strike fighter aircraft availability. The team is identifying solutions in systemic supply, maintenance, manning and facilities shortfalls resulting from years of overutilization and underfunding. Consistent funding of readiness accounts across the Future Years Defense Program will be key to success. Additionally, aviators have consistently expressed interest in enhanced career path flexibility, opportunities for personal and professional development, and flexible, merit based, competitive, monetary incentives. Accordingly, Navy has:

- increased options for graduate school and fellowships through initiatives, such as Tours with Industry and the Career Intermission Program.
- begun evaluating changes in the legacy aviation career path to offer options, such as permanent flight instructor assignments.
- begun modernizing the officer fitness report which will help further improve flexibility in the relatively time-constrained career path; and
- increased the Aviation Bonus (for department head and command assignments) and Aviation Incentive Pay, applying a holistic approach that synchronizes targeted increases in flight pay and bonuses, in a mutually supportive fashion, upon attainment of major aviation leadership milestones, i.e., department head, command and major command, which effectively adds a "merit" component. Bonus and flight pay adjustments have been well-received, as initial "take rates" are a leading indicator of improving retention and manning readiness.

Sustained support for readiness enabler accounts, including flight hour and aircraft spare parts, is critical to improving the quality of aviation service. Combined with personnel modernization initiatives, we remain cautiously optimistic that these changes will effectively address issues contributing to aviators leaving the Navy. It may take a number of years to noticeably impact fleet manning, but we are closely monitoring the effectiveness of these initiatives, and will make further changes as necessary.

Ms. ROSEN. In Nevada we're proud to be home to Nellis AFB and Fallon Naval Air Station, the premier training sites for our nation's fighter pilots. I am very concerned about the pilot shortages facing the Air Force and Navy, with a lack of flight hours cited as the primary reason for pilots leaving the military for commercial airlines, particularly as they promote out of the cockpit and into an office space. How do we solve this problem and when can we expect to see improvements in pilot manning and squadron readiness?

Secretary WILSON. The Aircrew Crisis Task Force pilot recovery plan is designed to restore Air Force pilot manning to 95% by the end of 2023. To achieve this, the Air Force is focusing on three main lines of effort: increased retention of current pilots, increased production of new pilots, and optimizing pilot requirements. Given the current conditions, once initiatives within the lines of effort are approved, funded, and implemented the Air Force should see improvements in pilot manning. Moreover, aircraft availability plays a major role in pilot production and is a critical part of readiness. Aircraft Availability must be improved to meet the increasing sortie generation requirements driven by additional pilot production and seasoning necessary to correct the aircrew crisis. The Air Force has embarked on an Aircraft Availability Campaign tied to the Aircrew Crisis Task Force focused on spares postures, spares forecasting, depot capacity, manpower utilization and policy. Through these efforts, we expect to see a 3–5% improvement in aircraft availability to support increased pilot production and seasoning within the Future Years Defense Plan.

Ms. ROSEN. Can you outline your top cybersecurity and cyber warfare priorities? How are you thinking about emerging technologies such as Artificial Intelligence, high performance computing, directed energy, hypersonics, and autonomy? How are you resourcing these technologies within your FY 2019 request?

Secretary WILSON. Air Force top three cyber issues for 2019:

1. Network and Weapon System Resiliency: Network infrastructure is antiquated and is failing at high rates. Additionally, we lack resources to defend base infrastructure and weapon systems.

- To improve network performance and resiliency, we are transitioning to Enterprise IT as a Service. The FY19 budget provides $223M to support initial implementation across the service.
- We are refocusing cyber Airmen to defense of USAF weapon systems and base infrastructure. The FY19 budget provides $82M to support Weapon System Cyber Resiliency.

2. Improving Cyber Operations: By building upon the benefits of migrating to Enterprise IT as a Service. $900M in FY19 budget supports the Air Force in:

- Acquiring specialized tools to enhance USAF effectiveness in cyber

- Establishing Mission Defense Teams at Combat Wings to defend missions, facilities, and networks
- Accelerating cloud migration using additional $60M in FY19 budget

3. Joint Cyber Warfighting: Cyber Mission Forces lack an integrated warfighting cyber platform and effective command and control of cyber operations across the DOD. FY19 budget provides $71M to defend our networks and increase joint lethality.

- AF leads development of the Unified Platform and Joint Cyber Command and Control to integrate Service-unique cyber platforms capabilities
- Programs will consolidate service unique systems into a single cyber offensive and defensive capability

In accordance with the 2018 National Defense Strategy, the Air Force is vigorously pursuing game changing technologies to improve the lethality of the force. Hypersonics, Artificial Intelligence, directed energy, high performance computing, and autonomous systems all afford the Air Force with opportunities to do just that. We have prototyping efforts in both Directed Energy and Hypersonics and are participating in Grey Wolf. We have identified areas where we need to go fast, take risk and leverage across the services to ensure we maintain the technological edge for our nation. We can get there, but we need to take some risk and do business differently if we want to be successful.

Specifically, the Air Force's FY19 Science and Technology (S&T) program invests in and develops capabilities that advance the technological superiority of the U.S. military to counter new and emerging threats. The FY19 PB request for S&T is approximately $2.6 billion, representing an increase of 2.4% from the FY18 PB. Our investment focuses on game-changing technology such as Hypersonics, Directed Energy, Artificial Intelligence/Machine Learning, Quantum, Nanotechnology, Autonomy, and Unmanned Systems. In addition to the Department's S&T investment, the FY19 PB request includes $258 million for Hypersonic Prototyping to accelerate hypersonic weapon research and development through 2 prototyping efforts, the Air Launched Rapid Response Weapon and the Hypersonic Conventional Strike Weapon.

QUESTIONS SUBMITTED BY MR. BANKS

Mr. BANKS. Your testimony mentions the importance of Congressional support for the future of the Army Futures Command. The academic, industry, test and training assets of my State (Indiana) are uniquely available to address the Army's six modernization priorities of long-range precision fires, a next-generation combat vehicle, future vertical lift platforms, a mobile and expeditionary Army network, air and missile defense capabilities, and Soldier lethality.

Is the Army able to provide an update on the service's list of cities to be visited for final consideration?

I'd like to know if Indianapolis, because of its plentiful assets, standard of living, and overall capacity versatility, will be on this list?

Secretary ESPER. The Army will establish a Futures Command headquarters that is small, dynamic and composed of the very best from our military and civilian workforce, probably less than 500 personnel. We want this headquarters to be located near leading academic science, technology, engineering and math (STEM) research engines and commercial institutions to harness the best talent possible in emerging technology and innovation.

The Army Futures Command Task Force applied four sets of criteria to assess 150 metropolitan statistical areas (MSAs) to identify the top innovation hubs across the United States as a potential location for this new headquarters. We began with an assessment of proximity to talent in key technical fields. We then assessed the commercial innovation and academic STEM R&D to identify the top locations. Indianapolis is not in the top 15 candidate cities. We will continue down selection process with the intent of announcing a final decision this summer.

Mr. BANKS. As both a father and the most recently deployed Member of Congress, I can attest to the importance of education options for military families and their children. I've recently seen survey results that 35 percent of military families have indicated dissatisfaction with their child's education was a significant factor in their decision to continue their military service or to leave. Adding to this discontent is the fact that more than 50 percent of military families live in States that provide no choice in education. With readiness being a top concern for the services, please explain this issue in greater detail, as well as the impact it has had on the retention rate of service members with families in your respective branches?

Secretary ESPER. The Army has not been able to draw any direct correlation between choice in education and retention rates. We recognize, however, that the quality of education impacts retention and that military families face significant, unique, and difficult challenges. For this reason we remain committed to partnering with local communities and DODEA to ensure military families are satisfied with their education opportunities and options for their children.

As an example of our commitment, Army partnered closely with the Department of Defense and Council of State Governments to develop the Interstate Compact on Educational Opportunity for Military Children. This Compact allows transfer of education transcripts between states, and ensures children of military families are not penalized or delayed in achieving their educational goals due to military related moves.

Mr. BANKS. As both a father and the most recently deployed Member of Congress, I can attest to the importance of education options for military families and their children. I've recently seen survey results that 35 percent of military families have indicated dissatisfaction with their child's education was a significant factor in their decision to continue their military service or to leave. Adding to this discontent is the fact that more than 50 percent of military families live in States that provide no choice in education. With readiness being a top concern for the services, please explain this issue in greater detail, as well as the impact it has had on the retention rate of service members with families in your respective branches?

Secretary SPENCER. The Department of the Navy recognizes that the quality of our children's education impacts readiness and retention; however, we have not been able to draw any direct correlation between choice in education and retention rates. As you well know, our mobile military families face significant, unique, and difficult challenges; and, these challenges are part of the reason that—for the first time—the Every Student Succeeds Act requires public school districts to track the achievement of military-connected students. This data will provide information on school transitions, academic performance, special program participation, attendance and other high school graduation and postsecondary transitions. The Department of the Navy remains committed to partnering with local communities and DODEA to ensure military families are satisfied with education opportunities and options for their children.

Mr. BANKS. As both a father and the most recently deployed Member of Congress, I can attest to the importance of education options for military families and their children. I've recently seen survey results that 35 percent of military families have indicated dissatisfaction with their child's education was a significant factor in their decision to continue their military service or to leave. Adding to this discontent is the fact that more than 50 percent of military families live in States that provide no choice in education. With readiness being a top concern for the services, please explain this issue in greater detail, as well as the impact it has had on the retention rate of service members with families in your respective branches?

Secretary WILSON. While the Air Force has no specific personnel system code reflecting separation rationale as lack of "quality education for school-age dependents," we have no doubt that this is one of many variables Airmen who have school age children must weigh heavily in their decisions to remain part of the Air Force. We often hear from spouses and family members during forums, workshops, or focus groups of their concerns for their children receiving quality education in safe school environments. In turn, our spouses have expressed that one of the primary reasons for their continued support or influence of our Airmen remaining in active service is directly related to how well they believe their children are educated.

The compelling nature of concerns raised by our families led the Secretary of the Air Force to join with the other Service Secretaries in a February 2018, letter to the National Governors Association expressing intent to consider the quality of schools near bases in future basing or mission decisions. We look forward to continuing our hard work with the States and stand ready to assist in helping to improve the public education quality for our Air Force families.

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