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THE STATE OF THE MILITARY

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ONE HUNDRED FIFTEENTH CONGRESS

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ONE HUNDRED FIFTEENTH CONGRESS

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THE STATE OF THE MILITARY

HOUSE OF REPRESENTATIVES,
COMMITTEE ON ARMED SERVICES,
Washington, DC, Tuesday, February 7, 2017.

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.

Last week, the committee held classified and unclassified sessions on the state of the world or, more accurately, the state of the world environment in which the American military must operate and U.S. national security must be protected. I was struck by the essential point General Petraeus made that we face many threats, and can overcome any of them, except perhaps what we do to ourselves.

Today, we turn to the state of the U.S. military. I continue to be concerned and sometimes even disturbed by evidence that is accumulating on the damage inflicted upon our military in recent years and the stresses our forces are under. That damage comes from a variety of factors, including budget cuts of 20 percent, continuing resolutions, the failure to recognize or at least admit and then address mounting readiness problems, as well as the shrinking size of the force, while keeping the tempo of operations high.

There is certainly plenty of blame to go around between both parties and both the executive and legislative branches for this state of affairs. But now with a new administration and a new Congress, we have an opportunity to begin the repairs. To do that, we need a clear understanding of the state of our military and the immediate trends that challenge us. For that, we turn to the vice chiefs of each of our services, and we ask that each of you provide this committee your best professional military judgment in answering the questions we pose.

As was emphasized last week, the world situation is dangerous and complex. This is no time to exaggerate or to underplay the challenges before us. Only by facing them squarely can we meet the obligations all of us have to the Constitution, to the men and women who serve, and to the American public.

I will now yield to the distinguished acting ranking member, the gentleman from Tennessee, for any comments he would like to make.

**STATEMENT OF HON. JIM COOPER, A REPRESENTATIVE FROM
TENNESSEE, COMMITTEE ON ARMED SERVICES**

Mr. COOPER. Thank you, Mr. Chairman.

I would like to ask unanimous consent that the opening statement of the real ranking member, Mr. Smith, be inserted in the record.

The CHAIRMAN. Without objection.

[The prepared statement of Mr. Smith can be found in the Appendix on page 57.]

Mr. COOPER. And speaking on my own behalf, I think we all realize that few subjects are more important for the future of the Nation than the readiness of our military forces. I hope that we all know that few things are more detrimental to that readiness than sequestration.

So I share the chairman's hope, and I am not ready to be optimistic yet, but I hope that we can deal with sequestration this year and end it permanently. So it is going to be up to the folks on this committee, the largest committee in the House of Representatives, to make sure that our impact is felt in ending sequestration.

So thank you, Mr. Chairman. I look forward to the testimony of the witnesses.

The CHAIRMAN. Thank you, sir.

I am pleased to welcome each of our witnesses today and also to express, I know, the committee's appreciation for your service in this job and for each of your service to the country. Without objection, your complete written statements will be made part of the record.

And let me just briefly introduce General Daniel Allyn, Vice Chief of Staff of the Army; Admiral William Moran, Vice Chief of Naval Operations; General Stephen Wilson, Vice Chief of Staff of the Air Force; and General Glenn Walters, Assistant Commandant of the Marine Corps. Again, thank you all for being here.

We would be interested in any opening comments each of you would like to make.

We will start with you, General Allyn.

**STATEMENT OF GEN DANIEL B. ALLYN, USA, VICE CHIEF OF
STAFF OF THE ARMY**

General ALLYN. Thank you, Chairman Thornberry and Congressman Cooper, distinguished members of the committee. Thank you for the opportunity to testify on the state of your United States Army. I appreciate your support and demonstrated commitment to our soldiers, Army civilians, families, and veterans, and look forward to discussing the strength of our Army with you today.

This is a challenging time for our Nation and certainly for our Army. The unipolar moment is over and replacing it is a multipolar world characterized by competition and uncertainty. Today, the Army is globally engaged with more than 182,000 soldiers supporting combatant commanders in over 140 worldwide locations.

My recent travel, I visited our soldiers in 15 countries since Veterans Day, reinforces that the Army is not about programs. It is all about people; our people executing security missions all around the globe. The strength of the All-Volunteer Force truly remains our soldiers. These young men and women are trained, ready, and

inspired. And we must be similarly inspired to provide for them commensurate with their extraordinary service and sacrifice.

To meet the demands of today's unstable global security environment and maintain the trust placed in us by the American people, the Army requires sustained, long-term, and predictable funding.

Absent additional legislation, the caps set by the Budget Control Act [BCA] of 2011 will return in fiscal year 2018, forcing the Army to once again draw down our end strength, reduce funding for readiness, and increase the risk of sending undertrained and poorly equipped soldiers into harm's way, a preventable risk our Nation must not accept.

We thank all of you for recognizing that plans to reduce the Army to 980,000 soldiers would threaten our national security. And we appreciate all your work to stem the drawdown. Nevertheless, the most important actions you can take, steps that will have both positive and lasting impact, will be to immediately repeal the 2011 Budget Control Act and ensure sufficient funding to train, man, and equip the fiscal year 2017 NDAA [National Defense Authorization Act] authorized force. Unless this is done, additional top-line and OCO [Overseas Contingency Operations] funding, though nice in the short term, will prove unsustainable, rendering all your hard work for naught.

In this uncertain environment, readiness remains our number-one priority. Sufficient and consistent funding is essential to build and sustain current readiness, to progress towards a more modern, capable force sized to reduce risk for contingencies and to recruit and train the best talent within our ranks. Readiness remains paramount because the Army does not have the luxury of taking a day off. We must stand ready at a moment's notice to defend the United States and its interests.

With your assistance, the Army will continue to resource the best-trained, best-equipped, and best-led fighting force in the world. We thank you for the steadfast support of our outstanding men and women in uniform. And please accept my written testament for the record. And I look forward to your questions.

Thank you, Mr. Chairman.

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

The CHAIRMAN. Thank you.

Admiral.

STATEMENT OF ADM WILLIAM F. MORAN, USN, VICE CHIEF OF NAVAL OPERATIONS

Admiral MORAN. Thank you, Mr. Chairman.

And good morning to the members of the committee. It is a privilege to be here with my fellow vice chiefs to talk about the readiness of our military.

It is easiest for me to talk to you in terms of simple supply and demand. As many of you know, the ongoing demand for naval forces far exceeds our long-term supply. And that need continues to grow with no end in sight. Supply is best summed up in one fact: Your Navy today is the smallest it has been in 99 years.

That said, we are where we are, which makes it urgent to adequately fund, fix, and maintain the fleet that we do have. And by

the way, we have never been busier. A quick snapshot around the globe and you will see the Navy is the Nation's primary deterrence policy in places like the Arabian, Mediterranean, and South China Seas.

Over the past 5 or 6 years, this call for deterrence and to be ready to take action has grown, principally because of the aggressive growth from expanding naval competitors like Russia and China. And when you add threats from Iran, North Korea, ISIS [Islamic State of Iraq and Syria], and others, it is a very, very busy time for your Navy.

Our sailors have always risen to the occasion, answering the call no matter the circumstances and no matter the resources. From providing food, water, and medical assistance in Haiti, to striking hostile sites in Yemen, to Navy SEALs [Sea, Air, Land teams] taking down terrorist leaders, we are getting it done, because that is who we are, that is what makes us the best navy in the world. But the unrelenting pace, inadequate resources, and small size are taking their toll.

Our testimony today may seem like a broken record. Our Navy faces increased demand without the size and resources required to properly maintain and train for our future. And every year we have had to make tough choices, often choosing to sacrifice long-term readiness to make sure we could be ready to answer the call today.

We are in fact putting our first team on the field, but we lack serious depth on the bench. This didn't happen overnight; readiness declines tend to be insidious. From year to year we have all learned to live with less and less. We have certainly learned to execute our budget inefficiently with nine consecutive continuing resolutions, but this has forced us to repeatedly take money from cash accounts that are the lifeblood of building long-term readiness in our Navy. It is money for young lieutenants to fly high and fast, and who need air under their seats to perfect their skills in the future. It is money for spare parts so sailors can fix the gear that they have. It is money for sailors to operate at sea in all kinds of conditions to build instincts that create the best warfighters in the world. With your help we have the opportunity to change this.

It starts by strengthening our foundation. Let's ensure the ships and aircraft that we do have are maintained and modernized so they provide the full measure of combat power. Then let's fill in the holes by eliminating inventory shortfalls in ships, submarines, and aircraft throughout the fleet. And together by taking these steps, we can achieve the ultimate goal of sizing the Navy to meet the strategic demands of this dynamic and changing world.

Mr. Chairman, thank you for the opportunity to be here, and I look forward to your questions.

[The prepared statement of Admiral Moran can be found in the Appendix on page 69.]

The CHAIRMAN. General Wilson.

**STATEMENT OF GEN STEPHEN W. WILSON, USAF, VICE CHIEF
OF STAFF OF THE AIR FORCE**

General WILSON. Thank you Chairman Thornberry, Congressman Cooper, distinguished members of the committee.

On behalf of the Secretary of the Air Force and our chief of staff, it is an honor to be with you today and to be with my fellow vice chiefs to talk to you about the state of our Air Force and readiness.

Your American airmen are proud to be part of the most powerful joint force warfighting team in its history. Together we provide leaders with a broad range of options to protect our country and its interests both home and abroad. For the past 70 years, responsive, flexible, and agile American airpower has been our Nation's first and most sustainable solution in both crisis and conflict underwriting every other instrument of power. We provide the Nation with unrelenting Global Vigilance, Global Reach, and Global Power.

In short, your Air Force is always in demand and always there. Look no further than 2 weeks ago when your Air Force executed a precision strike in Sirte, Libya, killing over 100 violent extremists. This was a textbook transregional multidomain, multifunction mission. Air Force space, cyber, and ISR [intelligence, surveillance, and reconnaissance] warriors provided precision navigation and timing while monitoring enemy communication and movement.

Simultaneously, two B-2 bombers took off from Missouri, flew 17 hours one way, refueled with numerous tankers and teamed with two MQ-9s to employ precision munitions within 10 seconds of their designated time over target. They then flew another 17 hours home and landed safely back in the United States.

Meanwhile, airmen operate 60 persistent remotely piloted aircraft patrols, 24/7/365. They are the blinking eye for combatant commanders. They remotely fly missions from the continental United States, teaming with nearly 20,000 forward deployed airmen to support operations like the recent events in Raqqa and Mosul where our RPA [remotely piloted aircraft] fighters and bombers have conducted 92 percent of the strikes against ISIS.

We did this all while simultaneously ensuring two-thirds of our nuclear triad and 75 percent of our nuclear command and control remain robust, reliable, flexible, and survivable options for the nations. During the allotted time of this hearing, an average of 65 mobility aircraft will take off; 430,000 cyber connections will be blocked; 5 homeland defense missions will fly; and 3 strikes against ISIS will occur. Each of these actions are enabled by airmen providing space-based position, navigation, and timing and communication for our military, while also providing GPS [Global Positioning System] capability to the world's 3 billion users.

The capabilities of our airmen provided to our Nation and our allies have never been more vital and the global demand for American airpower will only grow in the future. American airmen remain professional, innovative, and dedicated; quite frankly, the envy of the world. However, we are out of balance. The demand for our mission and our people exceed the supply. The 26 years of continuous combat has limited our ability to prepare for the future against advanced future threats, scenarios with the lowest margin of error and the highest risk to national security.

This nonstop combat, paired with the budget instability and lower-than-planned top lines, has made the United States Air Force the smallest, oldest equipped, and least ready in our history. We have attempted to balance risk across the force to maintain

readiness. And we have been forced to make unacceptable trades between readiness, force structure, and modernization.

Today's global challenges require an Air Force ready not only to defeat violent extremism, but an Air Force prepared to modernize for any threat the Nation may face.

Mr. Chairman, I will close by quoting General Douglas MacArthur. He sent the following cable as he escaped the Philippines in 1942. He said, "The history of failure in war can be summed up in two words: too late. Too late in comprehending the deadly purpose of a potential enemy, too late in realizing the moral danger, too late in preparedness."

Distinguished members of the committee, preparedness or readiness cannot be overlooked. Your Air Force needs congressional support to repeal the Budget Control Act and provide stable, predictable funding. It is critical to rebuilding our military's full-spectrum readiness, which is the number-one priority for the Secretary of Defense. We need to act now, before it is too late.

On behalf of the chief of staff and the Secretary of the Air Force and the 660,000 Active, Guard, Reserve, and civilian airmen who serve our Nation, thank you for your tireless support for us.

I look forward to your questions.

[The prepared statement of General Wilson can be found in the Appendix on page 75.]

The CHAIRMAN. General Walters.

**STATEMENT OF GEN GLENN M. WALTERS, USMC, ASSISTANT
COMMANDANT OF THE MARINE CORPS**

General WALTERS. Mr. Chairman and distinguished members of the House Armed Services Committee, thank you for the opportunity to appear today and report on the readiness of your Marine Corps.

The Marine Corps remains dedicated to our central role as our Nation's naval expeditionary force in readiness. During 15 years of conflict, we focused investment on ensuring marines were prepared for the fight, and they were. Today, our operational tempo remains as high as it was during the peak of our operations in Iraq and Afghanistan. Our continued focus on deployed unit readiness combined with the fiscal uncertainty and funding reductions leave your Marine Corps facing substantial readiness challenges.

Your Marine Corps is insufficiently manned, trained, and equipped across the depth of the force to operate in an ever-evolving operational environment. Due to years of fiscal constraints, the Marine Corps is fundamentally optimized for the past and has sacrificed modernization and infrastructure to sustain our current readiness posture.

In addition to the increased resources for operations and maintenance needed to improve current readiness across the entirety of our Marine Corps, we require your support in three key areas to regain the readiness levels our Nation requires of us. Over the past 18 months, we have identified various end strengths and associated capabilities and modernization required to operate in the threat environment characterized by complex terrain, information warfare, electromagnetic signatures, and contested maritime domain.

We need to increase our Active Component end strength. We are confident that an increase of 3,000 marines per year maintains a rate of growth consistent with effective recruiting and accession while maintaining our high standards.

Our bases, stations, and installations are platforms where we train and generate our readiness. The continued underfunding of facility sustainment, restoration, and modernization, and military construction, continues to cause progressive degradation of our infrastructure and creates increased long-term cost. We have a backlog of over \$9 billion in deferred maintenance for our infrastructure. We require up-to-date training systems, ranges, and facilities [to] support the fielding of new equipment, and simulations systems that facilitate improved training and standards of readiness.

Supporting the joint force requirements of the past 15 years consumed much of the useful life of our legacy systems, and fiscal uncertainty and reduced defense spending forced significant delays in our modernization efforts. There is significant cost associated with maintaining and sustaining any legacy system without a proportional capability increase associated with that investment.

As we continue to spend limited fiscal resources to sustain legacy systems, developed for threats of 20 years ago, we risk steadily losing our competitive advantage against potential adversaries. We need to modernize our ground tactical vehicle and aircraft fleets soonest, accelerating the investment in amphibious ships is necessary to reach our wartime requirement. If forced to continue to pursue a path of investing in legacy systems in lieu of modernizing our force, we will find our Marine Corps optimized for the past and increasingly at risk to deter and defeat our potential adversaries.

On behalf of all of your marines, sailors, and their families and civilians that support their service, we thank the Congress and this committee for the opportunity to discuss the key challenges your Marine Corps faces. While much work needs to be done, the authorizations within coupled with the sufficient funding and the repeal of the Budget Control Act, will put us in a path to build and sustain our Marine Corps for the 21st century.

Thank you, and I look forward to your questions.

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

The CHAIRMAN. Thank you.

I want to briefly touch on some of the facts, largely in you-all's written testimony, but also some press reports. And I will just go down the line.

General Allyn, in your written testimony, it says only about one-third of the brigade combat teams and one-fourth of our combat aviation brigades and half of our division headquarters are ready. And then you say only three brigade combat teams could be called upon to fight tonight in the event of a crisis.

Now, I think we have 58, right, brigade combat teams, and your testimony is that only 3 of them could be called upon to fight tonight. Is that right?

General ALLYN. That is accurate, Chairman, and it reflects the realities of both the OPTEMPO [operations tempo] and the recurring demand that our forces face. When we say fight tonight, that

means that unit needs no additional people, no additional training, and no additional equipment.

And three is where we are at today. And those that we say are ready, the one-third, it is actually just higher than that, of our forces that are ready, require somewhere in the range of 30 days to ensure that they have everything they need to meet the demands of immediate combat.

The CHAIRMAN. Well, you kind of hope an enemy will be accommodating and give us the 30 days, so that we can be ready. You then go on on the next page, in talking about equipment and say today we are out-ranged, outgunned, and outdated. And then in your testimony you also say, so if you put all this together, the Army can only accomplish defense planning guidance requirements at high military risk.

Now, General Milley has kind of talked about this, but explain what that means to us. My layman's ears seem to hear that we can only do what the country asks us to do with a pretty darn good chance that we won't be successful.

Am I right?

General ALLYN. Chairman, basically what it comes down to is the term that you heard General Wilson use from General MacArthur. We will be too late to need. Our soldiers will arrive too late, our units will require too much time to close the equipping and manning and training gaps. And as you highlighted, hope is not a method and we cannot count on the enemy providing us that window of opportunity to close those gaps.

The end result is excessive casualties, both to innocent civilians and to our forces that are already forward stationed to close the rest of the force required to accomplish the mission.

The CHAIRMAN. Admiral, I had several things I wanted to ask you about. You mentioned the Navy is smaller than it has been in the last 99 years. But I want to ask you about a story that came out yesterday that you don't mention in your testimony that says, according to the Navy, 53 percent of all Navy aircraft cannot fly. And that is about twice the historic norm. If you go to F-18s, 62 percent are out of service, 27 percent in major depot work, and 35 percent simply awaiting maintenance or parts. This is a press story from yesterday in Defense News.

Are those statistics accurate?

Admiral MORAN. Yes, sir, they are.

The CHAIRMAN. It is a little hard for me to know what question to ask next. Fifty-three percent of all Navy aircraft can't fly and 62 percent of our strike F-18s can't fly today? That is our status.

Admiral MORAN. Yes, sir. When it comes to the strike fighter community, that is our legacy Hornets, A through Ds, and our Super Hornets, E and F versions. Our legacy Hornets, which we and the Marine Corps operate today, are well beyond their design life, let alone their service life. They were designed for 6,000 hours; we are extending the life on those Hornets into the 8,000 to 9,000 hour range.

They have been around as long as General Walters and I have been serving, for the most part, so they are pretty old. It takes about twice the amount of man-hours to fix one of those jets as it was designed to take, which gives you a pretty good indication how

old they are, and the capacity in our depots has been diminished since sequestration and furloughs back in 2013 and we are trying to rebuild that capacity today to try to get those jets turned around.

So on a typical day in the Navy, about 25 to 30 percent of our jets and our airplanes are in some kind of depot maintenance or maintenance which does not allow them to fly. So your statistics of twice that amount, or two-thirds today, is a reflection of how hard we have flown these jets over the last 15 years. And the fact that we have not re-capped those jets, in other words, we haven't built new or we have not bought enough new ones to replace them, and we have been waiting for quite some time for the F-35 to deliver, which we were counting on 7, 8 years ago to start filling in those holes, all of that adds up to the numbers you reflected.

The CHAIRMAN. It is true, is it not, that a fair number of the strikes against Al Qaeda and ISIS over the years have been carried out by these Navy jets?

Admiral MORAN. Yes, sir. We can and we do put—we put ready airplanes and ready crews forward on deployment. Yet, as I reflected in my opening statement, there is no depth on the bench to go behind them, though, if we had to surge forces. I think it is consistent with what General Allyn just described in the Army.

The CHAIRMAN. Yes.

Admiral MORAN. We will be late to get there if we want to have full up equipment to get to the fight in the future.

The CHAIRMAN. And turning to the Air Force, General Wilson, you testified in your written statement, and I think you said this, "The smallest and oldest Air Force we have ever had. Average aircraft age is 27 years old today." But you go on and talk about the pilot shortage where, at the end of fiscal year 2016, we were 1,555 total pilots short and 3,400 aircraft maintainers short.

What I am struck by is we have—we are short 1,500 pilots, 3,400 maintainers in the smallest Air Force we have ever had. Certainly that translates, does it not, into less military capability?

General WILSON. Chairman, that is exactly right. As a context, in 1991 we went to Desert Storm, our Air Force was 500,000 people and 134 fighter squadrons. Today we find ourselves at 317,000 total force—317,000 force—317,000 in our Active Force, with 55 fighter squadrons.

You mentioned the pilot shortage. Of those numbers, we have 723 short in our fighter pilots. We don't have a problem bringing people into the Air Force, we are doing our best to retain people. But when you are flying old equipment, 27 years old as an average, and you are short on maintainers to fix those airplanes and to talk to the vice chief, Vice CNO [Chief of Naval Operations], who talked about the depots, is they break into the depots and they find things that they have never found before and it takes real craftsmen and artisans to fix those airplanes, and it takes longer, we are flying less.

Again, as a matter of context, at the very bottom in the late 1970s of what we called the hollow force, fighter pilots were flying about 15 sorties a month and about 20 hours. Today, we are flying less hours and less sorties than we were in the late 1970s.

Now, we didn't get there overnight in the 1970s and we found a way out of that. There is a way out of this. The way out of this starts first with manpower. We need more manpower to be able to plus-up our force.

We need to get the right training. With the right training, we can bring in the right weapons system support. With the weapons system support we can increase the flying hours. With the flying hours, we reduce the OPSTEMPO. And we need time, and over time we will increase our readiness. We think it will take 6 to 8 years to bring our readiness level back where it needs to be. But it starts first with people.

The CHAIRMAN. Six to eight years under a favorable scenario, I assume?

General WILSON. Yes, Chairman, yes.

The CHAIRMAN. Well, I don't want to toot our own horn, but thank goodness we tried to stop the shrinkage of end strength in last year's NDAA. We hadn't fixed anything, but hopefully we kept it from getting worse.

Finally, Marine Corps General Walters, one of the things that just stuck out to me in your written testimony was the statement that flight-hour averages per crew per month are below the minimum standards required to achieve and maintain adequate flight time and training and readiness levels. So it is similar, I guess, to what General Wilson just said.

We are flying less now than we have, even in the hollow force of the 1970s, that was what he said. You say below the minimum standards to achieve and maintain flight time training and readiness levels. My question to you, what are the consequences of that? What does it mean if you can't even meet the minimum level of flight hours?

General WALTERS. Thank you for the question, Chairman.

And thank you to this committee for trying to get us back on our RBA [ready basic aircraft] recovery in the last 2 years. We have made some improvement. To your question about the flying hours and what it means, each type model series has a minimum requirement. It is important to understand what that minimum requirement is and it is somewhere between 16 and 18 hours per pilot per month. There is an outlier there on C-130s, which is about 23 hours. And what that does is keeps them current in their current capabilities. It does not guarantee that they will be proficient or they will be the A-team to defeat an enemy in a near-peer fight.

If you are looking for a number, the last time I saw us that good was when the pilots were getting about 25 hours per month. And that would make them current and proficient.

What it really means in the end is that we are sending a lot of these—we will send, in a major combat operation, we will send a lot of pilots that don't have the adequate training. And there is historical example after historical example when flight time required is not produced and the results in an air fight, both air to ground and air to air.

The CHAIRMAN. Okay, so you said 16 to 18 hours per month is the minimum.

General WALTERS. That is the minimum. And what we are getting now is between 12 and 14. So that is the minimum to maintain your currency. But currency is not nirvana for a war fight.

Proficient pilots is what we are aimed for. And that is across every capability we have. There are certain tasks that you have to do them once, but doing them multiple reps and sets is what makes a world-class military organization.

The CHAIRMAN. You might say it is kind of like getting ready to play in the Super Bowl but not being able to practice.

General WALTERS. That is a very good analogy, sir.

The CHAIRMAN. Mr. Cooper.

Mr. COOPER. Thank you, Mr. Chairman, and I thank each of the vice chiefs for their excellent testimony. Each one of you has revealed critical gaps in our readiness, and I hope all the members of this committee are listening closely.

I want to focus particularly on what this committee and this Congress can do to solve some of these problems. Because I think you gentlemen have highlighted the problems very well.

General Allyn said it in plain English, and let me foot-stomp his testimony. I am going to quote here, "The most important actions you can take, steps that will have both positive and lasting impact will be to immediately repeal the 2011 Budget Control Act and ensure sufficient funding to train, man, and equip fiscal year 2017 NDAA authorized force."

Let me emphasize again, immediately repeal the 2011 Budget Control Act. The general goes on to say "unless this is done, additional top-line and OCO funding," something that Congress has traditionally done, "though nice in the short term, will prove unsustainable, rendering all your hard work for naught." Could there be a clearer, more dire warning to this committee?

So I thank you, General, for offering that clear-cut, plain-English testimony. It is not your problem, it is our problem. Another of the witnesses emphasized that we have had nine consecutive continuing resolutions. How can anyone, even the ablest manager in the world, manage that? Nine consecutive ones.

So my main message today is for the newer members of our committee, who perhaps haven't learned all the bad habits that some of the older members of the committee have unfortunately gotten used to. This is the chance for a new day, a new approach, to have a stronger military that is more ready for all the threats we face.

And this is one of the most bipartisan committees in Congress, it should be, these are issues we should all be able to agree on. Managing our affairs responsibly. Another way to put this is, the worst enemy we face is ourselves. Our BCA act of 2011 probably poses a greater threat to our military than any foreign adversary, so why do we hurt ourselves? There is no good reason for this.

And General Allyn said it better than I could possibly say it. If you would like to elaborate, General Allyn, you are welcome to, but again, the problem is ours, it is not yours. We should solve this sequestration problem.

General ALLYN. Well, I know, to reinforce your point. I was in the operational force when the BCA took effect and caused us to cancel seven combat training center rotations. And that is a generation of leaders that can never get that experience back and we

cannot go back there, we cannot do that to ourselves again. And it is for most of our services, we are still climbing out of that abyss of the BCA impact, when it was impacted mid-year.

So my belief is, if we can do away with BCA, if we can fund our services to the authorized end strength in this budget year and the next, you will do more good for the sustained readiness build of our services than you can begin to imagine.

Mr. COOPER. Thank you, General. Let me end by just saying, all members of this committee should be asking leadership and our respective parties why we can't repeal BCA now as the general suggests. You will get all sorts of excuses, all sorts of half reasons, but none of them are good enough. Now is the time to take action on this, and any delay is inexcusable.

Thank you, Mr. Chairman.

The CHAIRMAN. At the end of last week's hearing there were three members who sat through the hearing, but still did not get a chance to ask questions. So I promised them they could go first today and then we will go back to regular order as we usually do.

First up is the gentleman from Mississippi, Mr. Kelly.

Mr. KELLY. Thank you, Mr. Chairman.

And first of all, I just want to say to the panel, you guys are warriors and heroes, not only in our eyes, but in the eyes of all Americans. And I know that truly you put the interest of this Nation first, and I thank you for that.

That being said, I read your testimony, and I noticed you used a lot of military jargon. And I understand all the Army stuff, I don't necessarily—I know most of the Marine stuff, but I don't understand the air and naval.

So today, you know, a lot of people are watching this on Fox News and other places so I ask, as much as you can, speak like a civilian or speak like someone who is not in the military because acronyms have a tendency of them not understanding what it is.

First, I want to start with the Air, something I am familiar with General Wilson, or as much as I should. But I have Columbus Air Force Base, the home of the 14th Flying Training Wing, and it is located in my district. And these men and women train on all of our platforms in the Air Force, or train right there in Columbus, Mississippi, flies more sorties than anywhere else in the world, to my knowledge, right out of Columbus Air Force Base.

But I am concerned when they leave Columbus Air Force Base. If they aren't getting the hours on the platform, not the trainer, but on the actual platform that they are going to be trying to fly, the adequate numbers of hours to be ready and to make sure that we save lives, because that is what it comes down to when they are not trained in saving lives, because an unprepared pilot can't do the job.

Tell me, how many hours we are getting today and how that impacts your readiness to do our mission on the battlefield?

General WILSON. Congressman Kelly, thanks for the question and, as you know, as we talked before, I commanded the 14th Flying Training Wing at Columbus. It is the busiest Air Force Base in our Air Force, flies more sorties than anybody. It does a fantastic job producing pilots for our Air Force. And today's pilots, we are not flying enough. We are not flying enough hours or sorties.

So as I mentioned earlier, today's combat fighter pilots are flying less hours and less sorties than they were flying in the late 1970s. They are averaging about 10 sorties a month and about 14 hours a month and that is too few for the missions that we need to be able to fly.

Today it is, we talk about high-spectrum or high-end readiness, we need to be prepared to fight any adversary. Our adversaries around the globe have been looking at how we fight and they are training and modernizing their forces. They have sufficient capability of fighter airplanes like ours and are also developing what we call fifth-generation stealth-type fighters, both in China and Russia.

They, again, they have watched our fighting and they are preparing their forces. We need to be prepared to fight any adversary. We are extremely good today and are ready to fight in the Middle East, against violent extremists. But we need to be ready to fight against any adversary.

So, we need more flying hours, but to get more flying hours we need more people. Today, our Air Force we bottomed out at 311,000 people. Thanks to your help we are up to 317 at the end of this past fiscal year. We want to grow to 321,000 people here in the next coming year.

If we do that, that brings us to about 90 percent manning. But as anybody knows, 90 percent manning, effective manning, because you always have people that are deployed or can't do the job or are in training, leaves you about 75 percent effective manning.

We think we need to grow the Air Force——

Mr. KELLY. Let me stop because I have another question that I really want to get to. Because when we talk about BCTs [brigade combat teams] or we talk about MEUs [Marine expeditionary units] or we talk about fighter wings, or the number of ships, or carrier groups, those things are important.

And I think a lot of America doesn't understand, we are rotating the fresh equipment out of units to make combat-ready units and that, by doing that, it decreases the readiness of the future deployments. And so, have you guys in writing, I would ask that each of you let me know how many BCTs you need and what the personnel end strength that the Army needs.

And not only that, but the number of new M-1 systems so that we are not rotating equipment. They used to wouldn't let us hotbed in the Army. When I was in there General Allyn, they wanted a crew on his tank because you get a familiarity with that piece of equipment. And we are having to hotbed everything that we have in the military today.

A hotbed means, a crew uses another crew's equipment because it is newer and up to date. So do you guys have an idea what end strength you think you need to be ready to meet today's missions? And also, the number of equipment both in modernization and just replacing the old stuff.

And if you could address that, and I will start with you, General Walters.

General WALTERS. Yes, sir.

The number of Marines we need in my written statement, I said I think we need a minimum of 194 [thousand]. But it is also inter-

esting and you have hit on the point, so why are we not racking the equipment, why are we moving equipment around?

Because for 8 or 10 years, we had modernization programs in place to replace our old equipment but they are delivering over a 30-year timeframe. And we are buying them at a minimum level. The example for us, the prime example, is we have a 40-year-old amphibious vehicle and we are putting a survivable upgrade on it, on a third of them, because we won't deliver the other ones, the new ones yet.

JLTV, I have all kinds of needs for light tactical vehicles, they have been around for 20 years, where we are buying the Joint Light Tactical Vehicle at a very shallow rate. It will take us 20 years to get there.

And probably the poster child for us is the light armored vehicle—that is 34 years old, and because of the fiscal stress we have been under, we never even thought about replacing it. So we have an obsolescence program on there. It is not the best use of our money, and the Marines deserve new equipment for the threat.

Mr. KELLY. Chairman, I thank you, but just to mention, OCO does not allow them to modernize like top-line funding, and I yield back, Mr. Chairman.

The CHAIRMAN. Yes. And if others of you would like to respond in writing to Mr. Kelly's question that is great. We have got to stay reasonably on time, as Mr. Cooper said. We have got lots of folks on this committee.

Mr. Carbajal.

[The information referred to can be found in the Appendix on page 106.]

Mr. CARBAJAL. Thank you, Chairman Thornberry.

And thank you to all our witnesses and in particular, thank you for your service to our country. As a former Marine, I am very honored to be able to be part of this committee and to address you today.

It is quite clear, from your testimonies today and from our previous hearings, that our military faces incredibly diverse threats. Some of which are well prepared for and some of which remain to be a work in progress.

There is no question we must continue to maintain a strong military force and Congress must do its part to provide the necessary resources to ensure readiness. However, as all of you will probably agree, sequestration is not the answer.

It will neither balance our budgets, nor improve our military readiness. Many, if not all of you, have indicated that the number-one risk to readiness is sequestration. I believe the question we must ask ourselves is what are we trying to protect as we continue to impose arbitrary cuts to our country's education and health systems and not take steps to protect our environment.

I believe we will be left with a hollow Nation, with nothing more for the most superior Armed Forces to protect. I believe in order to develop an effective strategy, we must decide what our desired end state is for each of the threats and priorities our military leaders identify.

And then look at what resources are needed to meet these desired goals. Better oversight and accountability systems must be

put in place to ensure not only an effective, but an efficient military.

I believe it is a disservice to the American people for Congress to be funding cost overruns. To this end, my question to all of you is what steps has each service taken in order to increase oversight and accountability to its various programs and operations in order to eliminate wasteful spending.

Can you provide us with some examples of savings, savings your service has identified? And I say this, because it's no surprise to you that on occasion, there are many articles in the media that identify this wasteful spending,

And yet we have so many priorities that we are being asked to consider. I would like to hear from each one of you, if possible.

General ALLYN. Thank you, Congressman. And thank you for your service, *semper fidelis*. We love the United States Marine Corps, too, even in the United States Army, so we appreciate your service.

I would first highlight the fact that you spoke of two significant challenges. First of all, the threats that we face in this uncertain environment that we operate and the savings that we must continue to be pursuing as good stewards of the resources that you, the Congress, provide to us.

On the first piece, the other significant challenge to us in addition to sequestration is continuing resolutions. Continuing resolutions deny us the opportunity to implement new programs, like the ability to upgrade our opposing force capability at our combat training centers as we identify capabilities our adversaries are using, that we are likely to face.

We must train against those. We must upgrade our capability to do that, we cannot do that under continuing resolution conditions. So we would also appreciate the passage of an appropriations bill obviously in the very near future.

In terms of savings, a couple of critical initiatives the United States Army is underway with to continue to be good stewards of the resources that you provide. We have a strategic portfolio review process that looks at all of our acquisition programs across all domains and identifies the highest priority programs and ensures that we are moving money away from those that are less important and funding those that we must deliver as fast as possible, to ensure that we can equip our forces in the future.

The second thing is to ensure we achieve audit ability, which is a critical requirement that we must deliver to the Nation. And that is well underway, we have made progress year over year.

We estimate we will probably still have work to do at the end of this year to get to full audit ability. But we are progressing as rapidly as we can.

One of the programs that allows us to do that is our GFEB [General Fund Enterprise Business System] software program that enables us to see ourselves accurately across all our funding systems. We need to upgrade that program, based on the findings of prior-year audits.

We cannot do that in a continuing resolution environment. So again, a couple of points to your very accurate questions.

The CHAIRMAN. And I hope the gentlemen will work with us on our acquisition reform efforts of the last 2 years and they will continue.

Mr. Khanna.

Mr. KHANNA. Thank you, Mr. Chairman. Thank you for your graciousness in allowing junior members a chance to participate and your offering of this opportunity.

Thank you to the witnesses for your extraordinary service to our Nation and the extraordinary sacrifices you have each made.

My question concerns cybersecurity. One of the things that I often hear from companies is the burden that they actually have to have cybersecurity. And you would never would expect our companies to have private defense forces against conventional attacks.

But a large portion of their budgets are going to defend against cyber attacks. And we know that there are about 240,000 cybersecurity jobs that are unfilled because folks don't have the skills. Many people in the private sector will say the best folks are those who have been trained either by the military or the government.

And there are just not enough of them for them to come into the private sector. So my question for all the branches, and I don't know, whichever one is most relevant, is, what can we in Congress do to help you better prepare in training folks equipped in cybersecurity?

What do you need for the military, and what do you think you can do to help get more trained folks who can then go into the private sector?

General ALLYN. I will start, Congressman, and thank you for that question.

Incredibly important area for all of us operating in the cyber domain each and every day. I would offer that one very important authorization that you could provide to us is increased flexibility in cyber program funding.

The adversary is moving at light speed in their attacks of our infrastructure and our capabilities. And we have to be able to develop counters and offensive capabilities at the speed of light. And our current systems are not designed that way.

So authorizing some funding flexibility specifically for our cyber programs, so that we can be more agile, responsive, and capable, both on offense and defense, would be critical.

Admiral MORAN. Sir, I would add to those very important points that flexibility is also needed in how we manage the people that we have. Your point about the number of vacancies in the civilian market for cyber professionals and the draw that it takes off of the services, who do produce incredible talented folks in this world, is there.

And so we are looking at every opportunity to allow for our sailors who are trained and experienced in this to have opportunities to work inside and outside the Navy. And the flexibility to draw between the Active and the Reserve and the civilian and back.

I think that is how the Nation can solve this problem, because we can't keep throwing money at people to try to keep them in. That said, our training and the way we are organized has increased significantly. All of the services have invested a substantial amount of money in the last several years. But cyber is a warfare

area that is also, like everything else we do, subject to readiness cuts. And those cuts come in the form of being about to upgrade from Windows X to Windows Y. And we have to take some cuts to those readiness accounts as well as all the other ones as we see a reduced top line.

Thanks for the question.

General WILSON. I will just add this, we have shifted in the Air Force from a communication-centered focus to a cyberspace operations focus. And I would highlight exactly what was mentioned earlier; there are some acquisition reforms, I think, that can help us to keep up with that speed that the industry is going with.

As well as, we have made great progress on our civilian hiring and how we can do that. But I think there is more work to be done there. We are in a competition for talent; we need to bring in the best and brightest.

We have fantastic training programs, and then we can help our Nation moving forward. But there is still work to be done in how we bring on civilians into our workforce.

General WALTERS. Sir, I am with all my colleagues here. We need to recruit, train, and maintain that workforce. And we are short, and I think we are short globally. I think this is a problem not just that it is replicated in the military, but it is really for the entire country.

Mr. KHANNA. Thank you. Thank you, Mr. Chairman.

The CHAIRMAN. Thank you. Mr. Wilson.

Mr. WILSON OF SOUTH CAROLINA. Thank you, Chairman Thornberry. And thank you for your work, Mr. Chairman, with President Trump.

Secretary Mattis, this issue has been raised and what a great team we have here with the vice chiefs, too, to work on the issue of readiness.

It is very important to me. I am very grateful to be the chairman of the Readiness Subcommittee. It gives me the opportunity to work with Ranking Member Madeleine Bordallo. And we will be there to back you up in every way we can; to promote our troops, protect our country, protect military families.

With that in mind, General Wilson, I appreciate that in South Carolina, we have Joint Base Charleston, Shaw Air Force Base, McEntire Joint National Guard Base, and North Auxiliary Field. Comments of concern have been raised by prior persons serving in the military.

Secretary Deborah Lee James stated, quote, "Less than half of our combat force is ready for a high end fight," end of quote. And also, Air Force Chief of Staff David Goldfein stated, "Combat operations and reductions in our total force, coupled with budgetary instability and lower than planned funding levels have resulted in the smallest, oldest, and least ready forces across the full spectrum of operations in our history."

These are deeply troubling comments for American families. Two questions: General, have these shortfalls affected the Air Force's ability to generate the necessary forces to meet mission requirements? And secondly, do these shortages still exist and, if so, how does the Air Force plan to address them?

General WILSON. Thank you, Congressman Wilson. The short answer is yes, these still exist. Today we find ourselves less than 50 percent ready across our Air Force and we have pockets that are below that.

In particular, some of the bases that you have mentioned in South Carolina—between Shaw and McEntire and others, we find, again, not flying enough sorties with enough hours. We know how to fix this, and we did this in the late 1970s as we dug out from there. We can do this again.

It starts with, as we have talked before, stable, predictable funding that we can—in our case, we believe we need to increase our manpower to 350,000 airmen. That mans 100 percent of the positions on our books today, and we do that over the next 5 to 7 years.

While we bring on the manpower, then we can make sure we have got all the training behind that for this manpower. Then we can increase our weapons systems support so all our supports and our depots and our parts and our supply. On top of that, then we can increase our flying hours and then we can bring down our OPSTEMPO and we can get our readiness back.

But we also, at the same time, have to modernize the force. And we are doing so. As we are bringing on F-35s, as we are bringing on KC-46, as we are bringing on B-21s, we need to keep those programs on track.

Today we have 75 less F-35s than we planned to have in 2012. We have 95 less MQ-9s than we planned because of sequestration. So today's modernization has a readiness impact in the future. So today's modernization is tomorrow's readiness.

We need to focus on that going forward in the future. With those steps, we can dig out of our readiness challenges we have today and bring it up to full-spectrum readiness of about 80 percent.

Mr. WILSON OF SOUTH CAROLINA. Thank you for your commitment. And General Walters, I am really grateful, South Carolina has a Marine Corps Air Station in Beaufort, along with Parris Island. We are very grateful for such extraordinary facilities, giving young people extraordinary opportunity to serve our country and achieve to their highest ability.

But I am concerned that it was reported last year that we have had only 141 flyable tactical aircraft that, additionally, we have had accidents that have just been unprecedented. And from that situation of danger to our pilots and communities, what is the current state of Marine aviation?

Is there a correlation between aviation mishaps and the ability of a ready basic aircraft and how do you plan to address this?

General WALTERS. Sir, we are addressing the ready basic aircraft issue. I have been doing it for 2 years. With the help of Congress, we have turned. We need to get up to 589 ready basic aircraft; that just gives us enough to train with. We are not there yet, we are at 439, so we are 100 and some short.

But we are 50 more than we were 2 years ago, so that seems positive. Your last question about correlation to accidents and ready basic aircraft—there is no direct correlation because I have reviewed every action we have had in the last 2 years, those pilots have had the adequate time.

But I think it is an overall systemic shortfall in readiness in our aviation units.

Mr. WILSON OF SOUTH CAROLINA. Thank you all for your service, we appreciate it so much. Thank you.

The CHAIRMAN. Ms. Bordallo.

Ms. BORDALLO. Thank you Mr. Chairman and thank you to all the witnesses for being here today.

I appreciate the opportunity to continue to highlight the very serious challenges that we face. We have brought ourselves to this point largely by fighting two decade-long wars, paid for with a credit card, while deferring investments in our people, our equipment, and our facilities.

This has been further strained by self-imposed fiscal constraints and our national security apparatus will continue to be hampered, without an end to across-the-board sequestration. In the meantime, we must continue to focus our resources on individual operations and maintenance accounts.

I have a question for you, Admiral Moran, as we discussed yesterday in my office, there are significant readiness needs facing the Navy, and our ship maintenance infrastructure has limited capacity.

Now the recent unfunded priorities list indicates as much with ship depot maintenance at the top. However, that conflicts with the administration that has indicated a desire to focus instead on construction.

In an ideal world, the Navy would be able to modernize while shrinking the readiness deficit, but the reality is that we do not have a blank check. My question to you, Admiral, is, how does the Navy intend to prioritize these competing needs?

In other words, with additional resources, will it focus on immediate action such as addressing deferred ship maintenance or aviation depot throughout, or instead on building new vessels?

Admiral MORAN. Ma'am, thank you for the question. If additional resources become available in fiscal year 2017 we absolutely will put that money toward ship depot maintenance, aircraft maintenance, cybersecurity, the things, the readiness shortfalls we have talked about here this morning.

As I stated in my opening, if we don't take care of the foundation of the Navy, which is the 275 ships we have today, it doesn't do us much good to continue to buy new. So we—it is somewhat of a false choice to choose between the future size of the Navy and the current condition of the Navy. But to your point, the resources are where they are and if additional funds become available in 2017 we will absolutely put them in the readiness accounts.

Ms. BORDALLO. Thank you. Thank you very much, Admiral.

And my second question is open for any of the witnesses. The Department of Defense has been asking for the authority to have another round of BRAC [base realignment and closure], for years, citing that manpower and excess infrastructure are a drain on operations and maintenance budgets and ultimately affecting readiness.

So do you believe the Department needs another BRAC? And if a new round were authorized how would you reallocate the resources that are currently being used to maintain excess capacity?

Any one of you? I just need one answer.

[Laughter.]

General WILSON. Congresswoman Bordallo. We have—

Ms. BORDALLO. My time is running out so, please—

General WILSON [continuing]. Excess capacity in the Air Force. We think we have about 25 percent excess capacity at our bases. We think that we are, in today's budget environment, it makes sense to invest wisely so BRAC would help us to do smart investment of the bases preparing for the future.

And we could take the money we are spending on the excess infrastructure and put that back into solving some of our fiscal problems.

Ms. BORDALLO. So, in other words, you are supporting BRAC closures?

General WILSON. Yes ma'am.

Ms. BORDALLO. Anybody else have a different—yes?

General ALLYN. I will pile on. We are in a similar situation, depending on what size force you describe for 490,000 soldier Active Force, which is about 25,000 more than we are today. We have 21 percent excess facilities to need. We save year over year, annually, \$1 billion from the 2005 BRAC that took place. So it is real money, that we really need to reinvest into the deferred maintenance and infrastructure backlog that we have.

For the Army it is \$11 billion in deferred infrastructure sustainment, restoration, and modernization.

Ms. BORDALLO. Thank you.

General ALLYN. So it would be very helpful.

General WILSON. I would say for the Air Force that number is \$25 billion of money that we need to put back into our bases of deferred maintenance.

Ms. BORDALLO. And General?

General WALTERS. Ma'am, we think we are about right, but we will participate in any BRAC to see if there is any savings with our partners.

Ms. BORDALLO. Thank you very much, and I submit the rest of my time to the Chairman.

The CHAIRMAN. Chairman appreciates it. Thank you ma'am.

Gentleman from Colorado, Mr. Coffman.

Mr. COFFMAN. Thank you Mr. Chairman, and all of you have an aviation component to your branch of service.

There is a growing concern about a pilot shortage in the United States military, and I think that is also reflected in the fact that we have a growing demand in civil aviation for pilots.

And so, what is your approach if you could all reflect on your approaches in terms of how to deal with that issue, whether it is a retention bonus structure, an enhancement of some sort?

But also the fact is that we have got experienced pilots in the United States military leaving for jobs in civilian airlines who would probably still like to affiliate in some way. And so then the question is, should we shift then, some of those flying billets from the Active Duty to the Guard and Reserve?

So maybe we will start with the United States Army and work our way down or up maybe.

[Laughter.]

Okay. You have got helicopter pilots.

General ALLYN. We are not having a problem retaining our helicopter pilots, so I will defer to the other services.

Mr. COFFMAN. Okay, fantastic. Okay.

Admiral MORAN. We would like some of your helicopter pilots.

[Laughter.]

Sir, it is a great question and it is one we do focus on a lot as we manage our force. I would tell you that the thing that keeps pilots in our services, I speak for the Navy, but I am sure General Wilson would agree because we have both flown, is to fly. If you don't have the adequate resources of airplanes and money to resource flying hours, that dissatisfaction will show up with people walking out the door. We are all facing that shortage today.

Not enough airplanes, we are not fixing them fast enough, we don't have the spare parts that we need. And young men and women are not flying nearly enough to keep the job satisfaction at a level that they would like.

Mr. COFFMAN. So Admiral, your view is it is a morale issue based on the ability to give flying hours?

Admiral MORAN. It absolutely is a morale issue.

Mr. COFFMAN. General Wilson.

General WILSON. Today, we find ourselves producing about 1,200 pilots a year, and if I add the Navy and the Marines together, we produce about 2,000 pilots a year. The airlines are hiring 4,000 pilots a year. All right, so I think this is bigger than just a service problem, I think this is a national problem that we have to be able to get at and work with industry on how we do that.

Certainly, the Guard and Reserves are a big part of this. Certainly, the whole team on how we go forward on this. We can recruit lots of people to fly, we don't have a problem there. Retaining them is a problem. Today and for the last 5 years, our retention of pilots has declined. We need to keep about 65 percent after the 10-year point. Today, we are doing less than half of that.

So I would say it is a quality of life and quality of service. So as the admiral said, we are doing everything we can to improve, to reduce the additional duties, all the other burdens on our pilots and let them do their job and to build that culture that most military pilots, the warfighting culture ethos that you see in the squadrons, that will keep people in the service. But there is certainly a cultural aspect of this.

But there is also, to improve the quality of life and reduce administrative burdens on our crews and let them fly.

Mr. COFFMAN. Sure.

General WILSON. But this is a national problem, it is not just a service problem.

Mr. COFFMAN. The Guard and Reserve have pilots who have served on Active Duty that transfer into the Guard and Reserve and that are flying in civilian airlines. And so are you looking at all at restructuring?

General WILSON. Absolutely. That is all part of how we are looking at it and we are engaging with all the corporate airline leaders on how do we do this together and how do we do this smarter. But right now we have a math problem that doesn't close because we produce 2,000 and the Nation needs about 4,000.

Mr. COFFMAN. General Walters.

General WALTERS. Sir, fortuitous, we have a meeting with the Commandant tomorrow to discuss this particular issue and all the levers you just described; the Reserves, how we keep them once we get them. And I will add one more, is how long do we sign them up for when we sign them up.

All those will be part of it, and we might end up having to pay a bonus for those select people to keep them around and to make it so we can get them a draw. In the end, it is their willingness to serve and their value that they put on service that I think will be the biggest magnet. I don't think we can dump enough money on them to keep them there just with the money.

Mr. COFFMAN. Thank you.

Mr. Chairman, I yield back.

The CHAIRMAN. Mr. Courtney.

Mr. COURTNEY. Thank you, Mr. Chairman.

And thank you to all the witnesses for your excellent testimony this morning.

Admiral Moran, I would like to again, go back to your very frank advice that we really need to focus on maintenance and repair in terms of just getting to meet the operational demand, shipbuilding, which I think is going to be an exciting year with the FSA [Force Structure Assessment] that came out.

But having said that, that is a long game, and we are not going to see the fruits of that for 2017 action, for years to come. So your, you know, description about the fact that there is this backlog building up of work that is not getting performed, I was wondering if you could be a little more descriptive about, you know, how that looks, in terms of whether it is carriers or surface ships or submarines. You know, what is happening out there in terms of that backlog that is building up?

Admiral MORAN. Yes, sir, Congressman. Thanks for the question.

First of all, in 2017 alone, if we do not see some kind of supplemental come for this fiscal year without a CR [continuing resolution], within a month we are going to have to shut down air wings, we are going to have to defer maintenance on several availabilities for our surface ships and submarine maintenance facilities. We are just flat out out of money to be able to do that.

I think everyone here knows that in 2017, the Navy took a \$5 billion cut in its top line. And if that comes to fruition, that is \$2 billion of readiness cuts we had to take, which is immediately applied to the things like ship avails. So we have had cases in the past here, in the recent past, where we have had to decertify a submarine from being able to dive because we cannot get it into nuclear maintenance that is needed.

The crew on the USS *Albany*, for example, went over 48 months before getting out of the yard because of several delays, at least four different delays, because of other priorities. And those other priorities start with our SSBN force, which is our nuclear strategic deterrence submarine force, carriers, and then we get to SSNs [attack submarines].

So if any of those get disrupted, a carrier goes long in one of our public yards, then we are going to bump things like our SSNs. So that crew of *Albany*, the CO [commanding officer] took over at the start of that maintenance avail, gave up command before the end

of that maintenance avail. And the crew, the entire crew, did not deploy. To someone's point here earlier, you cannot buy back that experience.

Mr. COURTNEY. Right.

Admiral MORAN. And so those are the kinds of real impacts we are seeing in the yards because of the shortage of resources and the continuing raiding of the readiness accounts in order to keep the rest of the Navy whole.

Mr. COURTNEY. Thank you. I mean, that story about the *Albany* really resonates I think because in this room, you know, we have heard from Admiral Harris at PACOM [Pacific Command], General Scaparrotti at EUCOM [European Command], that they need more submarines, I mean now, and to the extent that you know, we are not going to build a *Virginia* class now because it takes 5 years. But if we can get, you know, the *Albany* and the *Boise* and those others out and, you know, underway then, you know, we can respond to those combatant commanders.

So let's assume, you know, we fully fund, you know, we deal with the resource issue and we also deal with the funding certainty issue which your testimony pointed out as another, you know, big problem. I mean, there is still I think are issues though, in terms of allocation of work and in the shipyards. I mean, in your testimony, you said for a variety of reasons, our shipyards are struggling to get our ships through maintenance periods on time.

So again, let's assume, you know, that we take care of some of the resource questions. I mean, how can we, you know, deal with that? I mean, can we call on the private yards to help take on some of the work? And can Congress help with that process?

Admiral MORAN. Yes, sir. You are absolutely correct. Obviously, we try to maximize our public yard workload, but we try to smooth out those god-awful sand charts that we are used to staring at to try to smooth out the work across those yards.

And where we need that extra capacity, we do use the private yards to do it. *Montpelier* is a good example today that is in EB [Electric Boat] too, for example. So we will continue to look at those. The problem is, the very late determination that we would no longer have the capacity in the public yards. When we turn to the private yards at that moment, it becomes a very expensive proposition.

So the degree to which we can take advantage of your support and working with our private yards to try to drive down the costs, it makes it easier for us to have to surge to those private yards when public yards become, the capacity or the work exceeds the capacity because of delays that are already there, if that makes sense.

Mr. COURTNEY. Thank you.

I think Admiral Kevin McCoy described it as one shipyard, that should be our philosophy.

Admiral MORAN. Yes, sir.

Mr. COURTNEY. Thank you.

Yield back.

The CHAIRMAN. Thank you. The story about the *Albany* is amazing.

Mr. Franks.

Mr. FRANKS. Well, thank you, Mr. Chairman. And thank all of the witnesses for your noble service to America. Mr. Chairman, I have what is probably somewhat of a redundant question, but it seems important to emphasize.

On March 22nd last year, Chairman of the Joint Chiefs of Staff General Joseph Dunford said, quote, "Absorbing significant cuts of the last 5 years has resulted in our under-investing in critical capabilities, and unless we reverse sequestration, we will be unable to execute the current defense strategy," close quote.

So, General Walters, and I might ask a follow-up by General Allyn, if you would maybe keep the responses fairly concise. In your professional military opinion, is your service able to execute our current defense strategy with our current force levels?

General WALTERS. Sir, if your definition of the strategy is to do two things simultaneously, the answer is no.

General ALLYN. And for the United States Army, as General Milley has testified before this committee and as have I in prior years, only at high risk.

Mr. FRANKS. So, maybe to give you a real-world example, when you have talked about two scenarios. In your professional military opinion, at its current force level, would your service, and I will begin with [inaudible] again first, General Walters, would your service be capable of executing a Korea scenario while maintaining your current commitments around the world?

General WALTERS. Sir, we would be able to execute a Korea scenario, but we would have to draw from other commitments in the world to make it on the timeline required.

General ALLYN. And likewise, for the United States Army, we would both draw down committed forces elsewhere as well as have forces arriving late to need based on current readiness levels, as we talked about at the outset with the chairman.

Mr. FRANKS. I will broaden it to the committee, whoever would like to take a shot at it. With your current planned end-strength levels, can you meet the current force planning construct outlined in the 2014 Quadrennial Defense Review to, quote, "defeat a regional adversary and deny another aggressor in another region?"

And maybe, General or Admiral Moran, maybe take a shot at it.

Admiral MORAN. Well, my answer would be very consistent with my brothers here. And that is, we will be able to employ our force, but at great risk to being there late and at higher casualties than we would expect.

General WILSON. And I would second that.

Mr. FRANKS. No disagreement on the panel?

So final question, Mr. Chairman, and I address it to all of you.

In your professional military opinions, are your respective services too small given current and emerging mission requirements?

General ALLYN. Yes, we are for the current defense planning guidance. Now, the Secretary of Defense has directed a new strategic review that could result in a revised force construct requirement, but we will undergo that process and provide our recommendations on what the size of the Army must be. But today, it is too small.

Admiral MORAN. I agree with General Allyn for the Navy as well.

General WILSON. Same for the Air Force.

General WALTERS. Same for the Marine Corps, sir.

Mr. FRANKS. Well, Mr. Chairman, they say that sometimes, you know, there is nothing more encouraging to hear than to hear your own convictions fall from another's lips. But in this case, I think I am more alarmed by that than anything else, and yet, it does seem to be a consistent circumstance. And I just hope the committee and the country and the new administration is considering the responses of these gentlemen carefully.

And with that, I would yield back. Thank you all.

The CHAIRMAN. Thank you.

Ms. Tsongas.

Ms. TSONGAS. Thank you, Mr. Chairman.

And thank you all for being here today as we have this very important discussion. Last week—and this has been in the context of a number of hearings that we have had to sort of discuss this global situation that we have to deal with and deal with appropriately and successfully. And last week this committee had the opportunity to hear from General Petraeus and John McLaughlin about some of the pressing threats and challenges facing our Nation. And in their testimony, I was struck by the focus they both placed on the shifting global balance of power and the need for the United States to maintain its technological superiority in relation to both Russia and China.

And just last week, The New York Times reported on Chinese advances in computer science and engineering in relation to declining U.S. investments in these areas.

Historically, our Nation's national labs and our FFRDCs [federally funded research and development centers] have led the way in advancing new technology for our Nation's military. But today, private firms, many located overseas, are increasingly taking the lead, making investments in those technologies that have both consumer and military applications. So they see a dual benefit to it. And robotics and artificial intelligence [AI] are just two examples of where the private sector has been increasingly successful.

So as we are talking today about the many challenges we face, and much of the emphasis is on end strength and the need for more people, it seems to me that as we are thinking about how we maintain our competitive advantage, that it is not just about end strength, but it is about how we use cutting-edge technologies to leverage fiscally thoughtful investments, whether they be in people or other areas.

And so, to that end, General Wilson, and this certainly comes as I am a Representative from Massachusetts, we have great labs and FFRDCs in our State that have done such great work, what is the Air Force doing to modernize its labs and defense-focused FFRDCs to make sure that we are able to keep the Air Force at the cutting edge of technology? And how much of a priority is it for you, given the many competing demands for investment?

General WILSON. Congresswoman, we have investments going into MIT [Massachusetts Institute of Technology] Lincoln Labs to help improve the infrastructure there. I have been out to visit them, and I can tell you they are absolutely world-class. And there are some technologies that they are working on, you mentioned AI and robotics. They are also working on directed energy, some

things that can truly change the game. So that is an important focus of our Air Force.

As we modernize our force, we need to modernize smartly across the specific areas. And as you mentioned, industry in many areas is leading us in that way. So we are collaborating with industry, whether we work with folks like DARPA [Defense Advanced Research Projects Agency], our Air Force Research Lab, with the Strategic Capabilities Office, Dr. Roper and his team, all the FFRDCs and all the national labs that also are reaching out with all the private sector to make sure that we can stay up to date with them.

I look at this as, almost like the FFRD, the FSRM, Facilities Restoration Modernization accounts, we have to invest so much today in our technology that is going to get us to tomorrow. Right now, our R&D [research and development] is about 2 percent. We need to keep it at that or even grow that because otherwise, our adversaries will outpace us.

But we have a great collaboration with all the national labs, they are truly national treasures. We need to leverage those to help us stay ahead of all of our adversaries going forward.

Ms. TSONGAS. Well, and those national treasures don't remain national treasures without the significant investment that needs to be made in them, and I know given the constrained resources, I just want to be reassured that we aren't shortsighted and that we, in making those tough choices, we are not putting what we need to because technology has a long time line and yet it also can move very quickly, and we don't want to be behind the eight ball because we have just been too shortsighted in some of our near-term investments.

And so to that end, also General Allyn, I wanted to ask you how you are prioritizing your investments. Again, Massachusetts has a great facility that really focuses on the soldier and how to best protect the soldier, to make them as ready as possible, but again, fully equipped and thinking thoughtfully what kind of investments the Army is making.

General ALLYN. Well, thank you, Congresswoman, and I am sorry you are missing the championship parade in Boston this morning.

Ms. TSONGAS. I am very sorry myself.

General ALLYN. That is a great sacrifice on your part, but we likewise fully leverage not only Natick Labs, as you have highlighted, but also MIT Lincoln Labs. I have been there in the last 2 months on several programs that are critical to us to be able to continue to dominate in the multidomain environment of the future. And we will continue to leverage both the great soldier enhancement initiatives that come from Natick as well as the technology that is critical.

You highlighted the importance of technology to readiness. It is the right balance of capability and capacity that makes a ready force. And all of us are trying to ensure that we maintain that balance as we move forward, ma'am.

Ms. TSONGAS. Thank you.

I yield back.

The CHAIRMAN. Mrs. Hartzler.

Mrs. HARTZLER. Thank you, Mr. Chairman.

Thank you gentlemen for being here today for this very important hearing and pretty sobering testimony, but I think we all need to hear it.

And General Wilson I appreciate your highlighting the recent mission that went from Whiteman over to Libya, and we are so proud of them. And your testimony, it just goes right along with the question I wanted to ask, where you talked about how you feel like that our training makes us capable for Middle Eastern conflict but we need to have peer adversary training.

And I know with your 35 years in the Air Force as a pilot and flying B-1 and your participation in Red Flag over the years, I wanted to ask you about the capability of that training exercise to meet our near-peer competitors that we are facing today.

And so is the Air Force training with a fight tonight mentality against a high-end threat like China and Russia? And what I mean by this is, are you confident in the Air Force's ability to accurately train against a near-peer adversary? Can you give our young men and women a glimpse of what night one in Kaliningrad would look like? Can you prepare them and put their families' mind at ease, such that a flare-up in the South China Seas would look routine?

General WILSON. Congressman Hartzler, we are putting significant investment into our ranges and infrastructure, places like Nellis Air Force Base. The Red Flag that I started flying with in the 1980s, we have changed it considerably in how we incorporate space and cyber into it, but the range infrastructure, the threats, the way we can replicate threats, hasn't improved to a significant degree, until recently; we have changed that.

We have put significant investment into the range infrastructure to give us the right threat emitters, the right ability to give us a Kaliningrad-like environment with high-end threats and allow our crews to be able to train in that. We are not there yet, though, we have just started that investment to improve our ranges and infrastructure. But that will be critical going forward.

It is also critical that we invest in our what we call live, virtual, constructive training because in the future, I am not going to have, a, the flying hours or the money to be able to train an F-35 pilot and give them all the training outdoors in the live environment. I am going to have to do some of that in the virtual or constructive environment.

So we are putting money into that live, virtual, constructive so that our folks can be at home station and we can replicate a Red Flag-like environment or a high-end training scenario to give them the most realistic training possible. But it is important that we continue that investment of our ranges, our infrastructure, and our live, virtual, constructive environments going forwards.

Mrs. HARTZLER. So, if 100 was the number for feeling very, very confident that you would be able to go up against, that the training was adequate for fifth gen, zero, what would be the number where you feel like that we would be able to go up against fifth gen adversary?

General WILSON. Well, again, if you go to one of our Red Flag exercises, it is absolutely fantastic training. The problem is, not enough people get to go to it and we don't do those frequently

enough. So the average crew, I would say we would call ourselves 50 percent ready against a high-end threat. In certain parts of our Air Force, that number is considerably below that.

So again, it takes all those resources we talked about. I have got to have the people, the training, the weapon systems support, the training ranges, the flying hours, and I have got to be in time to do that, to build up to high-end readiness. So today, we are not near where we need to be, I would say 50 percent.

Mrs. HARTZLER. All right. Look forward to working with you to help get that up to 100 so everyone can meet the threats that we are facing.

Thank you. I yield back.

The CHAIRMAN. Mr. Garamendi.

Mr. GARAMENDI. Thank you, Mr. Chairman.

And gentlemen, thank you so much for your service. I don't know how many of these hearings we have gone to and it always comes down to more money and then somebody mentions sequestration and it seems to me that with the unified control of Congress and the administration that, if sequestration is a problem, then perhaps it could be solved quickly. Nonetheless, the money problem is likely to persist.

A couple of questions, just to follow up on the question about the airmen and the pilots that are necessary. I understand that the Air Force is now moving to provide or to allow pilots that are not officers to fly certain missions. General Wilson, if you could comment on that briefly, and is it going to help solve this problem?

General WILSON. Congressman, we think so. Let me tell you our efforts today. We have got the initial group of enlisted aviators into our RQ-4 Global Hawk program. We think over the next few years, we will be able to grow it so that a majority of the pilots in the Global Hawk will be enlisted.

We will learn from that, we will see if we can take that example and do that in other areas like our MQ-9s and others, but that is to be determined. We think that will help alleviate some of the shortages right now, but it is in the first stages. We have got the second class in training, we only have a handful of enlisted operators going through that training program right now.

Mr. GARAMENDI. I think the question really comes to this committee, and whether this committee and the Senate, whether we are going to force this faster, or not. It seems to me we ought to let this go in a way that is wise. Not necessarily slow, but at least thoughtfully done.

The next question, if I might, General Wilson, has to do with, I guess we want to have everything, and we want to have everything now. A long discussion has ensued about the aircraft and about the personnel. Not much discussion about the ground based strategic deterrent and the multibillions that will be spent on that.

The question arises in my mind, and I hope in this committee's mind about the necessity of rebuilding the entire nuclear mission; all of the bombs, all of the delivery systems, from naval to Air Force. General, if you could comment on this issue. Can we afford all of it?

General WILSON. Congressman, I think we can. Look at the investment across the nuclear enterprise going forward on all the

modernization programs. It will peak at about 5.5 percent of our defense budget, so it is a matter of priorities.

Foundationally, what our Nation provides, the nuclear deterrent provides our Nation is incalculable. It has provided 70-plus years of no conflict between major powers. As I look across the globe and the landscape that you talk about changing, as we see what our adversaries are doing across their force, we have no option other than to modernize.

Our forces were built, many of them, in the 1960s. Modernized early in the 1970s, that we are still maintaining today. There comes a time where we have to modernize, and we have reached that.

We have delayed the modernization of these programs for far too long. Specifically the ground based strategic deterrent. If we look at today's Minuteman IIIs which are put in the ground, actually have Minuteman I parts on them, designed in the 1950s, put in place in the early 1960s, Minuteman IIIs in the 1970s.

We are now having 50-year life cycles of these missiles. The strategic stability that they afford our Nation, is well worth the cost and investment going forward. We welcome that discussion about the importance of a nuclear triad.

Mr. GARAMENDI. I certainly think we need to have that discussion. We need to have that discussion in detail, and it is not just about the ICBMs [intercontinental ballistic missiles] that are in the ground, whether they need to be renewed.

It is about the naval, and the new submarines, and the new bombs that go with the new missiles, as well as the new F-21 long range bomber and the cruise missiles. And the question for all of us is a trillion dollar question over the next 25 years or so. With the bow wave occurring within the next 5 to 7 years.

And the Army needs more men and women, as does the Marine Corps, and you need more fighter pilots, and more aircraft, and the Navy needs new submarines. And another 55 ships on top of what you already have.

And, where is the money? And the President is suggesting a tax cut of more than a trillion dollars, so we better have a big credit card. I think that is called the deficit.

Thank you, Mr. Chairman. I yield back.

The CHAIRMAN. Mr. Scott.

Mr. SCOTT. Thank you, Mr. Chairman.

General Walters, Marine Corps Logistics [Command] based in Albany, Georgia, got hit pretty hard with those storms. I will be there this coming Friday; that is not technically my district, but I live about 30 minutes away from that base, and it is certainly important to us.

Could you give me any estimate when that base will be back to fully operational status, if that has not already occurred? And, how and why is this particular base critical to the Marine Corps?

General WALTERS. Congressman, thanks for the question, and we are tracking that daily. I know what damage has been done to the infrastructure. We think by the end of this week we will have all of that collapsed building and warehouses off, so we can take a look at it and analyze what damage was done to the equipment that was inside of it, so I can understand the full cost.

In our ongoing efforts in 2017, we have identified at least the first cost of that. Your second question is when are we going to get it back full-up round. I mean, they are operating at a minimal capacity now on areas that weren't affected, but it is definitely critical.

That is where our tanks, our amphibious vehicles, our light armor vehicles, and our artillery go through depot. I don't have an estimate for you now when that is going to start up again; we do other components; we only have two depots, one on the east coast, one on the west coast in Barstow.

It is good that we have two, because if it is going to be a long period of time, we are going to have to make a decision on what we do out at Barstow and what we don't do at Barstow to take the critical things and move them out there. My preference would be to rapidly get Albany back up running at 100 percent.

Mr. SCOTT. Would you agree that from a deployment standpoint it is important that we be able to deploy from both the east coast and the west coast.

General WALTERS. Absolutely, sir. We are a global Nation.

Mr. SCOTT. Yes, sir.

General Wilson, David Goldfein in February, I will quote him, "25 years of continuous combat operations and reductions to our total force, coupled with budget instability and lower than planned funding levels, have resulted in one of the smallest, oldest, and least ready forces across the full spectrum of our operations and our history."

Your testimony was pretty close to that. General Welsh, who I think is just a wonderful leader, prior to 1992 the Air Force procured an average of 200 fighter aircraft per year. In the two and a half decades since, curtailed modernization has resulted in the procurement of less than an average of 25 fighters yearly. In short, the technology and capability gaps between America and our adversaries are closing dangerously fast.

General Wilson, it is clear that there are not enough fighter aircraft to sustain readiness, through both pilot flight hours and flying aircraft, yet the Air Force is contemplating reducing the workforce to include the depots. Can you explain how that squares up?

General WILSON. Yes, I don't believe we are planning on reducing depots; depots are critical to going forward in the future. Instead—General Welsh, Chief 20, I will also agree, is a remarkable airman.

Mr. SCOTT. Yes, sir.

General WILSON. A real visionary about what we need to do with our force. Chief 21, as you have talked about, outlined a problem we have at hand. We used to procure about 200 fighter airplanes a year; today, we are producing less than 20. That is why 21 of our 39 fleets of airplane are older than 27 years old.

To maintain those 27-year-old airplanes takes a lot of work. It takes heroic efforts by lots of maintainers and, of course, it takes our depots. We have to actually get more out of our depots because each time we bring in a new airplane or bring in an old airplane, today, they are finding things they have never found before.

Whether it be a F-16, a B-1, or C-5, they are finding things that they have never seen. So these are, they are real artisans on how

they fix these airplanes. And our depots will be critical to success going forward.

Mr. SCOTT. One last question. I represent Robins Air Force Base and a lot of those men and women work at Robins. And as you said they are very skilled and talented and without them our planes wouldn't be able to fly today. When can we expect guidance issued down to the base level on the workforce?

General WILSON. We hope that the guidance will come out this week of what is exempted and categories, to allow our workforce to continue. As you know, we are still just digging out of the sequestration and the effects that that had, the furlough of our civilians.

Our civilian workforce is critical, whether it be maintaining our planes, sustaining them, operations across our Air Force. Any reductions of that skilled workforce and 96 percent of our civilians work outside of Washington, DC; they work in our depots and our flight lines. And so we have to be able to sustain those and grow our civilian workforce.

Mr. SCOTT. Thank you, gentleman. Thank you for your service.

The CHAIRMAN. Mr. O'Rourke.

Mr. O'ROURKE. Thank you, Mr. Chairman. And thank you to each of the vice chiefs for your service, your leadership, and your testimony today. And I also really appreciate the guidance that you have given to Congress so far, in repealing the Budget Control Act; ending this threat of sequestration; having budgets that are funded, and predictable, and consistent, instead of having continuing resolutions; and pointing out the real value in a base realignment and closure process, to be able to direct and focus resources where they are going to be most effective for our service members in our missions.

And so on each of those, I would like to be part of working with my colleagues from both sides of the aisle, to get these things done. I think you made a very good case for why we need to do it, why we need to do it now.

For General Allyn, the 3 of 58 brigade combat teams that are ready to fight tonight. I think one, it says something about our form of government that we would say that publicly, in a meeting like this, and advertise our state of preparedness or lack of preparedness to the rest of the world. But I understand, we say these kind of things to make sure that we are making fully informed decisions. And I hope that your comments spur us to take the necessary actions to reverse this trend and make sure that we are where we need to be.

I am guessing that whatever analogous body to HASC [House Armed Services Committee] that exists in Russia, is not talking about these preparedness levels in Russia in a public way. But generally speaking, could you tell us how we compare, if you can in a setting like this one? Are they at 3 of 58?

General ALLYN. I have got to be honest with you, Congressman. I don't have access to their unit status reporting. I do get ours every month; and so I have a fingertip feel for where we stand. The United States Army and obviously on behalf of the Congress, it is our responsibility to deliver the best readiness that we

can at the funding levels that we have. And every commander in the field is getting after that, as you know, from Fort Bliss, Texas.

I will offer, it is not all doom and gloom, you know. One of the biggest impacts for us, in terms of elevating our readiness above what it is today, is our personnel shortages. It is the first thing we are doing with the increased authorization that you have given us in the NDAA this year, is to fill the holes in our current formations so that they can be manned at a level to deploy, ready to fight; despite some of the medically nondeployable numbers that we have in our force. So we are absolutely committed to getting after that as our top priority.

Mr. O'ROURKE. Let me ask you another question. What do you need above what was authorized in fiscal year 2017 NDAA to meet the gaps that you highlighted today? What is a dollar amount that this committee should know about?

General ALLYN. Well, that work is going to happen next week. We got some initial guidance mid-week this week from the Secretary of Defense on how to approach this. As you know, from the memo being published publicly, the first priority is that which can deliver readiness immediately in 2017 and 2018.

Then it is achieving a better balanced force; i.e., fill in the holes in our current formation. And then it is building the joint force that we need for the future. And we are aggressively working with OSD [Office of the Secretary of Defense] staff to finalize exactly what that figure will look like. And we will be getting that to you as quickly as we can.

Mr. O'ROURKE. Last question, and you may not have enough time to answer, and if not, we will take it for the record. But the tempo of the last 16 years of combat in Afghanistan and Iraq have really taken a toll, certainly on our service members, on their units, on their families.

And I am really interested on where we are in moving to the Army Sustainable Readiness Model to replace the Army Force Generation model that probably was appropriate for some of our needs at the time, but long term, I think, is compromising readiness and unit cohesion.

I know you only have 15 seconds left. If you want to answer for the record, I would be happy to take that.

General ALLYN. You are absolutely correct. It is a top priority. Army Forces Command is running a pilot now with units across the total force using this new model. The goal is to be able to sustain readiness of our forces across time regardless of their deployment status. And the goal is two-thirds of our force ready to deploy at any moment in time. And we are absolutely getting after that.

Mr. O'ROURKE. Thank you.

The CHAIRMAN. Mr. Byrne.

Mr. BYRNE. Thank you, Mr. Chairman. And gentlemen, thank you for your service to our country and your time with us today. Admiral Moran, the preponderance of our current 274-ship Navy was constituted as a result of the Reagan era 600-ship Navy.

These ships were built throughout the 1980s and 1990s. Many of them have reached, or are beyond, their original service life expectancy. In your best military judgment, are we building, and are we capable of building, given our shipyard capacity, enough ships to

not only maintain this already hazardly low 274-ship Navy in the battle force but to also increase it to the 355 ships that is called for in the latest Force Structure Assessment?

Admiral MORAN. Congressman, thanks for the question. You are absolutely right that for the last couple decades, we have been living off the fat, if you will, of that Reagan era buildup. But it is coming home to roost now. Back then, we used to build up to five DDGs [guided missile destroyers] a year.

Today, we are fortunate to get two to three a year. So, when you look at the math, it doesn't add up over time as that Reagan era buildup starts to decommission because they have reached the end of their life. And we are not building at a rate to replace them. We have programmed in 2017 and 2018, as we are beginning that program look now, to arrest the decline in our total numbers.

It is why we have come down since 9/11 from 316 ships to 275 today. We just have not been replenishing them at the same rate as they have been going out. So, we have taken a hard look at whether there is industrial capacity to not only arrest the decline but to start to climb back out of it.

And there is industrial capacity to do it. We have vendors and subvendors though that are in short supply that we have to begin to have that conversation with.

So, to General Allyn's point, once we get past this year and the immediate readiness needs, we are going to take a hard look along with the OSD to determine what the strategy calls for and the size and shape and function of the force, the joint force in the future. We are prepared and I think we can go to a higher ramp earlier than is currently planned, but the resourcing clearly is not there.

Mr. BYRNE. What effect will this low level of ships have on our combatant commands to safeguard and secure our economic shipping lanes, execute current missions, and answer the call should a contingent operation arise?

Admiral MORAN. Yes, sir. Today, we satisfy about 40 percent of the combatant commander requests for naval forces, 40 percent. And that is why the size of the Navy we have today is too small. It is also why that small Navy is being driven at a high OPTEMPO, a higher OPTEMPO year after year.

And, that higher OPTEMPO is driving up maintenance requirements, delays in shipyards, and our ability to get that force back at sea. So our ability to satisfy growing combatant commander requirements is not going to be satisfying to anyone in the near future unless we have a larger Navy.

Mr. BYRNE. Can you expand upon why the Navy is unique compared to the other services with regards to why the Navy should invest current readiness funds into shipbuilding and the impact that that has on the future readiness of the Navy?

Admiral MORAN. Yes, sir. Clearly, it takes a long time to build a capital ship, or any ship of the line. So, when we invest money in current year dollars or near year dollars it takes several years for that capability to deliver. So we are unique from that standpoint.

The number of years it takes to deliver an aircraft carrier or a ballistic submarine or just a high-end destroyer is well beyond the

FYDP [Future Years Defense Program] in many cases. So it has an impact over long-term readiness if we don't invest now.

Mr. BYRNE. Let me just say in closing, I was honored to be able to go to the RIMPAC [Rim of the Pacific] exercise in Hawaii this past summer. And not only to see our Navy at work but to see other navies at work. Because, there are 27, I think, other nations that were participating with us. And I was struck by the esprit de corps of the sailors that I was with.

I was struck by their commitment to the mission. And I was struck by the fact that they are doing a lot more with a lot less. But I worry that there is a time coming when even the great sailors that we have got cannot continue to do more with whatever the dwindling number of resources that we are providing to them.

And, I was struck by that quote that General Wilson gave from General MacArthur. That hit me very hard. I hope that we never, ever get to the point where we are there again. Where we literally have to say it is too late. I don't think it is too late. But, the clock is ticking and it is ticking on all of us.

And, I hope that we will work together to rebuild all of our Armed Forces, and I appreciate what each of you do. And, I yield back, Mr. Chairman.

The CHAIRMAN. Ms. Rosen.

Ms. ROSEN. Thank you, Mr. Chairman. And, I want to thank all of you for being here today and your thoughtful and certainly enlightening testimony and for your service to our Nation. You know, I represent a district in Nevada about a dozen miles from Nellis Air Force Base, home to the U.S. Air Force Warfare Center, the largest advanced combat training mission in the world.

And, our primary mission includes testing of the Nation's most advanced aircraft and weapons systems, tactical air training, advanced training on the Nevada Test and Training Range. The Nevada Test and Training Range is the largest air and ground space available for peacetime military operations. And it looks very much like the Middle East. So in the summertime, we are not so lucky, happy about that, but it is good for the military. And even though we are a small State, we have the sixth most Active Duty Air Force personnel in the country.

And one of out every 300 Nevadans is Active Duty Air Force. So it is very important in our community. We have touched on a lot of issues today, but your testimony really seems to have put into place and emphasized the importance of passing a budget, so that we can plan on your side and on the private side.

So I would like to ask about uniform versus contractor. Are there responsibilities that contractors are doing now because you don't have the money in your budgets and, conversely, what are service members doing that contractors used to do because we don't have the funds on that side?

General WILSON. Congresswoman, we have got contractors involved in all aspects of our organization. So today, for example, at Laughlin Air Force Base, one of our pilot training bases, all—it is contract maintenance. They are doing all of the flight-line maintenance.

So we have contracted that out and our balancing of modernization, capacity, and readiness, we didn't have the funds and that is

how parts of that—blue suit—used to be done by blue suit maintenance, now being done by contractors.

That example would permeate across every unit in every part of our Air Force. It is contractors are involved in some aspects of how we do operations. Is it too much or too little? I guess I would say that that there, it is going to depend. There are areas that we think should be more and, in our case Air Force blue suit maintenance or blue suit operations.

But we are having to rely on contractors because we don't have the people that we once had to be able to do that.

Ms. ROSEN. So what resources do you need for training to increase the people pipeline because that really, we have maintenance, we have equipment, but without the people and the training to do it. So what resources do you need to improve the people on both ends?

General WILSON. Well, we have the infrastructure to be able to access and train the right people. We need the authorizations for the people and the funding that goes with it to be able to do that.

Ms. ROSEN. Thank you. I yield back my time.

The CHAIRMAN. Mr. Wittman.

Mr. WITTMAN. Thank you, Mr. Chairman. Gentlemen, thank you so much for joining us today, and thanks again for your service.

Admiral Moran, I would like to begin with you and ask you to elaborate on the backlog of maintenance that we are seeing within the Navy. And I am going to go right to our aircraft carriers. As you know, the CNO has said he wants to stay on 7-month deployment schedules, there have been delays of CVNs [aircraft carriers] getting to the yard.

When that happens, it also has an impact on maintenance availabilities and, therefore, deployment schedules, training schedules, and now we are seeing that reverberate down to our SSN, our attack submarines, because all of this work on our nuclear ships, as you know, has to be done at our public shipyards.

Give me your perspective in several ways. First of all, we are now seeing the impact on SSNs, with the USS *Boise* now being tied up at the dock, one of our active attack submarines tied up at the dock for 2 years before maintenance will begin.

And, again, that takes a while before she gets back to the fleet, and another five getting ready to be tied up at the dock, awaiting maintenance. Again, for that 2-year period before the first work gets done.

You have that; you have carrier gaps now in the Persian Gulf. You are seeing that start to back up with carriers going to the yards and then, not just maintenance availability backups but then, that affects training schedules.

I want to ask you this. Are you going to change deployment schedules? Lengthen them from 7 months? Will training times, pre-deployment workups, will they get shortened? How are you going to deal with this to make sure that all these ships get to the yard, get maintained, get back to the fleet? If we are going to get to 355 ships, we have got to do all possible to maintain the ships that we have.

Admiral MORAN. Congressman, thanks for your question. It is a very complex answer. I will try to keep it simple.

Mr. WITTMAN. Okay. Okay.

Admiral MORAN. When we hit sequestration and furlough back in 2013, we saw several of our civilian sailors in our yards leave who were eligible for retirement, eligible to move on just because they were tired of dealing with this kind of uncertainty. In the years since then, when we have been able to hire back, we have hired back in numbers that are fairly substantial, but they are young, they are inexperienced.

And so today, in our public shipyards, roughly 50 percent of our civilian workforce there has less than 5 years experience. We are talking operating or maintaining nuclear-capable ships. That is not necessarily a good place to be. What happens with something like that is take [USS *George H.W.*] *Bush* for example. *Bush* just came out late, 141 days from its availability—141 days which delayed its ability to get on deployment to relieve the *Eisenhower*.

CNO has maintained and will try to maintain to the best of our ability the 7-month deployments and take risk by gapping in certain parts of the globe, in order to get *Ike* back here to get her started on her upkeep. *Bush* was late for a lot of reasons. One was the junior nature of the workforce. We had upwards of 70 percent of rework on *Bush* throughout that 13-month maintenance period.

So until the workforce gains that experience, we are going to continue to see rework issues. There are training issues involved, but we are starting to see some nice turnaround in the public yards along those lines.

But again, until we see that workforce mature, performance in the yards continues to improve. And then the timelines that we put our ships in maintenance begin to shrink back to what is planned and can be executed. We are going to continue to see these problems.

So when a carrier gets delayed, to your point, when a carrier gets delayed like *Bush* for 141 days, that bumps an SSN. So that workforce cannot go over and work on a *Boise*, so the *Boise* is delayed and delayed. Now she is 2 years delayed. I used the example earlier of *Albany* that got delayed for 48 months before it came out.

An entire crew lost proficiency and experience on that sub. We have the same concerns about *Boise*, we have the same concerns about *Montpelier* which we put in a public yard just to try to off-load some of this workload.

So there are huge impacts to the place we are at on the maintenance front. In the public yards, we are trying to spread it with the private as best we can but it is just going to take time and resources, as has been highlighted here.

Mr. WITTMAN. Very quickly, what can you do to mitigate this backlog? Because the backlog is only going to grow. You can't gain back time, you can't gain back workforce experience to be able to accelerate that. I mean, you can hire up in the yards but you are still hiring new people so the proficiency there is not going to be there. How do you gain that back?

Admiral MORAN. Yes sir. I can answer that for the record. Quickly, though, it is by sticking to the deployment lengths that we have so we don't wear out the equipment so much that when it gets back in the yards, it has got to go for longer periods of time.

[The information referred to can be found in the Appendix on page 105.]

Mr. WITTMAN. Very good. Thank you. Mr. Chairman, I yield back.

The CHAIRMAN. Mr. Larsen.

Mr. LARSEN. Thanks, Mr. Chairman. Admiral Moran, you mentioned in your testimony about, discussed aviation readiness. I note that you are a CO [commanding officer] VP [Patrol Squadron] 46 and then we moved on to P-8s. They are relatively new, the Growlers are Super Hornet derivatives, they are fairly new. So what class of aviation in the Navy is really a focus for readiness and maintenance?

Admiral MORAN. The focus right now is clearly with our partners in Marine Corps on our legacy Hornet fleet and the beginning bow wave of Super Hornets who we are flying harder and more often than we would have because of the issues in the legacy fleet. So, it is a two-fer. The strike fighter community is definitely the focus of our energy right now.

Mr. LARSEN. General Walters, do you want to comment on that?

General WALTERS. Sir, it is our focus also, our biggest challenge, and I would throw in our 53Ks, our old heavy-lift helicopters, and our V-22s by capacity, those are all the three priorities for us, sir.

Mr. LARSEN. Those were the focuses, great.

Admiral Moran, back to you on an issue regarding the Growlers and the OBOGS [on-board oxygen generation systems] problem. Can you, so I understand that physiological event [PE] teams is investigating a variety of solutions for the OBOGS issue. Two things: Can you update us on that, where they are? And second, do you envision that if there is a supplemental that comes to us that money to further research or try to get to a solution faster will be part of that?

Admiral MORAN. Yes, sir. First of all, on the Growler issue, that was a maintenance procedural issue. We have fixed that, we do not have a problem with the Growlers today. The physiological events you are referring to are both—and they are different. One for the legacy Hornet fleet and one the Super Hornet fleet, and I am happy to pass you where we are with that.

We have not found the smoking gun to that. It is very complicated and we have taken a Hornet and torn it down to parade rest. In other words, we have taken it all the way down to as if we were going to build it from scratch to try to piece it together to see where these events are coming from so that we can more accurately put an engineering solution to it.

In the meantime, we have put a lot of mitigators out there in terms of how we have provided our pilots watches and what we call slam sticks so we can verify and validate the events actually occurred and then give us a better indication of what we do about it. And we have also put decompression chambers, portable decompression chambers, on our deployed carriers so that if we do have an event, we don't take any added risk for our pilots going through any kind of physiological event.

Mr. LARSEN. Yes, I don't want to get into the details or contradict you too much but my understanding is the PE rate on Growlers is

going down, but we did see an upturn again last year so maybe we can send some folks over, we can get that—

Admiral MORAN. Yes sir, absolutely.

Mr. LARSEN [continuing]. Inconsistency settled? That would be great since Naval Air Station Whidbey Island, home to the Growlers there. I will just pick one of the services rather than have all of you discuss it, maybe the Air Force on building and rebuilding the force.

This is really more on the building the force and the area of cybersecurity because we are really not rebuilding forces there, we are trying to build up the cadre. So how do you envision that balance between say an Active Duty, Reserve, or National Guard, and use of private sector? In the personnel side.

General WILSON. Sure, we would use all of it. I will use an example, recently we had a guardsman in California who went to cyber training for the Air Force. He also happened to be CEO [chief executive officer] of a cyber company. So we need to be able to tailor the continuum of training for the people and we see across our both Guard and Reserves, they have got some really skilled people in the cyber area, that they don't need to do a cookie-cutter type training for somebody newly accessing in.

Mr. LARSEN. So do you have the flexibility in personnel systems in the Air Force to be able to do that? Or do you feel stuck at all?

General WILSON. We are working through, I wouldn't say it is perfect, but we are working through that to be able to provide that flexibility across, and specifically cybersecurity. And as General Allyn talked about today, as we look at what is happening in the world of software and how fast it is moving, we can't do acquisition speed to be able to do current acquisition speed.

So we are going to have to change that whole paradigm, as well as the people and how we train them. So actually next month, we are having a big huddle at the Corona session to talk through just this subject on this continuation of training and how we develop our corps across all the Active, Guard, and Reserve.

Mr. LARSEN. And for all the services, I will follow up with all of you on that question about flexibility of personnel systems to address that.

Thanks.

Thanks, Mr. Chairman.

The CHAIRMAN. That is a good question.

Dr. DesJarlais.

Dr. DESJARLAIS. I thank the chairman.

I thank all of you for being here today and answering our questions.

This can be for whoever wants to take it, but how have readiness shortfalls impacted operations with allies? In other words, related to joint exercise, defense cooperation agreements, and what our allies expect from our military on an international stage?

General ALLYN. Well, I will start, and give these guys a break. You have been wearing out the Navy and the Air Force here the last few minutes.

But we have had incredible opportunities to assure our allies, strengthen the capability and capacity of our allies, as well as increase the deterrent posture both in Europe and in the Pacific,

with exercise series that have been invaluable at a time when the capacity of each of these nations to be both a stable force in their own countries, as well as contribute to regional solutions is part of how we deal with the extant threats that are there with a smaller military here in the United States.

And I will just highlight some of the work underway in Eastern Europe to strengthen that deterrent posture. We recently deployed 3rd Brigade, 4th Infantry Division that will start our heel-to-toe rotations of a constant armor brigade combat team presence in Eastern Europe. They began off-loading ships just about 30 days ago. Within 14 days, they were on gunnery ranges and beginning to work with their Polish counterparts in the Zagan region of Poland.

And today, elements of that unit are already forward in Estonia as a clear signature of our commitment to our NATO [North Atlantic Treaty Organization] alliance and our ability to strengthen the capacity of the Baltic nations to deal with the instability that has been created with the aggression that Russia has exercised here in the last several years.

So, those are critical commitments. We could not have done it without the increased ERI [European Reassurance Initiative] funding that you provided us. And that funding is going to be critical in 2018 as well.

Dr. DESJARLAIS. Okay.

I guess, I mean, that is good to hear, but are there any rumblings in terms of our allies having concerns? What we are hearing today about our lack of readiness, does that give them trepidation as far as our ability to step up and honor our agreements?

General ALLYN. Well, I will first say for the Army, whenever we send a unit anywhere to meet a mission, they are trained and ready when they arrive. So, no, they are not seeing this. What we are trying to describe to you is the readiness impact for the forces on the bench that should be ready to go for the unforeseen contingency.

Dr. DESJARLAIS. Okay. Let's talk a little bit about what may be the most important topic of today, and that is our military men and women, and what impact this readiness shortfall has on the personnel emotionally. I think anyone who signs up for any of the branches of the military understand the sacrifices they are going to make. They know they are going to miss Christmases, birthdays, anniversaries, T-ball games, basketball games, things like that. I mean, I don't think they go in there not knowing that.

But with the high OPSTEMPO of our smaller force, what is the impact on our staff sergeants and the morale of our troops?

General ALLYN. Well, I will start, then I will pass to my Marine brother, because it is something that we absolutely keep a pulse-check on each and every day. The sergeant major of the Army travels across the Army every week to assess exactly the morale of our force and our ability to sustain this incredible All-Volunteer Force that we have built in the United States.

And it is very inspiring to see the sustained commitment that our soldiers have. And I will just give you one current example. You know, as part of this building toward the authorized strength that you have given us in this year's NDAA, we have to build about, you know, 28,000 additional soldiers in the total force.

You know, within the first month of that effort, we had 2,500 soldiers raise their hand and say, hey, I want to continue to serve. You know, because the best way we deliver this capability at best dollar is to retain those that have already been trained and keep them in the force. And they are stepping up and saying, hey, I want to stay on this team.

And we find that to be very encouraging.

General WALTERS. Sir, I just have a little bit of time. We are watching exactly what you are asking about. We see no issue with reenlistments after the first term of enlistment. I think we will make our goal. But for the first time in this year, our challenge from getting that staff sergeant to reenlist right now, we are going to have to reenlist 87 percent of our remaining cohort to make our goal. And that might be challenging. So we are looking at incentives to that. That might be a leading indicator of the phenomenon you were describing, is that we are starting to feel a little stressed.

Dr. DESJARLAIS. I know I speak for all of us here, our gratitude and appreciation for all you do and all our service men and women do is immense, and we greatly appreciate it. So thank you.

The CHAIRMAN. Mrs. Murphy.

Mrs. MURPHY. Gentlemen, thank you for being here and for your testimony today.

I have two questions that I will ask in succession, and then leave you with the remainder of my allotted time to answer it.

Admiral Moran, in January of 2016, the Navy put out a document called "A Design for Maintaining Maritime Superiority" which intends to guide the Navy's behavior in investments going forward. And it is built around four lines of effort: warfighting, learning faster, strengthening the Navy team, and building partnerships.

And within the warfighting line of effort, the document notes the importance of developing concepts and capabilities to provide a range of options to national leaders. And then testing and refining those concepts through focused wargaming, modeling, and simulations.

Also within the learning faster line of effort, there is a stated desire to expand the use of learning-centered technologies, simulation, and online gaming.

I represent Florida's Seventh District, which includes Naval Support Activity Orlando, which is home to a variety of government, private sector, and academic organizations, many of which specialize in high-tech R&D, modeling, and simulation, and are known collectively as Team Orlando.

Could you describe what investments the Navy will be making in support of modeling and simulation in the fiscal year 2018 budget request, as well as in future budget requests?

And to the other services, could you describe how modeling and simulation fits into your service training and readiness strategy?

And then how do we ensure that the military services are acquiring state-of-the-art training equipment before that equipment becomes anything less than state of the art? Put another way, is there a mismatch between the time it takes to acquire this modeling and simulation technology, and the rapid pace at which the technology is evolving?

And then my second line of questioning involves a recent article I read about an Associated Press examination into the effectiveness of DOD's [Department of Defense's] program run out of CENTCOM [Central Command] to counter the online propaganda of ISIL [Islamic State of Iraq and the Levant].

The investigation raised questions about whether DOD employees and contractors are sufficiently skilled in Arabic and adequately knowledgeable about Islam to serve as an effective counterweight to online recruiters seeking to radicalize young men and women throughout the Arab and Muslim world.

Given the importance of this effort, what can we do to improve this?

Admiral MORAN. Congresswoman, I will start. I will tackle the training piece here. I think I can speak for most everybody at the table. All of us are incredibly interested in this technology. Team Orlando is Army team, Navy team, Disney team, and the colleges and universities of that area. And they are terrific. I have been down there probably a half-dozen times in the last 2 years.

The technology maturation that is finally coming to meet its promise is there. And we are purposefully investing in that technology to try to take traditional paths of training out of schoolhouses, brick and mortar, and bring it to what we would call to the fleet, to the pier, to the flight line where sailors are working on their gear, learning new gear, and being able to turn around training faster on their schedule, when they learn at the right time.

And that is what the technology really brings is an ability for this generation to learn on equipment that they are used to seeing as they are growing up. So, we are the ones that have to mature our own, our training programs, so that is actively going on.

You heard earlier General Wilson talk about live, virtual, constructive. That is also a key component because all of our weapons systems, the ranges in which we operate this gear now is extended well beyond the reach of some of our ranges out there. So this technology can bring that in closer.

So to give others time to talk, I would leave it with you there. Everybody, especially on our side, we are actively investing because it is going to save us money in the long haul. Thank you.

General ALLYN. And I will just pile on, given that he highlighted the teamwork we have there in Orlando. Modeling and simulation, live, virtual, constructive, is basically the practice time that we spend hitting the sled before we ever take the field, right, for collective training. It is absolutely critical, particularly for our leaders so that they get repetitions before you put the blood, sweat, and tears of our soldiers at risk in a venue that they may not be fully rehearsed in. So it is absolutely critical.

And I will cite one example. We are pursuing an upgrade to the Stryker vehicle, specifically to deal with a capability gap in Eastern Europe. And in stride with fielding that new hardware, the new weapons platform, we are also pursuing a simulation trainer to enable us to get the repetitions on that combat vehicle before we ever roll it to the field.

So it is done in stride. You talked about our ability to keep up with the rapid pace of modernization in modeling and simulation.

Ours is less a problem with the capacity to do it than it is the funding.

Like everything else, we have had to stretch out those program portfolios beyond what any of us are comfortable with, within the funding constraints that we have.

The CHAIRMAN. Time of the gentlelady is expired.

Dr. Abraham.

Dr. ABRAHAM. Thank you, Mr. Chairman.

And thank you gentlemen for being here and for the men and women behind you and all those that wear the uniform, thanks for letting us sleep soundly at night and raising our children and grandchildren in a safe environment.

Mr. Chairman, this committee knows the value of the B-52 bomber fleet. We in Louisiana are fortunate to have Barksdale, Fort Polk, the joint air base at Belle Chasse. The communities are very supportive.

But this B-52 is 60 years old, expected to fly until 2050. And it has both nuclear and conventional missions that it is expected to fly.

The Air Force, General Wilson, is considering a proposal to replace the engines on the B-52s and it is my understanding that if we re-engine these B-52s that it will increase their range by 30 percent, will increase their loitering time by 150 percent.

And Mr. Chairman, I do have some slides that I would ask to be presented in the record. But just for future.

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

The CHAIRMAN. Without objection.

Dr. ABRAHAM. And these major re-engine re-toolings have what I have seen, wonderful cost benefits and increases longevity, lowers maintenance cost. What is your take on this, General Wilson?

And in particular, would you describe the proposal to pay for these engines with the third party and what is your take on that?

General WILSON. Thanks for the question, I am intimately familiar with this proposal. I think it makes great sense in a couple of different areas. Operationally, as you pointed out, it makes great sense in terms of it increases both the range and the loiter capability of the B-52.

From a business case, it seems to make sense. We say today's technology of engines will give you about a 30 percent efficiency than we had on the current TF33 engine. So it is more efficient in terms of it costs less, in terms to fly it.

It costs less in terms of people because its current technology will put an engine on a wing and they won't take it off for 10,000 hours. There is a lot of manpower savings and time savings in keeping those engines updated and upgraded and running on the wing.

So to me, it makes great sense. The question is, how do we pay for it. If we had it in our budget, we would buy it. But we don't have it so we looked at you know, there are creative ways we can do this through third-party financing and teams exploring just that and to see if it makes a business case through a third party to do it.

But ultimately, I would say if we had the money, we would do it.

Dr. ABRAHAM. Does the Air Force support the third party—

General WILSON. I haven't seen the specifics in the third party back on how we will do that. We have a team in the Pentagon who are working that right now, with the third-party finance folks to see how we would bring that forward.

Dr. ABRAHAM. Okay, thank you and one other question for you, General Wilson. Let me switch lanes. I want to get your thoughts on the service life extension of the F-15.

Where is that going, how is it being put out there? Is it going to work?

General WILSON. We don't know. We are going to do some modernization to our fourth generation fighters, we have to, whether it be new radars or new equipment on it. Our F-15s are going to reach a point in the future where structurally, it is going to cost too much to maintain them and we are looking for options to see how do we maintain or what are some other options to ensure we have the capacity of a fourth generation fighter fleet going forward.

Dr. ABRAHAM. Yes, I am just afraid if we don't do something, we have got this critical gap that we have all alluded to this morning. And as we all know, the Active, Guard, Reserve, everybody depends on this F-15 aircraft as a strike fighter. I thank you.

Mr. Chairman, I yield back.

The CHAIRMAN. Ms. Speier.

Ms. SPEIER. Thank you, Mr. Chairman.

Thank you, for your extraordinary service to our country and to each and every one of you. General Petraeus was here last week and 6 months ago, in *The Wall Street Journal*, he penned an op-ed in which he said, there is no crisis in military readiness.

In fact, he said, the current national defense budget of over \$600 billion a year far exceeds the Cold War average of about \$525 billion adjusted for inflation. Assuming no return to sequestration has occurred in 2013, the Pentagon budgets to buy equipment now exceeds \$100 billion a year, a healthy and sustainable level. The so-called procurement holiday of the 1990s and early 2000s is over.

So on the one hand, you are making statements about readiness. I realize that General Petraeus is no longer in service. But he suggests that we have enough money.

What would be your comment to that, General Allyn?

General ALLYN. Thank you, Congresswoman Speier, for the opportunity to answer a great question. And I can only say the facts as they affect the United States Army. Our modernization budget, which is how we build future readiness against the forces we will face in the future, is 50 percent of what it was in 2009.

In fiscal year 2017, it is \$24.8 billion. It was \$45.5 billion in 2009. So what that means is, we have significantly attrited the building of future readiness against the likely threats that we will face.

And in terms of near-term readiness, there is a significant challenge in meeting not only the current operational tempo with training ready forces, but having sufficient forces ready to deploy in the event of an unforeseen contingency. That is what we owe the country.

Ms. SPEIER. So you dispute what General Petraeus says?

General ALLYN. They don't match the facts, as I see them, affecting the United States Army's readiness.

Ms. SPEIER. All right. I think maybe more than one of you referenced the base inventory surplus of some 25 percent which is a mind-boggling number. For each of you, would you tell us what that means in costs we are putting out for surplus spaces?

General WILSON. I will start with part of it. So today, we maintain our facilities at a rate of 1.5 percent of recapitalization. So said in another way, it takes 129 years to recapitalize our bases.

We have a \$25 billion backlog of modernization projects across our bases. We could smartly reduce the infrastructure, target where it would be needed going forward, and be able to invest that money into future facilities.

Today, in terms of MILCON construction at our bases, we only fund a new mission or those that directly support the COCOM, combatant commanders', needs. We have lots of places, whether it be dorms or childcare education centers, gymnasiums that are not where they need to be in terms of facilities. But yet, we maintain those facilities across too many bases. And we think we can reduce some of that. The largest BRAC in the past has reduced infrastructure about 5 percent.

We think it is worth looking at, be able to target the investment to put elsewhere in these challenging budget conditions.

Ms. SPEIER. So I would like to work with you on this. I mean, this is a hot potato for this committee. No one wants to see bases close. But we have a certain pot of money and we have got to use it smartly.

And we are spending more money than China and Russia combined on our military. And I would suggest that there has got to be a smarter way that we spend it. So I would look forward to working with you on that.

A question about women in combat positions. A 3-year study has opened up about 213,000 positions to women in combat if they meet the standards. It appears and we are hearing rumblings that the administration now, through Secretary Mattis and Chairman Dunford, are talking about reviewing, revising, or repealing this policy.

I would like your comments on that. Do you know about any efforts to do that and doesn't that kind of fly in the face of having the ready workforce we need, if you are excluding women who are capable to engage in combat?

General ALLYN. There has been no conversation in the Pentagon about reviewing, revising the commitment that has been made to gender integration. And we are all achieving higher levels of readiness, now that we are opening it up to 100 percent of the population of America to be able to contribute.

Ms. SPEIER. If the rest of you could just respond for the record, thank you.

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

The CHAIRMAN. If the gentlelady from Arizona will permit me, I wanted to give the other witnesses a chance to answer Ms. Speier's first question. And that is, are we spending enough money?

General Allyn compared what we are doing now with what we were doing in 2009. But how would the other three of you respond to her question.

Admiral.

Admiral MORAN. Well, I completely agree with how General Allyn described his answer, which was the facts speak largely towards a Navy that is too small, and that size has caused us to be less ready because we are driving the small force harder than we ever have.

And if that continues, we are eventually going to spiral down where we don't have enough ships to operate in the parts of the world where the Nation expects us to be. So we are on a clear path to not having enough capacity to answer the call, anywhere in the world.

General WILSON. Chairman, I would say the same thing for the Air Force. We are too small for what the Nation requires of our Air Force. We are fully ready and have shown repeatedly that we can fight today's fight against a violent extremist organization.

Against a high-end adversary, we lack the capacity and the numbers that are full-spectrum ready to be able to perform without significant risk against a high-end adversary. So I would disagree with General Petraeus and say that we are ready today.

General WALTERS. And Congresswoman, General Petraeus is one of our best military minds. What I don't know what was in the editorial, I haven't read it, but you threw two numbers out, 525 with constant year dollars, \$600 billion this year in a defense budget.

I don't know what year the Cold War was, but there were a few things that happened during the Cold War; one was that we went to an All-Volunteer Force. You know, so it is true that we spend more money on our enlisted and officers now, than we did in the Cold War.

So I would have to dig through that. So I can't make a comparison. If that is the gross level of comparison, a hundred billion in modernization, you know, we used to modernize at about \$4 billion a year a decade ago.

We just crested the \$1.5 billion mark per year. That is all we spend out of a \$24 billion budget. It is about 7 percent. It ought to be about 50 percent, I don't know any large organization that does not recapitalize its capital infrastructure at less than a 15 percent annum rate.

So there is an apples and apples here, somewhere. But I think the discussion is an apples and oranges right now, ma'am.

The CHAIRMAN. Well, and fair point, we don't know the context. But I just thought everybody ought to have a chance to answer the general question. I appreciate the gentlelady's patience.

Ms. McSally.

Ms. MCSALLY. Thank you, Mr. Chairman.

General Wilson, your testimony in the discussion today about pilot shortage and readiness, has been very important. I remember as a young officer, us making fun of our Soviet counterparts who didn't have the money to get the training hours so that they were practicing their maneuvers on sticks.

Now, it seems like we are in this situation where our guys and gals are not flying what they need in order to stay ready. So we

have heard a lot about that today, but can you compare with what we know about how that compares to Russia and China and what their pilots are getting?

General WILSON. I can't specifically speak on what Russia and China are doing. I would say that today, in our combat air forces, we are flying less hours and sorties than we were at the bottom of the hollow force in the late 1970s. And we need to turn that around.

Ms. MCSALLY. Is it possible to hear back, for the record, what we know of the assessment or from appropriate agencies on the comparison? Because that is obviously of deep concern to us.

General WILSON. We will do that.

[The information referred to can be found in the Appendix on page 105.]

Ms. MCSALLY. Additionally, the fighter pilot shortage we are very aware of, I have good friends that are moving out. There is push/pull factors, as you know, morale and mission focus and the ability to do their job in the military. Plus, the airlines are hiring. We have got the numbers on the record.

Are there creative solutions being discussed, where it is not just a win-lose between us and the airlines, but a win-win to include leaves of absence or graybeard programs or those that—I know many who left for the airlines and they would love to come back for maybe 2 or 3 years and be a part of the mission again, but then, you know, be able to go back. What sort of creative solutions are you discussing? So this isn't just a one, small pie being in a win-lose situation.

General WILSON. Congresswoman, that is exactly what we are looking at. We are looking at any and all those options to make this a win-win. As we mentioned earlier, the airlines are hiring 4,000 a year. We are producing amongst all three of us, about 2,000 a year. So we have got to find creative ways to do it differently.

Whether people can take leave of absences and come back, whether we can seamlessly transition between Active, Guard, Reserve, civilian airlines and be able to do that, we are looking at any and all options.

Ms. MCSALLY. Great, thanks. And similarly, on the maintenance front, we have got 3,500 short maintenance. But while you were downsizing, you pushed thousands of maintenance guys out. Some of them didn't want to leave.

Are we reaching back to them, instead of having to train new people out of basic training, bring back those who left at 6 years, 10 years, 12 years, give them the option to come back in so that we are bringing that experience back.

General WILSON. Yes, ma'am and that is being looked at, also.

Ms. MCSALLY. Great, thank you.

General Allyn, Fort Huachuca is in my district. A lot of discussion today about readiness of the conventional force brigade combat teams which are important. But we also have asymmetrical capabilities, like electronic warfare [EW], intel, others.

Can you talk about our readiness, specifically of EW, say, and some of these other asymmetrical areas that don't get the same amount of attention?

General ALLYN. Well, thank you, ma'am, and they are getting significant amount of attention from us. We recognize the capability gap that we have, particularly in electronic warfare, in cyber, and across the electromagnetic spectrum.

And we have a number of projects underway, both to address the high-technology gaps that exist for the long-term and fielding capabilities that enable us to operate more effectively, both offensively and defensively. As well as operations at the brigade level and below, which is the most pressing current gap we have, tactically.

As you know, the Russians employ this capability in an integrated manner inside very tactical-sized units. We have historically kept that at echelons above division. And so we are looking at how to better integrate this capability to enable us to dominate, if necessary, against near-peer competitors, where we know that we will face a very congested cyberspace environment.

Ms. MCSALLY. Great, thanks.

General Wilson, back to you. In some of the discussions I have had with those that are still Active Duty, the squadron I commanded had 24 aircraft assigned, most of them are down to 18. But we are deploying 12, usually, is the model.

Those that stay behind are having a hard time, you know, doing a two-turn-two, sorry to get so specific, here. But looking at it from my experience, it seems like that may be exacerbating some of the readiness challenges for the small package that is left behind.

Are you looking at plussing up to 24 PAA [primary aircraft authorization] in order to have a better balance to address some of these readiness issues?

General WILSON. We are looking at how we get the right force presentation construct to go forward, what the size of the squadrons are. Generally, the chief of staff has got three big efforts underway.

One is reinvigorating the squadron to bring—that is where the warfighting happens, that is where the culture happens, that is how we build and maintain our Air Force. So across the Air Force, that is one of the main efforts.

The next one is, how do we build joint leaders and teams going forward in the future. And the third one is on multidomain command and control. All three efforts are really important. As one of those, there will be a force sizing construct of what should a squadron look like in the future?

Ms. MCSALLY. Great. And you know, if you need any retired Hog drivers to come back and fly a little bit on the weekends, I am happy to volunteer.

All right, thank you Mr. Chairman. I yield back.

The CHAIRMAN. Oh, we might have to put a stop to that.

Gentleman from Rhode Island.

Mr. LANGEVIN. Thank you, Mr. Chairman.

And I want to thank our witnesses for your testimony today, most especially for your service to our Nation and of course, the men and women under your command for their service, as well.

So to all of our witnesses, over the past year or so, a persistent theme within the Armed Services Committee has been that of military readiness. And certainly, we have discussed many ways by

which to increase support and resources to the Department of Defense.

Yet Congress has not taken any lasting steps to reverse sequestration in order to meet these goals. CNO Richardson stated to this committee last March, in fact, that the ability to do maintenance on our ships was severely affected by sequestration.

It incurred a readiness debt. So I know that this topic has been covered several times already this morning, so I am going to move on to another question. But I would just like to echo my colleagues' comments and note that sequestration really must be repealed. I am certainly looking for ways that we can do that.

So let me move on to another topic, though, important to national security. And this is for all of our witnesses. Ensuring that the U.S. military can operate effectively across all domains, including cyberspace, one of my top priorities; this necessitates training and equipping our service men and women in cyberspace, which can be both costly and time-consuming, understandably.

But once we have trained these operators in cyberspace, how are you ensuring that they continue on this career path within the military? And how is each of your services recruiting and retaining the superior cyber warriors?

General ALLYN. Well, I will start and we will roll down the table here as quickly as we can, Congressman. Thanks for that question.

It has absolutely been a focus for all of our services is how do you ensure you have the flexible retention policies in place to sustain these great professionals once we have them trained-up. I think you know it takes 18 to 24 months to train a fully trained, multidomain cyber warrior. And once we get them trained, we have to be able to sustain their presence in our force to be effective in a future battlefield.

One insight I will offer to you, a vignette from a visit I had with some of our cyber warriors this past year. I asked exactly that question: What were we going to need to do to keep you in the force? And the response of one of our staff sergeants was, "Sir, if I tried to do this on the outside, I would get arrested." And so, the mission that we provide them, the opportunity they have to contribute in this domain to national security is actually very, very attractive for them. But we must continue to watch to ensure that we both continue to access and retain them as we move forward.

Mr. LANGEVIN. Thank you, General.

Admiral MORAN. Yes, I would just add, Congressman, that the beauty of our services is that young men and women join because they want to serve. As long as we provide them that opportunity, whether it is at the high end of things that they wouldn't be allowed to do outside the service, and continue to provide them with the right compensation, we are going to be able to keep those that we need to keep.

But we are also looking at other ways to keep them interested by ensuring that they are having the most modern training, the most modern education and capability training that they can get. Some of that involves allowing them to take time to go work in industries where these new technologies are being advanced and bring them back into the Navy and other services.

And other ways are to be able to laterally bring people from industry and the commercial sector, who also want to serve, an opportunity to laterally move into the services and be able to go in and out. So some of the authorities we have asked for in legislation have been towards this end, the ability to move people freely between what the civilian market does and what we do for service.

Mr. LANGEVIN. And on that point, Admiral, I will just mention that I authored the provision along with support of the chairman, that brought down a lot of those barriers that allowed us to bring in private sector talent for a period of time. And same thing allow our men and women in uniform to also for a period of time be in the private sector to learn best practices and up-to-date skills there.

So, I agree with you on that.

Admiral MORAN. Thank you for that, sir.

Mr. LANGEVIN. Thank you.

General WILSON. If I can make it real quick is to say, you know, we are blessed that we get the best and brightest young people America has to offer to join our services. So we start with good people. We get them the right education, training, and experience. We make sure they are competent and proud of what they do, and personally, professionally fulfilled.

And we have got efforts in all those little boxes to make sure we are doing that smartly, rightly. And how do we partner with our civilian partners to make sure that they are personally and professionally fulfilled to retain them over time is important.

General WALTERS. I am with them, sir.

Mr. LANGEVIN. Thank you, General.

I just hope that, in closing, that we are also maintaining the, you know, the career path for them to be able to advance in their careers to the next rank, while at the same time keeping them in this highly in-demand field, because cyber is not going away anytime soon.

So thank you all, and I yield back.

The CHAIRMAN. And just piggybacking on Mr. Langevin's point and Ms. McSally's point, about bringing in maintainers laterally or something. I mean, I trust you-all are all looking at these authorities for bringing in folks, and also for their promotion, their career track, what happens then.

And certainly it is something that we are interested in assisting you with if some change in statute or some sort of authority, and I am going to trust you all as you look at it to let us know what you find, whether it is cyber or these other areas.

I just want to touch on couple things right quick. Admiral Moran already answered the question what happens without a supplemental this year. He said they have got to decommission air wings, et cetera. Have the others of you looked at what you would have to do if there is no supplemental and funding is flat for the remainder of the fiscal year?

General WILSON. I will start. Chairman, yes we have looked at this. A yearlong CR puts us into sequestration-type actions. To make up a \$1.5 billion shortfall, right now the only place we can go is our readiness accounts, so we would have to go after flying hours, WSS [weapon system support], FRSM [facilities, sustain-

ment, restoration and modernization]. It would have a dramatic impact on us, so that is why it is really important that we get an appropriations bill.

General WALTERS. Sir, for us, the shining example is we would stop flying in about July.

The CHAIRMAN. Completely?

General WALTERS. Yes, sir. Caveated by the guys that are forward will still fly; all the flying back in the continental United States, all the training would cease without the supplemental, and that includes the parts money and the flying hour money. That is what would happen to us.

General ALLYN. And Chairman, for the United States Army, the increased authorization to an Active force of 476,000, a total force of 1.018 million, without the funding for that increase, we would set the conditions for a hollow force, which is absolutely unacceptable. And it will be felt by those forces preparing to deploy because, as with the Marine Corps, we will continue to deliver trained and ready forces for the known demands that we have, but our bench will be repleted and our equipment, training, and personnel readiness will all begin to suffer.

The CHAIRMAN. Thank you.

Admiral, we made brief reference, but we really haven't talked about carrier gap today. We have talked a lot about readiness, but it is, there is also the issue of whether we can be where we need to be when we need to be there, and I don't know how much detail you can get into in this forum, but can you describe briefly the concern about not having a carrier in key theaters at some points?

Admiral MORAN. Yes, sir, I will use what I believe is a great example. A couple years ago, when you will recall ISIS took a bunch of Yazidis hostage on a hilltop in northern Iraq, and national command authority wanted to be able to go push back that force. At the time, just based on agreements with partners in the region, the aircraft carrier and its component air wing and support ships was the only force really that was able to provide that top cover for about 54 consecutive days.

The fact that we were there as part of a normal rotation allowed for that contingency. So every time you see a gap in areas where we have got troops on the ground, we have got combat ongoing and you don't have that capability at sea in the Gulf, eastern Med, South China Sea, and something erupts, we are not going to get there in time, to go back to the original discussion. So the idea of our global presence is to be there when things do erupt and try to prevent things from happening in the first place.

The CHAIRMAN. But it is true, is it not, that in recent years we have had what we call a carrier gap, where we have not had a carrier, for example in the Persian Gulf, or in other key places around the world?

Admiral MORAN. Yes, sir, that is true, as recent as just the last few months, when *Ike* returned home and *Bush* was late, as we talked about earlier. *Bush* was late getting out of the yards. We chose to bring *Ike* back at our 7-month point so we can get her back in the maintenance lineup. That was all done jointly with the Joint Staff, but clearly for that period of time there was no carrier in the Gulf.

The CHAIRMAN. Well, I want to thank you all. I am struck, and I don't remember which one of you made this comment, but one of the service chiefs in a meeting with the committee last year said the price for our lack of readiness is higher casualties. One of you mentioned that earlier today.

I made some offhanded reference to the Super Bowl about if you don't get to practice, and then you go play the Super Bowl; the difference in this Super Bowl is there are lives at stake, and I know you all are acutely aware of that. I think members of the committee are, but it just adds a sense of importance and urgency to our joint work to get these problems fixed that we have identified today. You all have been helpful.

Thank you for being here, the hearing stands adjourned.
[Whereupon, at 12:45 p.m., the committee was adjourned.]

A P P E N D I X

FEBRUARY 7, 2017

PREPARED STATEMENTS SUBMITTED FOR THE RECORD

FEBRUARY 7, 2017

**Ranking Member Smith Statement for the Record
Hearing on the State of the Military
February 7, 2017**

I thank the Chairman for holding this important hearing. I am also grateful to our witnesses for appearing before the committee. Their institutional knowledge and up-to-date perspectives on military preparedness will be immensely helpful to our consideration of the National Defense Authorization Act for Fiscal Year 2018. As we assess the state of the military, I wish to highlight a couple of issues.

One salient issue is the budget. Sequestration wreaked havoc on the Federal budget in fiscal year 2013, and it threatens to do so again pursuant to the Budget Control Act of 2011 (the BCA). Unless the law is changed, the full measure of sequestration would be applied in fiscal year 2018 through fiscal year 2021 to a wide variety of discretionary spending programs, preventing meaningful investments in national security.

We also need to remember that, in addition to the devastating harms inflicted by sequestration and the BCA caps, years of budgetary standoffs leading to several threatened government shutdowns, one actual government shutdown, and congressional overreliance on continuing resolutions have combined to produce debilitating fiscal uncertainty, which has undermined the ability of every Federal Department and Agency to plan confidently and to fund critical activities. Uncertainty specifically undermines the military's ability to fulfill the national defense strategy, and uncertainties regarding end strength totals, the number of serviceable Navy ships and aircraft, the numbers of Air Force bomber and tactical fighter aircraft, other major weapon system procurement programs, and combat unit readiness are just a few defense-related examples of the numerous unsettling effects that the congressional failure to enact a comprehensive, deficit-reduction plan has imparted on governmental operations. Moreover, short-term remedies, like the Bipartisan Budget Act of 2015, have only suspended the prospect of sequestration, perpetuated these uncertainties, and frustrated plans and priorities.

For these reasons, I have long held that the Congress must eliminate sequestration in its entirety. Shielding defense alone would be insufficient. Other vital national investments in homeland security, law enforcement, emergency preparedness and response capacities, veterans services, and foreign assistance programs need attention, and we need to reinvest heavily in sound infrastructure, research and innovation, education, health care, public safety, housing, the workforce, small businesses and many other facets of enduring national strength. National security involves much more than defense. The Congress must, therefore, establish a manageable, long-term, discretionary spending plan that advances national interests on a broad front. I also wish to reiterate that deficit-reduction goals cannot be achieved through

cuts alone. Increased revenues and changes in mandatory spending are integral to the solution.

My second point of emphasis involves striking the right balance with respect to providing resources and with respect to maintaining an effective joint force. The National Defense Authorization Act for Fiscal Year 2017 authorized \$611.2 billion for national defense. Assuming that appropriations supporting that top-line amount eventually follow; it is a considerable sum, which comprises more than one-half of the discretionary budget for this fiscal year. Given the complex diversity of the current security environment, one can make a strong argument for increasing funding for defense, but we clearly need to find new ways to realize savings within the defense budget to maximize effectiveness. I agree with former Secretary Gates' assertion that "not every defense dollar is sacred and well-spent, and that more of nearly everything is simply not sustainable." Merely throwing money at the defense budget is not a viable option. Rather, the legislative and the executive branches of government must work in concert to identify efficiencies that can be justifiably reinvested to good effect.

We must also guard against making force structure adjustments that could potentially 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 and readiness of the whole. As we consider the state of the military and the preferences of the individual services for improving it, I ask that we do so with a mind to optimizing the effectiveness of the joint force construct. We must invest wisely when it comes to national security.

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

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RECORD VERSION

STATEMENT BY

**GENERAL DANIEL ALLYN
VICE CHIEF OF STAFF UNITED STATES ARMY**

BEFORE THE

HOUSE ARMED SERVICES COMMITTEE

FIRST SESSION, 115TH CONGRESS

STATE OF THE MILITARY

FEBRUARY 7TH, 2017

**NOT FOR PUBLICATION UNTIL RELEASED BY THE
COMMITTEE ON ARMED SERVICES**

INTRODUCTION:

Chairman Thornberry, Ranking Member Smith, distinguished Members of the Committee, thank you for the opportunity to testify on the state of your United States Army. On behalf of our Acting Secretary, the Honorable Robert Speer, and our Chief of Staff, General Mark Milley, thank you for your support and demonstrated commitment to our Soldiers, Army Civilians, Families, and Veterans.

To meet the demands of today's unstable global security environment and maintain the trust placed in us by the American people, our Army requires sustained, long term, and predictable funding. Absent additional legislation, the caps set by the Budget Control Act of 2011 will return in FY18, forcing the Army to once again draw down end strength, reduce funding for readiness, and increase the risk of sending under-trained and poorly equipped Soldiers into harm's way - a preventable risk our Nation must not accept. We all thank you for recognizing that plans to reduce the Army to 980,000 Soldiers would threaten our national security, and we appreciate all your work to stem the drawdown. Nevertheless, the most important actions you can take – steps that will have both positive and lasting impact – will be to immediately repeal the 2011 Budget Control Act and ensure sufficient funding to train, man and equip the FY17 NDAA authorized force. Unless this is done, additional top-line and OCO funding, though nice in the short-term, will prove unsustainable, rendering all your hard work for naught.

This is a challenging time for our Nation and certainly for our Army. The unipolar moment is over, and replacing it is a multi-polar world characterized by competition and uncertainty. Today, the Army is globally engaged with more than 182,000 Soldiers supporting Combatant Commanders in over 140 worldwide locations. To break this down a bit: Over 5,000 Soldiers are in the Middle East supporting the fight against ISIL, a barbaric enemy intent on destabilizing the region and the globe. Nearly 8,000 more remain in Afghanistan, providing critical enabling support to Afghan National Security forces fighting a persistent insurgent threat. Over 33,000 are assigned or allocated to Europe to assure our Allies and deter a potentially grave threat to freedom. Nearly 80,000 are assigned to PACOM, including nearly 20,000 Soldiers on the Korean peninsula, prepared to respond tonight with our ROK allies. At the same time thousands of Soldiers are operating across Africa and Central and South America, along with thousands more preparing right here in the United States. At home and around the world, your Army

stands ready.

My recent travel – I have visited our Soldiers in 15 countries since Veterans Day – reinforces that all this is not about programs... it is about people... our people executing security missions for all of us around the globe. In fact, the strength of the All Volunteer Force truly remains our Soldiers. These young men and women are trained, ready and inspired. We must be similarly inspired to provide for them commensurate with their extraordinary service and sacrifice.

Readiness: Manning, Training, Equipping/Sustaining and Leader Development

Readiness remains our number one priority. Sufficient and consistent funding is essential to build and sustain current readiness, progress towards a more modern, capable force sized to reduce risk for contingencies, and recruit and retain the best talent within our ranks. A ready Army enables the Joint Force to protect our Nation and win decisively in combat. Unfortunately, fifteen years of sustained counter-insurgency operations have degraded the Army's ability to conduct operations across the spectrum of conflict and narrowed the experience base of our leaders. The current global security environment demands a shift in focus to support Joint operations against a broader range of threats. In this uncertain world, combined arms maneuver, which enables the Joint Force to deter, deny, compel, and defeat peer competitors and execute hybrid warfare, represents the benchmark by which we measure our future readiness.

Manning:

The Total Force remains globally engaged with the Army set to meet nearly half – 48% - of Combatant Command base demand and forecast to meet over two-thirds – 70% - of emergent demand for forces in FY17. This trend, exacerbated by end strength reductions and increasing global requirements, has been consistent for the past three years and promises to continue. Looking ahead, any potential future manpower increases to reduce military risk related to Defense Planning Guidance and National Military Strategy requirements, must be coupled with commensurate funding to ensure the long-term strength of the force.

At today's end-strength, the Army risks consuming readiness as fast as we build it. To alleviate some of the burden, we are reallocating and reorganizing existing force

structure and leveraging the Total Force to meet operational demand. For example, recognizing the importance of assuring our Allies and deterring our adversaries, last month 3/4 Armor Brigade Combat Team (ABCT) began heel-to-toe rotations in Europe. This unit, representing a permanent armored presence, enables our forces to exercise deployment systems and processes while simultaneously demonstrating the United States' commitment to the region. This ABCT deployment will be followed shortly by a rotational heel-to-toe Combat Aviation Brigade to Europe to provide aviation capacity and capability in that important part of the world. We will also begin Heavy Aviation Reconnaissance Squadron rotations to Korea, reestablishing full Combat Aviation Brigade capacity and capability on the peninsula.

In FY18 we will adjust our brigade combat team force mix by converting an Active Army Infantry Brigade Combat Team into an Armor Brigade Combat Team, marking the creation of our 15th ABCT. This increased armor capacity will provide much needed flexibility to meet extant threats around the globe. We will also build two Security Force Assistance Brigades (SFABs), one in the Active Army and one in the Army National Guard in FY18 followed by another Active Component SFAB in FY19 to better support our partners and preserve BCT readiness. These SFABs will also serve as the backbone of new brigades if the Army is ever called to rapidly expand.

To address mounting challenges in the cyber domain, the Army is building 41 Cyber Mission Force teams. Currently, 30 of the Army's 41 teams are at full operating capability (FOC), and 11 more will achieve FOC by FY18. In addition, the Reserve Component is building 21 Cyber Protection Teams, with 11 teams in the Army National Guard and 10 teams in the Army Reserve.

The Army has increased operational use of the Army National Guard and the Army Reserve to support Joint Force requirements around the globe, and this trend will continue. Today, three Army National Guard Division Headquarters, along with numerous other formations, are supporting geographic combatant commanders here at home and around the world. With the support of Congress, the Army can maintain the appropriate force mix and Total Force readiness to sustain these vital operations worldwide.

Again, we appreciate the Congress' efforts to stem the continued decrease in force structure, and we are underway to regrow the Army in accordance with NDAA

prescribed end strength. As we grow, however, we will focus first on filling the holes in our existing units as our top priority.

Training:

Training is the bedrock of readiness. The Army must continue to conduct realistic and rigorous training across multiple echelons to provide trained and ready forces, and this realistic training regimen is dependent upon predictable and sustained resources, both time and money.

To maximize our resources, the Army has made significant progress implementing the Sustainable Readiness Model (SRM) and restoring core warfighting skills, and we remain focused on achieving full spectrum readiness for combined arms maneuver proficiency against peer competitors. SRM, the Army's solution to manage risk and fight and win when called, is a Total Force effort to define readiness objectives for current demand while mitigating risk for contingency requirements. Because readiness objectives inform programmatic decisions, a key SRM benefit is prevention of the "readiness cliff" as units redeploy from named operations.

To ensure a trained and ready Army, the Army accepted considerable risk by reducing end-strength while deferring modernization programs and infrastructure investments. These trade-offs reflect constrained resources, not strategic insight. Again, we appreciate your support in helping stem the tide of force structure reductions, and our restored strength must be coupled with sufficient and sustained funding to avoid creating a hollow force.

Today, only about 1/3 of our BCTs, 1/4 of our Combat Aviation Brigades and half of our Division Headquarters are ready. Of the BCTs that are ready, only three could be called upon to fight tonight in the event of a crisis. In total, only about 2/3 of the Army's initial critical formations – the formations we would need at the outset of a major conflict – are at acceptable levels of readiness to conduct sustained ground combat in a full spectrum environment against a highly lethal hybrid threat or near-peer adversary. Stated more strategically, based on current readiness levels, the Army can only accomplish Defense Planning Guidance Requirements at high military risk. To address this vital readiness issue, the Army continues to fully fund Combat Training Center (CTC) rotations, establish objective training standards, reduce non-essential training

requirements, and protect home station training to increase training rigor and readiness in our formations.

A ready Army requires highly trained units across all components. To build sufficient operational and strategic depth, the Army continues to explore ways to build increased readiness in our Reserve Component units. This includes increasing the number of annual training days for early deployers to provide sufficient repetition in core tasks; building multi-component and round-out units to enhance Total Force integration; and expanding Army National Guard BCT's CTC rotations from two to four in FY18. These initiatives, providing readiness for current operations and ensuring strategic depth required for future campaigns, will require sufficient resources.

Looking to the future, the Army continues to work with our Joint Force partners to develop the multi-domain battle concept. This emerging concept, though in the early stages of development, will enable the Joint force to create temporary windows of opportunity across multiple domains – air, land, sea, space and cyberspace – to seize, retain and exploit the initiative, defeat enemies and achieve military objectives. The Army is developing a Multi-Domain Task Force to evolve and refine the concept, based on operational lessons and experimentation that will ultimately inform future training.

Equipping/Sustaining:

Our Army requires modernized equipment to win decisively, but today we are outranged, outgunned and outdated. We have prioritized our near-term readiness to the detriment of equipment modernization and infrastructure upgrades, assuming risk and mortgaging our future readiness. Looking ahead, the Army will prioritize critical equipment modernization and infrastructure upgrades while proceeding with acquisition reform initiatives to deliver optimal readiness with apportioned resources.

An unintended consequence of current fiscal constraints is that the Army can no longer afford the most modern equipment, and we risk falling behind near-peers in critical capabilities. Decreases to the Army budget over the past several years significantly impacted Army modernization. Given these trends, and to preserve readiness in the short term, the Army has been forced to selectively modernize equipment to counter our adversary's most pressing technological advances and capabilities. At the same time, we have not modernized for warfare against peer

competitors, and today we risk losing overmatch in every domain.

The Army developed the Army Equipment Modernization Strategy to preserve readiness in the short term and manage risk in the mid- to long-term. The strategy reflects those areas in which the Army will focus its limited investments for future Army readiness. We request the support of Congress to provide flexibility in current procurement methods and to fund five capability areas — Long Range Precision Fires, Cyber/Electronic Warfare, Integrated Air and Missile Defense, Active Protection Systems for combat vehicles and aircraft and Stryker Lethality Upgrades — to provide the equipment the Army requires to fight and win our Nation's wars.

Prioritizing readiness, given current fiscal constraints the Army must assume risk in installation modernization and infrastructure improvement. Installations are the Army's power projection platforms and a key component in generating readiness. To build readiness, however, the Army has been forced to cancel or delay military construction, sustainment, restoration and modernization across our posts, camps and stations. Right now 22%, or 33,000 Army facilities require significant investment to address critical infrastructure deficiencies. Additionally, the Army reduced key installation services, individual training programs, and modernization to a level that impacts future readiness and quality of life. The deliberate decision to prioritize readiness over Army modernization and installation improvement, though necessary, is an unfavorable one.

Leader Development:

The single most important factor in delivering Army readiness, both now and in the future, is the development of decisive leaders of character at every echelon. Our deep bench of combat experienced leaders remain our asymmetric advantage. To that end, the Army will continue to develop leader competencies for the breadth of missions across the Total Force.

In a complex and uncertain world, the Army will cultivate leaders who thrive in uncertainty and chaos. To ensure the Army retains this decisive advantage, we continue to prioritize leader development across the force... from the individual and unit to the institution level. In FY16, the Army trained over 500,000 Soldiers and leaders from all three components in its Professional Military Education programs, along with nearly 30,000 more from our Joint Force teammates. Despite budget constraints, we will

continue to fund these priority programs, targeted to develop Soldiers and leaders who demonstrate the necessary competence, commitment and character to win in a complex world.

Decisive leaders strengthen the bond between our Army and the Nation and preserve our All-Volunteer Force. As Army leaders, we continue to express our enduring commitment to those who serve, recognizing that attracting and retaining high quality individuals in all three components is critical to readiness. The Army is expanding our Soldier for Life-Transition Assistance Program (SFL-TAP) to drive cultural change. Our Soldiers will receive the tools, leveraging resources from their time in service, to succeed in the civilian sector. As they return to civilian life, Soldiers will continue to serve as ambassadors for the Army and, along with retired Soldiers and Veterans, remain the vital link with our Nation's communities. We owe it to our Soldiers and their Families to ensure our Veterans strengthen the prosperity of our Nation through rewarding and meaningful civilian careers and service to their communities.

Committed and engaged leadership is the focal point of our Sexual Harassment/Assault Response and Prevention (SHARP) efforts. To that end, we recently fielded the Emergent Leader Immersive Training Environment (ELITE) Command Team Trainer and the Prevention and Outreach Simulation Trainer to train Army SHARP professionals on how to support command teams and units. The Army is also helping shape the Department's Installation Prevention Project by sharing best practices on case management methodology, Community Health Promotion Councils and collaboration efforts. These holistic prevention and response efforts strengthen our Army culture, enrich Army readiness and support Department of Defense efforts.

Army leaders remain committed to building diverse teams. We continue to fully integrate women into all combat roles throughout the operational force and remain committed to a standards-based process to maintain readiness. The Army's deliberate process validated standards, grounded in real-world operational requirements, and will provide our integrated professional force the highest level of readiness and potential for mission success.

In this increasingly complex world, decisive leaders are essential to maintaining a ready Army, composed of resilient individuals and cohesive teams, capable of accomplishing a range of missions amidst uncertainty and persistent danger.

Closing:

Today, our Army stands ready to defend the United States and its interests. This requires sustained, predictable funding. To rebuild readiness today and prepare for tomorrow's challenges, the Army has prioritized combined arms maneuver readiness against a peer competitor as we prepare to respond to our Nation's security challenges. The difficult trade-offs in modernization and installation improvements reflect the hard realities of today's fiscal constraints.

In the immediate future, the Army looks forward to providing input to the Department of Defense's 30-day Readiness Review, an important document that will inform a new National Defense Strategy. More long term and with your assistance, the Army will continue to resource the best-trained, best-equipped and best-led fighting force in the world. We thank Congress for the steadfast support of our outstanding men and women in uniform. The Army is all about people... our Soldiers, Families, Civilians... and they deserve our best effort.

General Daniel B. Allyn
35th Vice Chief of Staff of the Army
United States Army

General Daniel B. Allyn assumed duties as the 35th Vice Chief of Staff of the Army, August 15, 2014.

General Allyn is a native of Berwick, Maine, and a graduate of the United States Military Academy at West Point, New York. He previously served as the Commander of the United States Army Forces Command, Fort Bragg, NC.

He also served as the Commanding General, XVIII Airborne Corps and Commanding General, 1st Cavalry Division, "America's First Team," including duty as Commanding General, Combined Joint Task Force-1 and Regional Command East in Afghanistan. General Allyn has also served as the Chief of Staff, and later, Deputy Commanding General of XVIII Airborne Corps, including duty as Chief of Staff, Multi-National Corps Iraq. His joint assignments include the Joint Improvised Explosive Device Defeat Organization and the Joint Operations Directorate, J-3. Prior to his Joint assignments, he served as Commander, 3rd Brigade Combat Team, 3rd Infantry Division (Mechanized), culminating with service during Operation Iraqi Freedom. Prior to serving in the "Marne Division," General Allyn served two tours of duty with the 82nd Airborne Division, two years with the 2nd Infantry Division, and three tours of duty with the 75th Ranger Regiment.

General Allyn's previous duties include command at the platoon through division level and staff assignments at the battalion through Joint Staff level. He served an overseas assignment in Korea and operational deployments for Operation Urgent Fury in Grenada, two peacekeeping deployments to the Sinai Peninsula in Egypt, Operation Just Cause in Panama, Operation Desert Storm in Saudi Arabia, and Operations Desert Spring and Enduring Freedom in Kuwait, two tours in support of Operation Iraqi Freedom, and most recently was deployed to Afghanistan in support of Operation Enduring Freedom XII.

He is a graduate of the Naval War College at Newport, Rhode Island, where he earned a Master of Arts degree in Strategic and National Security Studies.

General Allyn's awards and decorations include the Distinguished Service Medal, the Silver Star, three Defense Superior Service Medals, three Legions of Merit, the Bronze Star Medal, two Defense Meritorious Service Medals, six Meritorious Service Medals, the Joint Service Commendation Medal, four Army Commendation Medals, three Army Achievement Medals, the Combat Infantryman Badge (with Star), the Expert Infantryman Badge, Master Parachutist Badge (with Bronze Star), the Ranger Tab, the Pathfinder Badge, the Joint Chiefs of Staff Identification Badge.

NOT FOR PUBLICATION UNTIL
RELEASED BY THE HOUSE ARMED
SERVICES COMMITTEE

STATEMENT OF

ADMIRAL WILLIAM F. MORAN

U.S. NAVY

VICE CHIEF OF NAVAL OPERATIONS

BEFORE THE

HOUSE ARMED SERVICES COMMITTEE

ON

STATE OF THE MILITARY

FEBRUARY 7, 2017

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SERVICES COMMITTEE

Mr. Chairman, Ranking Member Smith, and distinguished members of the Sub-Committee, I appreciate the opportunity to testify on the current state of Navy readiness and the challenges we face today and in the future.

Before we discuss Navy's readiness challenges and our plans to address them, it is important to understand our present situation. Globally present and modern, our Navy provides timely, agile, and effective options to national leaders as they seek to advance American security and prosperity. Today, however, the ongoing demand for naval forces continues to grow, which will require the Navy to continue to make tough choices. In the classic trade space for any service (readiness, modernization and force structure), readiness has become the bill payer in an increasingly complex and fast-paced security environment. To address these realities, the Navy has identified investments to restore the readiness of the fleet today to shore up what we have. At the same time, we cannot restore the fleet to full health without also updating our platforms and weapons to better address current and future threats, and evaluating the right size of the Navy so that it can sustain the tempo of operations that has become the norm. The Navy is actively working on plans for the future fleet with Secretary Mattis and his team, and we look forward to discussing those plans with you when they are approved.

To characterize where we are today, I would say it's a tale of two navies. As I travel to see our sailors in the United States and overseas, it is clear to me that our deployed units are operationally ready to respond to any challenge. They understand their role in our nation's security and the security of our allies, and they have the training and resources they need to win any fight that might arise. Unfortunately, my visits to units and installations back home in the United States paint a different picture. As our Sailors and Navy civilians, who are just as committed as their colleagues afloat, prepare to ensure our next ships and aircraft squadrons deploy with all that they need, the strain is significant and growing. For a variety of reasons, our shipyards and aviation depots are struggling to get our ships and airplanes through maintenance periods on time. In turn, these delays directly impact the time Sailors have to train and hone their skills prior to deployment. These challenges are further exacerbated by low stocks of critical parts and fleet-wide shortfalls in ordnance, and an aging shore infrastructure. So while our first team on deployment is ready, our bench – the depth of our forces at home – is thin. It has become clear to me that the Navy's overall readiness has reached its lowest level in many years.

There are three main drivers of our readiness problems: 1) persistent, high operational demand for naval forces; 2) funding reductions; and 3) consistent uncertainty about when those reduced budgets will be approved.

The operational demand for our Navy continues to be high, while the fleet has gotten smaller. Between 2001 and 2015, the Navy was able to keep an average of 100 ships at sea each day, despite a 14 percent decrease in the size of the battle force. The Navy is smaller today than it has been in the last 99 years. Maintaining these deployment levels as ships have been retired has taken a significant toll on our Sailors and their families, as well as on our equipment.

The second factor degrading Navy readiness is the result of several years of constrained funding levels for our major readiness accounts, largely due to fiscal pressures imposed by the Budget Control Act of 2011. Although the Bipartisan Budget Act of 2015 provided temporary relief, in FY 2017 the Navy budget was \$5 billion lower than in FY 2016. This major reduction drove very hard choices, including the difficult decision to reduce readiness accounts by over \$2 billion this year.

The third primary driver of reduced readiness is the inefficiency imposed by the uncertainty around when budgets will actually be approved. The inability to adjust funding levels as planned, or to commit to longer-term contracts, creates additional work and drives up costs. This results in even less capability for any given dollar we invest, and represents yet another tax on our readiness. We are paying more money and spending more time to maintain a less capable Navy.

We have testified before about the maintenance and training backlogs that result from high operational tempo, and how addressing those backlogs has been further set back by budget cuts and fiscal uncertainty. Our attempts to restore stability and predictability to our deployment cycles have been challenged both by constrained funding levels and by operational demands that remain unabated.

Although we remain committed to return to a seven month deployment cycle as the norm, the need to support the fight against ISIS in 2016 led us to extend the deployments of the *Harry S Truman* and *Theodore Roosevelt* Carrier Strike Groups to eight and eight and a half months, respectively. Similar extensions apply to the Amphibious Ready Groups which support Marine Expeditionary Units. This collective pace of operations has increased wear and tear on ships, aircraft and crews and, adding to the downward readiness spiral, has decreased the time available for maintenance and modernization. Deferred maintenance

has led to equipment failures, and to larger-than-projected work packages for our shipyards and aviation depots. This has forced us to remove ships and aircraft from service for extended periods, which in turn increases the tempo for the rest of the fleet, which causes the fleets to utilize their ships and airframes at higher-than-projected rates, which increases the maintenance work, which adds to the backlogs, and so on.

Reversing this vicious cycle and restoring the short-term readiness of the fleet will require sufficient and predictable funding. This funding would allow our pilots to fly the hours they need to remain proficient, and ensure that we can conduct the required maintenance on our ships. It would also enable the Navy to restore stocks of necessary parts, getting more ships to sea and better preparing them to stay deployed as required.

Our readiness challenges go deeper than ship and aircraft maintenance, directly affecting our ability to care for the Navy Team. Our people are what make the U.S. Navy the best in the world, but our actions do not reflect that reality. To meet the constraints of the Balanced Budget Act, the Navy's FY 2017 budget request was forced to reduce funding for Permanent Change of Station (PCS) moves. These reductions have been compounded by the Continuing Resolution, which imposed even further reductions on that account. Without sufficient PCS funding, the Navy will be unable to move Sailors to replace ship and squadron crewmembers leaving service, increasing the strain on those who remain. This is an area in which timing also matters greatly. Even if the money comes eventually, if it is too late, necessary moves will be delayed until the beginning of the new fiscal year. That means our Sailors with children will be forced to relocate their children in the middle of a school year. And because we don't know if and when additional PCS funding may come, we cannot give our Sailors and their families much time to prepare, often leaving them with weeks, rather than months, to prepare for and conduct a move, often from one coast, or even one country, to another.

Meanwhile, our shore infrastructure has become severely degraded and is getting worse because it has been a repeated bill payer for other readiness accounts in an effort to maintain afloat readiness. Consequently, we continue to carry a substantial backlog of facilities maintenance and replacement, approaching \$8 billion.

Summary

Time is running out. Years of sustained deployments and constrained and uncertain funding have resulted in a readiness debt that will take years to pay down. If the slow pace of readiness recovery continues, unnecessary equipment damage, poorly trained operators at sea, and a force improperly trained and equipped to sustain itself will result. Absent sufficient funding for readiness, modernization and force structure, the Navy cannot return to full health, where it can continue to meet its mission on a sustainable basis. And even if additional resources are made available, if they continue to be provided in a way that cannot be counted on and planned for, some will be wasted. As we strive to improve efficiency in our own internal business practices, those efforts are being actively undermined by the absence of regular budgets. Although we face many readiness challenges, your Navy remains the finest Navy in the world. We are committed to maintaining that position. That commitment will require constant vigilance and a dedication to readiness recovery, in full partnership with the Congress. On behalf of our Sailors and civilians, thank you for your continued support.

5/31/2016 - Present
ADMIRAL BILL MORAN

Adm. Bill Moran is a native of New York and graduated with a Bachelor of Science from the United States Naval Academy in 1981 and a master's degree from the National War College in 2006.

As a flag officer, he has served as commander, Patrol and Reconnaissance Group; director, Air Warfare (N98) on the staff of the Chief of Naval Operations; and most recently as the 57th chief of naval personnel.

His operational tours spanned both coasts, commanding Patrol Squadron (VP) 46 and Patrol and Reconnaissance Wing 2. He served as an instructor pilot in two tours with VP-30 and as a staff member for Commander, Carrier Group 6 aboard USS Forrestal (CVA 59).

Ashore, he served as executive assistant to the chief of naval operations; executive assistant to Commander, U.S. Pacific Command; deputy director, Navy staff; and assistant Washington placement officer and assistant flag officer detailee in the Bureau of Naval Personnel.

Moran assumed duties as the Navy's 39th vice chief of naval operations, May 31, 2016. He is a senior naval advisor to the secretary of the Navy and the chief of naval operations.

He is entitled to wear the Distinguished Service Medal, Defense Superior Service Medal, Legion of Merit (five awards) and other various personal, unit and service awards.

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**DEPARTMENT OF THE AIR FORCE
PRESENTATION TO THE COMMITTEE
ON
ARMED SERVICES
UNITED STATES CONGRESS**

SUBJECT: STATE OF THE MILITARY

**STATEMENT OF: GENERAL STEPHEN W. WILSON
VICE CHIEF OF STAFF OF THE AIR FORCE**

FEBRUARY 7, 2017

**NOT FOR PUBLICATION UNTIL RELEASED
BY THE SUBCOMMITTEE ON READINESS
AND MANAGEMENT SUPPORT
UNITED STATES SENATE**

INTRODUCTION

Since our establishment 70 years ago, the United States Air Force has secured peace throughout the full spectrum of hostilities with a decisive warfighting advantage in, through, and from air, space, and cyberspace. Without pause, we deliver global combat power by deterring and defeating our nation's enemies, while supporting joint and coalition forces at the beginning, the middle, and end of every operation. Though the intrinsic nature of warfare remains unchanged, the character of war—and the approach joint forces must take to address new and changing threats—must continually evolve.

As the nation plans to counter the national security challenges posed by Russia, China, Iran, North Korea, and Violent Extremist Organizations, controlling and exploiting air, space, and cyberspace remains foundational to joint and coalition success. Today's 660,000 active duty, guard, reserve, and civilian Airmen meet these challenges by deterring threats to the U.S., assuring our allies, and defeating our adversaries 24/7/365. We provide unwavering homeland defense and operate a robust, reliable, flexible, and survivable nuclear enterprise, as the bedrock of our national security.

This steadfast watch, however, comes at a price. Conducting continuous, worldwide combat operations since 1991 has taken a toll on our Airmen, equipment, and infrastructure. Sustained global commitments and funding reductions have eroded our Air Force to the point where we have become one of the smallest, oldest-equipped, and least ready forces across the full-spectrum of operations, in our service history. The uncertainty and reduction in military funding resulting from the Budget

Control Act of 2011 (BCA) further degraded our readiness. Such fiscal uncertainty critically challenges our ability to sustain warfighting capacity, improve readiness, modernize our force, and invest in research and development to maintain our advantages over near-peer competitors.

While the Bipartisan Budget Act (BBA) of 2015 provided some relief to improve readiness and continue modernization efforts, your Air Force needs continued Congressional support to ensure we strengthen America's military to win today's fight, while maintaining the Air Force our nation needs to meet tomorrow's challenges.

ALWAYS THERE

Your Air Force has been globally engaged for the last 26 years of combat operations. We relentlessly provide **Global Vigilance, Global Reach, and Global Power** for the nation...we're always in demand...and we're always there. Though our end strength has decreased by 38% since 1991, we have experienced significant growth across several mission areas.

Our Airmen provide 24/7 **Global Vigilance** in real-time by integrating multi-domain platforms and sensors across our global intelligence and command and control networks to find, fix, and eventually finish a wide range of hostile targets simultaneously across the globe. Without fail, the Air Force flies 60 combat lines of persistent attack remotely piloted aircraft (RPA) per day to support combatant commander requirements. Through our Intelligence, Surveillance and Reconnaissance (ISR) capabilities, we provided warfighters over 6,000 intelligence products per day used to identify enemy targets and trigger 70% of Special Operations Forces assaults on terrorists.

Additionally, the Air Force conducted 4,000 cyber missions against more than 100,000 targets, disrupting adversaries and enabling over 200 High Value Individual kill/capture missions. In securing our networks and digital infrastructure, 2016 saw Air Force cyber operators block more than 1.3 billion malicious connections – an average of more than 40 per second. Meanwhile, our space operators provide relentless and reliable interconnectedness for our forces, global positional awareness, global missile warning, and battlefield situational awareness.

Nearly every three minutes a mobility aircraft departs on a mission, providing **Global Reach** and access, projecting power through a network of airfields in 23 countries and 77 locations, while providing critical aerial refueling capability. In 2016, our aeromedical professionals evacuated over 5,700 patients and provided emergency medical care resulting in a 98% survival rate. Your Air Force provides unrelenting ability to maneuver, sustain, and recover personnel and assets...at home, abroad, and with our allies and partners.

With American fighters, bombers, RPAs, and Intercontinental Ballistic Missiles (ICBMs), the Air Force provides conventional and nuclear **Global Power** that can strike an enemy on short notice anywhere in the world. In Iraq and Syria, the Air Force has led 65% of the more than 17,000 coalition airstrikes since 2014, to delivering decisive firepower in partnership with joint, special operations, and coalition ground forces to defeat and degrade ISIS and regain critical territory. All while our Airmen continue to provide two legs of the nuclear triad, resource 75% of the Nuclear Command, Control, and Communications framework, deter our adversaries, and connect the President to strategic options.

Stitched together, the fabric of our Air Force weaves multi-domain effects and provides U.S. service men and women the strongest blanket of protection and the ability to power project American's full range of combat capabilities. Make no mistake, your Air Force is always there.

STATE OF THE AIR FORCE

However, being "always there" comes at a cost to our Airmen, equipment, and infrastructure, and we are now able to keep only half of our force at an acceptable level of readiness for full-spectrum combat. Sustained global commitments and recent funding cuts eroded Air Force readiness, capacity, and capability for a full-spectrum fight against a near-peer adversary. Although America's Air Force remains the finest in the world, it is the smallest it has ever been. In 2013, the impacts of sequestration abruptly delayed modernization and reduced both readiness and the size of the Total Force. **We remain America's first and most agile responder to crisis and conflict, underwriting many joint operations...however, the demand for your Air Force exceeds the supply.**

The combination of decreased funding and increased military operations required the Air Force to make tradeoffs that adversely affected readiness. Since 1991, the Air Force also reduced its aircraft inventory from 8,600 to 5,500 aircraft, and today the average aircraft is 27 years old. In fact, 54% of our aircraft major weapons systems now qualify for antique vehicle license plates in the state of Virginia. The Air Force of 1991 possessed 134 fighter squadrons across the active duty, Air National Guard, and Air Force Reserve. As a result of budget reductions, our force has gradually declined to a total of 55 fighter squadrons. At the same time, we are

stressed by challenges complicated by Russia's annexing of Crimea, Chinese island-building in the South China Seas, the rapid rise of ISIL, and ongoing operations in Iraq and Afghanistan. With your help, we will build the force up to about 321,000 Airmen in 2017, but even at that size we will still be stretched to meet global mission requirements.

We also face daunting challenges in balancing readiness and modernization in our nuclear, space, and cyber mission areas. Each leg of our nuclear triad requires modernization and our responsibility to complete the near-term sustainment efforts required to sustain our current ICBM and bomber fleets, as well as modernize these two legs of the triad and our nuclear command and control systems require significant national investment through the out years.

At the same time, we are posturing our forces to fight and win a war should it extend into space, and Air Force space capabilities have never been more critical to our national ability to project power globally. The national security space enterprise, which evolved in an uncontested environment, is not resilient enough to deliver joint warfighting effects in and through today's contested space domain. As the nation's lead service for space, Airmen perform multiple space missions ranging from position, navigation, and timing and space situational awareness, to missile warning, and satellite communications.

Lastly, our cyberspace capabilities are essential to every Airman, platform, and mission. All of our weapons systems are under attack through the cyberspace domain. Accordingly, we are posturing ourselves to fight and win in today's contested cyber environment with a disciplined, integrated approach to cybersecurity and cyber

resiliency. We are working to quickly close the cyber-needs gap by leveraging public-private partnerships, especially with small businesses, to deliver the most cutting edge cyber capabilities in the digital age with agility and speed. We are harvesting cyber talent across our nation to grow our world-class cyber workforce which requires tapping into businesses and talent not necessarily recognized as part of the Defense Industry.

BALANCING RISK

America's Airmen can fight and win today, and we are making sure that our active duty, guard, and reserve Airmen closest to the fight remain our most ready forces. However, our combat forces are heavily committed in our nation's current fights in the Middle East and Africa, limiting our preparation to deter and defeat skilled, near-peer competitors. We have balanced risk across the force to address our most critical shortfalls, focusing on sustaining end-strength while investing in readiness, infrastructure, nuclear deterrence operations, space, and combat air forces. Despite these efforts, current budget levels require the Air Force to continue making difficult tradeoffs between force structure, readiness, and modernization.

Budget instability and decreased funding levels, coupled with 26 years of continuous combat operations and manpower reductions, has driven Air Force readiness to historically low levels. Currently, less than fifty percent of the Air Force's combat forces are sufficiently ready for a highly-contested fight against peer adversaries—creating unacceptable risk for our Airmen, our joint partners, and our nation. Our readiness levels are currently handicapped in five key readiness elements: a shortage of trained and experienced Airmen in critical positions; capped weapon system sustainment funding; reliance on too few and obsolete training facilities and systems; insufficient flight

hours for full-spectrum training (due to operational demands); and a war-time operational tempo supported by a force sized for a peacetime environment. We must restore full-spectrum readiness to continue to provide unrelenting Airpower for the joint force.

To ensure we remain ready to defeat violent extremism as well as sophisticated, advanced threats and near-peer adversaries, we must grow the force. The active duty force will grow to 321,000 in FY17, as authorized by the FY17 National Defense Authorization Act. This includes growth across all components as well as our officer, enlisted, and civilian workforces.

Furthermore, we are targeting our efforts to address shortfalls in critical career fields to help improve readiness. We are stabilizing and bolstering our remotely piloted aircraft (RPA) community to meet combatant commander requirements. We are increasing pilot training capacity and pilot absorption, strengthening our squadrons with a host of initiatives, and adjusting our incentive pay structure to help address our growing pilot shortage.

The most acute shortage is in our fighter pilot community. We expect fighter pilot retention to suffer, as it has over the last 4 years. We ended FY16 at 723 *fighter* pilots below requirement and 1,555 *total* pilots short across all mission areas. Pilot training and retention are priorities. The increased end-strength provided in the FY17 NDAA will allow us to maximize the training pipeline and fill out under-manned units, which are vital to our recovery. We are grateful for your support to increase the pilot bonus, and we will continue to ensure our retention programs are appropriately sized and utilized.

In the aircraft maintenance field, we are short approximately 3,400 aircraft

maintainers at the close of 2016. Because of this shortage, we cannot generate the training sorties needed for our aircrews. Our maintainers must keep our existing aircraft flying at home and in combat, while simultaneously fielding new platforms with highly complicated and technological systems.

We are rapidly developing the B-21 Raider long-range strike bomber and modernizing the B-52 and B-2 bombers for strategic delivery of advanced munitions. We are bedding down our advanced F-35 multi-role fighter and enhancing our air refueling capability by entering initial production of the KC-46 Pegasus tanker. We are also modernizing the land-based nuclear leg with the Ground Based Strategic Deterrent (GBSD).

We transformed our space training and we are developing tactics and enhancing our space situational awareness and command and control systems. We are building a more resilient space architecture and strengthening our partnerships to protect, defend and operate critical national security space systems to outpace adversaries and counter any intention to deny us the use of space.

We are pivoting our communications and cyber efforts from a communications and information technology-centric force, to a cyberspace operations force of full warfighting partners who protect the mission and carry the fight to the enemy through integrated cyberspace operations. We are fortifying combat air forces by retaining, and beginning to modernize our fighter squadrons, while developing and buying required munitions for both high-end and low-end conflicts of the future.

LOOKING FORWARD

Despite these efforts, current budget levels and the threat of sequestration will

force the Air Force to continue making difficult tradeoffs between force structure, readiness, and modernization that will lead to a less ready and less capable Air Force than the joint force requires. Meanwhile, the capability gap is closing between us and our potential adversaries. Our nation must continue to support its investment in its Air Force with specific focus on readiness, manpower, nuclear deterrence operations, space, cyberspace, combat air forces, ISR, and infrastructure.

READINESS AND MANPOWER

To improve readiness and attain manning levels matching our mission requirements, the Air Force will assess what levels of end-strength are needed for our active duty, Guard and Reserve. We will develop plans to address shortfalls in key areas, including critical career fields such as aircraft maintenance, pilots, NC3, intelligence, cyber, and battlefield Airmen. The Air Force will consider end strength increases as it works with the Secretary of Defense to develop the FY18 President's Budget.

As we drew down active duty manpower in recent years, we have relied more heavily on our civilian Airmen's contributions, and they remain critical to readiness. Our civilians make up 26% of our Total Force—of which, 94% are in the field, providing vital mission support through weapons system maintenance, sustainment, engineering, logistics, security, intelligence, and medical functions. Currently, our civilian workforce is 96% manned. At the historical attrition rate, the civilian workforce will shrink to 93% manning level over the next four months.

NUCLEAR DETERRENCE OPERATIONS

We need to maintain our nuclear capabilities and infrastructure that are the

bedrock of our national security. While our nuclear forces remain safe, secure, and effective, we will eventually require significant investment to ensure robust, reliable, flexible, and survivable nuclear readiness and deterrence well into the future.

Today, the nation must preserve our foundational capabilities (GBSD, LRSO, B-21, B61-12, UH-1N recapitalization, and Nuclear Command, Control, and Communications (NC3)) and infrastructure that underpins nuclear deterrence capabilities vital to a credible deterrent against any future threat.

SPACE

We must recapitalize Air Force space systems for resilience, ensuring we can continue to operate in an increasingly contested environment. As we modernize space systems, they must be able to fight in a contested, degraded, and operationally limited environment. Additionally, we need to integrate our ground systems, modernize our space operations centers, and improve training for our space force.

CYBERSPACE

The Air Force is committed to fully exploiting the cyber domain to create effects against our adversaries while simultaneously denying the adversary's advantage against friendly forces. The Air Force will leverage industry best practices, such as cloud computing and network service partnerships, both to make our network more secure and to reallocate critical cyber manpower towards emerging warfighting missions. Further, we must take a comprehensive approach to cybersecurity to protect and defend our weapon systems and data—it is imperative we treat cybersecurity as an intrinsic part of Air Force readiness. These priorities will support Air Force and joint mission assurance—command and control, weapon system cyberspace defense, information dominance, and

integrating offensive cyberspace effects into multi-domain operations.

COMBAT AIR FORCES

To continue to provide unrelenting air superiority and global precision strike, we cannot accept a less than ready force. With current combat readiness falling below 50% and an ever-growing demand signal, our Air Force requires an increase in combat air forces capacity. The more diminished our combat-coded fighter squadrons, the more degraded our ability to posture and project global power for America. At our current fighter procurement rate, it will take 45 years to recapitalize our full fighter force.

We must also continue to procure the F-35 to counter rapidly advancing threat systems. Further, we must have enough munitions to counter current threats, while developing new advanced munitions to counter future threats. Finally, our forces must have access to realistic test and training ranges and investment in computer-aided live, virtual, and constructive (LVC) infrastructure. LVC capability provides opportunities to test and train against the world's most capable threats, reduces costs, and supports full-spectrum readiness.

INTELLIGENCE, SURVEILLANCE, AND RECONNAISSANCE (ISR)

To meet the needs of combatant commanders, the ISR enterprise requires a sufficient number of Airmen to achieve a healthy and sustainable force structure. We must continue to recapitalize our C2ISR platforms, such our E-8C JSTARS aircraft, which provides a unique combination of airborne C2, communications, and high-fidelity moving-target surveillance capability. These capabilities are essential to finding and tracking our adversaries, conducting non-kinetic targeting, and ensuring cyber

mission assurance for Air Force weapon systems.

INFRASTRUCTURE

We project airpower from a network of globally positioned bases, and we must maintain these bases as part of our strategic force posture. However, our infrastructure, particularly our installations in the continental U.S., is in excess of our operational needs. This is an inefficient arrangement with aging and underused facilities consuming funds that should be prioritized for readiness and modernization.

Investments in aging critical infrastructure such as test and training ranges, airfields, facilities, and even basic infrastructure like power and drainage systems, have been repeatedly delayed. The problem has been significantly exacerbated by the funding caps imposed under the BCA. Every year that we delay these repairs affects operations and substantially increases improvement costs. It is time for another round of Base Realignment and Closure (BRAC) to allow us to reinvest funds in higher priority areas across the Air Force.

CONCLUSION

Since 1947, the Air Force has relentlessly provided America with credible deterrence and decisive combat power in times of peace, crisis, contingency, and conflict. However, our relative advantage over potential adversaries is shrinking and we must be prepared to win decisively against any adversary. We owe this to our nation, our joint teammates, and our allies. The nation requires full-spectrum ready air, space, and cyber power, now more than ever. America expects it; combatant commanders require it; and with your support, Airmen will deliver it.

GENERAL STEPHEN W. "SEVE" WILSON

Gen. Stephen W. "Seve" Wilson is Vice Chief of Staff of the U.S. Air Force, Washington, D.C. As Vice Chief, he presides over the Air Staff and serves as a member of the Joint Chiefs of Staff Requirements Oversight Council and Deputy Advisory Working Group. He assists the Chief of Staff with organizing, training, and equipping of 660,000 active-duty, Guard, Reserve and civilian forces serving in the United States and overseas.

Gen. Wilson received his commission from Texas A&M University in 1981. He's had multiple flying tours, and led bomber; intelligence, surveillance and reconnaissance; mobility; aeromedical evacuation; and airborne command and control operations supporting Iraqi Freedom, Enduring Freedom and Combined Joint Task Force-Horn of Africa. Gen. Wilson has also held numerous command positions, including the Joint Functional Component Commander for Global Strike and Air Force Global Strike Command. Gen. Wilson is a command pilot with more than 4,500 flying hours and 680 combat hours. Prior to his current assignment, the general was Deputy Commander, U.S. Strategic Command, Offutt AFB, Nebraska.

EDUCATION

1981 Bachelor of Science, Aerospace Engineering, Texas A&M University, College Station
 1985 Squadron Officer School, Maxwell AFB, Ala.
 1989 Master of Science degree, Engineering Management, South Dakota School of Mines & Technology
 1993 Air Command and Staff College, Maxwell AFB, Ala.
 1997 U.S. Air Force Weapons School, Nellis AFB, Nev.
 2000 Master's degree in strategic studies, Air War College, Maxwell AFB, Ala.
 2005 Leadership for a Democratic Society, Federal Executive Institute, Charlottesville, Va.
 2007 Joint Force Air Component Commander Course, Maxwell AFB, Ala.
 2009 Joint Flag Officer Warfighting Course, Maxwell AFB, Ala.
 2010 Leadership Decision Making Program, John F. Kennedy School of Government, Harvard University, Cambridge, Mass.
 2013 Pinnacle Course, National Defense University, Fort Lesley J. McNair, Washington, D.C.

ASSIGNMENTS

1. June 1981 - May 1982, student, undergraduate pilot training, Laughlin AFB, Texas
2. May 1982 - September 1986, T-38 Instructor Pilot, evaluator pilot and flight commander, 86th Flying Training Squadron, Laughlin AFB, Texas
3. September 1986 - May 1987, B-1 Student, 338th Combat Training Squadron, Dyess AFB, Texas
4. May 1987 - July 1991, B-1 Instructor Pilot and Flight Commander, 77th Bomb Squadron, Ellsworth AFB, S.D.
5. July 1991 - July 1992, Chief of Weapons and Tactics, 28th Operations Support Squadron, Ellsworth AFB, S.D.
6. July 1992 - July 1993, Student, Air Command and Staff College, Maxwell AFB, Ala.
7. July 1993 - September 1995, Joint Staff Officer, Doctrine, Concepts and Initiatives Division, Plans and Policy (J5), Headquarters U.S. European Command, Stuttgart, Germany
8. September 1995 - June 1997, Chief of Safety, 28th Bomb Wing, later, operations officer, 37th Bomb Squadron, Ellsworth AFB, S.D.
9. June 1997 - June 1999, Commander, B-1 Division, and Instructor Pilot, Weapons Instructor Course, USAF Weapons School, Ellsworth AFB, S.D.
10. August 1999 - June 2000, Student, Air War College, Maxwell AFB, Ala.
11. June 2000 - June 2002, Deputy Commander, 366th Operations Group, Mountain Home AFB, Idaho

12. July 2002 - March 2004, Commander, 608th Air Operations Group, Barksdale AFB, La.
13. March 2004 - June 2006, Commander, 14th Flying Training Wing, Columbus AFB, Miss.
14. June 2006 - July 2007, Deputy Director of Air, Space and Information Operations (A2/3), Headquarters Air Education and Training Command, Randolph AFB, Texas
15. July 2007 - July 2009, Deputy Commander, Canadian North American Aerospace Defense Region, Winnipeg, Manitoba, Canada
16. July 2009 - July 2010, Commander, 379th Air Expeditionary Wing, Southwest Asia
17. July 2010 - June 2011, Director for Joint Integration, Directorate of Operational Capability Requirements, Deputy Chief of Staff for Operations, Plans and Requirements, Headquarters U.S. Air Force, the Pentagon, Washington, D.C.
18. June 2011 - October 2013, Commander, Eighth Air Force (Air Forces Strategic), Barksdale AFB, La., and Joint Functional Component Commander for Global Strike, U.S. Strategic Command, Offutt AFB, Neb.
19. October 2013 - July 2015, Commander, Air Force Global Strike Command, Barksdale AFB, La.
20. July 2015 - July 2016, Deputy Commander, U.S. Strategic Command, Offutt AFB, Neb.
21. July 2016 - present, Vice Chief of Staff of the U.S. Air Force, the Pentagon, Washington, D.C.

SUMMARY OF JOINT ASSIGNMENTS

1. July 1993 - September 1995, Joint Staff officer, Doctrine, Concepts and Initiatives Division, Plans and Policy (J5), Headquarters U.S. European Command, Stuttgart, Germany, as a major
2. July 2007 - July 2009, Deputy Commander, Canadian North American Aerospace Defense Region, Winnipeg, Manitoba, Canada, as a colonel and brigadier general
3. June 2011 - October 2013, Joint Functional Component Commander for Global Strike, U.S. Strategic Command, Offutt AFB, Neb., as a brigadier general and major general
4. July 2015 - July 2016, Deputy Commander, U.S. Strategic Command, Offutt, AFB, Neb., as a lieutenant general

FLIGHT INFORMATION

Rating: Command pilot
 Flight hours: More than 4,600, and 680 combat hours
 Aircraft flown: T-37, T-38, B-1 and B-52

MAJOR AWARDS AND DECORATIONS

Distinguished Service Medal with oak leaf cluster
 Defense Superior Service Medal
 Legion of Merit with oak leaf cluster
 Bronze Star Medal with oak leaf cluster
 Defense Meritorious Service Medal
 Meritorious Service Medal with four oak leaf clusters
 Air Medal with oak leaf cluster
 Aerial Achievement Medal
 Air Force Commendation Medal with oak leaf cluster

EFFECTIVE DATES OF PROMOTION

Second Lieutenant June 2, 1981
 First Lieutenant June 2, 1983
 Captain June 2, 1985
 Major June 1, 1993
 Lieutenant Colonel Jan. 1, 1997
 Colonel June 1, 2002
 Brigadier General Dec. 3, 2007
 Major General Sept. 1, 2011
 Lieutenant General Oct. 23, 2013
 General July 22, 2016

STATEMENT
OF
GENERAL GLENN WALTERS
ASSISTANT COMMANDANT OF THE MARINE CORPS
BEFORE THE
HOUSE ARMED SERVICES COMMITTEE
ON
MARINE CORPS READINESS
7 FEBRUARY 2017
RAYBURN HOUSE OFFICE BUILDING

General Glenn M. Walters
Assistant Commandant of the Marine Corps

General Walters was commissioned as a Second Lieutenant on 12 May 1979, after graduating from The Citadel with a degree in Electrical Engineering. Upon completion of the Officers Basic Course in November of 1979, he was assigned to 3rd Battalion, 2nd Marines at Camp Lejeune as a Platoon Commander in Weapons Company. He attended flight training in Pensacola, Florida and was designated a Naval Aviator in March of 1981.

After receiving his wings, General Walters was assigned to Marine Aircraft Group-39 for training in the AH-1T, subsequently transferring to HMA-169 as the Flight Line Officer, Flight Scheduler and Adjutant. He completed two WESTPAC cruises in 1983 and 1984 with HMM-265.

During June of 1986, General Walters was assigned to 1st Reconnaissance Battalion, 1st Marine Division at Camp Pendleton for duty as Air Officer and Operations Officer. In July of 1987 he was assigned to HMT-303 for refresher training in the AH-1J and subsequent transition to the AH-1W. In July 1987 he deployed on MAGTF 1-88 in support of Operation Earnest Will in the Arabian Gulf on the USS Okinawa. After returning to the United States he was assigned as the Assistant Operations Officer and S-4 in HMLA-169.

Departing MAG-39 in September of 1989, General Walters attended Multi-Engine Transition Training at NAS Corpus Christi, Texas. He then attended the United States Naval Test Pilot School in 1990. After graduation from Test Pilot School, General Walters was assigned to the Attack/Assault Department of the Rotary Wing Aircraft Test Directorate at Naval Air Station, Patuxent River. His duties included Flight Test lead for the AH-1W Night Targeting System, Integrated Body and Head Restraint System and AH-1W Maverick Missile feasibility testing. He was elected to the Society of Experimental Test Pilots in October of 1994.

In April of 1994, after his tour in Flight Test, General Walters was assigned duties in the Fleet Introduction Team for the AH-1W Night Targeting System at MAG-39, Camp Pendleton, CA. Upon completion of Fleet Introduction of the NTS system, General Walters assumed the duties as Operations Officer for HMLA-369, deploying to Okinawa in November of 1995. Returning from Okinawa in May of 1996, General Walters assumed the duties as XO of HMLA-369.

General Walters took command of HMT-303 on 4 June 1997, and relinquished command 21 months later on 2 March 1999, where he was subsequently assigned the duties of XO, MAG-39. During April of 1999, General Walters was transferred to the Aviation Branch, Headquarters Marine Corps, for service as the Head, APP-2 in the Aviation Plans and Programs Division. In March of 2001 was transferred to the Office of the Under Secretary of Defense, Acquisition, Technology & Logistics, Defense System, Land Warfare, where he was an Aviation Staff Specialist.

General Walters assumed command of VMX-22 on 28 August 2003, becoming the first Commanding Officer of the Squadron. In August of 2006 General Walters was assigned as head of the Aviation Requirements Branch (APW) in the Department of Aviation at HQMC. From

January 2007 to April 2008, he served as head of the Plans, Policy and Budget Branch (APP). In March of 2008 he assumed the duties of Assistant Deputy Commandant for Aviation. After his promotion to Brigadier General in August of 2008, he was assigned to the Joint Staff as Deputy Director J-8, DDRA. General Walters came to 2nd Marine Aircraft Wing in July of 2010, and assumed command of 2nd Marine Aircraft Wing (Forward) in November of 2010. He was promoted to the rank of Major General while deployed in August of 2011, and returned in March of 2012. General Walters assumed command of 2nd Marine Aircraft Wing in May of 2012 and relinquished command in May of 2013. General Walters was promoted to the rank of Lieutenant General on 7 June 2013 and was assigned as the Deputy Commandant of Programs and Resources. On August 2, 2016 General Walters was promoted to his current rank and began serving as the Assistant Commandant of the Marine Corps.

Introduction

Chairman Thornberry, Ranking Member Smith, and distinguished members of the House Armed Services Committee, I appreciate the opportunity to testify on the current state of Marine Corps readiness. The Marine Corps remains dedicated to our essential role as our Nation's expeditionary force in readiness, chartered by the 82nd Congress and reaffirmed by the 114th Congress. During 15 years of conflict in Afghanistan and Iraq, we focused investment on ensuring Marines were prepared for the fight, and they were. This was our task and our focus. Those 15 years of conflict consumed much of the useful life of many of our legacy systems while delaying replacement with new equipment. A focus on those operations, the decrease in funding levels from Fiscal Year (FY) 2012, fiscal instability and the lack of an inter-war period have left your Marine Corps insufficiently manned, trained and equipped across the depth of the force to operate in an evolving operational environment. Under the current funding levels and those we stand to face in the near future - the current Continuing Resolution and the Budget Control Act (BCA) - your Marine Corps will experience increasingly significant challenges to the institutional readiness required to deter aggression and, when necessary, fight and win our Nation's battles. Rebuilding the Marine Corps will require near term actions that can be implemented in FY17 and FY18 as well as longer term efforts in the Future Years Defense Plan (FYDP). I would like to take this opportunity to share with you the accomplishments of your Marine Corps, provide our vision for the Marine Corps of tomorrow, and to articulate the readiness challenges we face as we strive to reach that vision. With the support of the 115th Congress, we can begin the deliberate journey to overcome these difficulties and rebuild your Marine Corps for the 21st century.

Your Marine Corps Today

In 2016, your Marine Corps remained in high demand, forward deployed, and at the same operational tempo as the past 15 years. With an increasingly challenging and complex global security environment, the Joint Force continues to require and actively employs our expeditionary capabilities. During the past year, your Marines executed approximately 185 operations, 140 security cooperation events with our partners and allies and participated in 65 major exercises.

Nearly 23,000 Marines remain stationed or deployed west of the International Date Line to maintain regional stability and deterrence in the Indo-Asia-Pacific region. Our Marine Expeditionary Units (MEUs) continue their support of Joint Force requirements around the globe. Our MEUs have supported counterterrorism (CT) operations in Iraq and North Africa, humanitarian assistance and disaster relief (HA/DR) in Japan and Haiti, and remain forward deployed to respond to the next crisis. In partnership with the State Department, we employed Marine Security Guards at 176 embassies and consulates in 146 countries. Altogether, over 66% of our operating forces have been deployed or stationed overseas during calendar year 2016.

Since 2013, Marines have increasingly deployed to land-based locations due to the limited inventory of operationally available amphibious ships. Joint Force requirements remain high, and the number of available amphibious ships remains below the requirement. Despite the limitations in available amphibious shipping, your Marine Corps adapted to meet these requirements through land-based Special Purpose Marine Air-Ground Task Forces (SPMAGTFs). In 2016, we sourced SPMAGTFs to Central Command, Africa Command and Southern Command. Our Black Sea Rotational Force remains forward deployed in Europe. Although SPMAGTFs have met a limited requirement for the Joint Force, they lack the full capability, capacity and strategic and operational agility that results when Marine Air-Ground Task Forces (MAGTFs) are embarked aboard Navy amphibious ships.

What Tomorrow's Marine Corps Requires

Marine Corps institutional readiness is built upon five pillars: Unit Readiness; Capability and Capacity to Meet Joint Force Requirements; High Quality People; Installation Capability; and Equipment Modernization. First, unit readiness is always our most immediate concern. Cohesive unit teams are the instruments that accomplish national security objectives, and we must ensure our ability to successfully accomplish any mission when called. Second, when the Joint Force requires naval expeditionary capabilities, we must answer with both the capabilities and capacity necessary to meet their needs. The third, most important pillar of our readiness remains our Marines, the product of a time-tested yet evolving transformation process beginning with our Recruiting and Training Commands. The fourth, often understated, pillar of our readiness is our infrastructure. Our bases, stations, and installations, not only serve as locations where we train our Marines, but also where we sustain their equipment and support their

families. We have a backlog of \$9 billion in deferred infrastructure sustainment requirements. We require up-to-date training systems, ranges and facilities. We need resources to sustain our installation capabilities at a higher level than we have been able to reach for the last five years. Fifth and finally, we must accelerate equipment modernization, as it is essential in our transformation to a 21st century, 5th generation Marine Corps.

We require proper balance across these pillars to achieve a force capable not only of assuring allies and deterring threats, but able to rapidly respond to crises and contingencies, while remaining good stewards of the Nation's limited resources. Currently, readiness is not where it needs to be. Resources that would have otherwise been applied to installation capabilities and modernization were re-prioritized to support deployed and next-to-deploy units to safeguard near-term operational unit readiness. We are not only out of balance but are also short of the resources required to rebalance.

We require a more stable and predictable fiscal planning horizon to support increased end strength, equipment recapitalization and modernization, amphibious ship capability and capacity, and the modern infrastructure required to rebuild and sustain balanced readiness across the depth of the force. Looming BCA implementation continues to disrupt our planning and directly threatens our current and future readiness.

Unit Readiness

Despite the existing fiscal constraints, we will continue to ensure deployed units possess mission critical resources to the greatest extent possible – trained personnel, operational equipment and vital spare parts – required to accomplish their mission. Deployed and next-to-deploy units will remain our priority in the current fiscally-constrained environment while we increasingly experience risk to non-deployed unit readiness.

The most acute readiness concerns are found in our aviation units. Approximately 80% of our aviation units lack the minimum number of ready basic aircraft (RBA) for training, and we are significantly short ready aircraft for wartime requirements. Recapitalization of attack helicopters and reset of heavy lift helicopters are two examples of ways we are addressing RBA shortfalls. Our tactical fighter and attack squadrons suffer from shortages in aircraft availability due to increased wear on aging airframes subjected to continuing modernization delays. The impact of reduced funding levels on our depot level maintenance capacity still resonates today.

We have temporarily reduced the number of aircraft assigned to our fighter-attack and heavy lift squadrons. We simply do not have the available aircraft to meet our squadrons' requirements. This means that flight hour averages per crew per month are below the minimum standards required to achieve and maintain adequate flight time and training and readiness levels. Although deployed squadrons remain trained for their assigned mission, next-to-deploy squadrons are often achieving the minimum readiness goals just prior to deployment. Reduced acquisition rates for the F-35 and the CH-53K require the Marine Corps to continue to operate legacy aircraft well beyond their planned lifespan. Every dollar decremented from our procurement of future systems increases both the cost and complexity of maintaining our aged legacy systems beyond their projected life. Every dollar spent on aviation modernization now has a direct positive effect on current and future aviation readiness.

We currently maintain higher ground equipment readiness than what we experience within our aviation community, but that is small consolation given the age of most of this ground equipment. With Congress' sustained support of our reset effort, the Marine Corps has reset over 90 percent of its legacy ground equipment. Despite this effort, underlying readiness issues exist. Non-deployed forces experience supply degradation as they source low density equipment requirements in support of deployed, task organized units such as our SPMAGTFs. These equipment shortfalls create training gaps for non-deployed units preparing for their next deployment. Our most important ground legacy capabilities continue to age as modernization efforts are at minimum production rates due to limited available resources. Our Amphibious Assault Vehicles (AAVs) are a prime example. Our AAVs are now more than four decades old. Our AAV Survivability Upgrade (SU) Program will sustain and marginally enhance the capability of the legacy AAV, but will not replace any of these nearly obsolete legacy vehicles. The average age of our Light Armored Vehicle (LAV) fleet is 26 years; our oldest vehicle is 34 years old. There is currently no program identified to replace this capable but outdated platform, and yet we continue to incur increased costs with the LAV Obsolescence Program to extend its life. Our AAVs and LAVs are two of the four systems that consume 50 percent of the Marine Corps' annual depot maintenance budget. There is significant cost associated with maintaining and sustaining any legacy systems without a proportional capability increase associated with that investment. As we continue to spend limited fiscal resources to sustain legacy systems as a

result of deferred modernization, we risk steadily losing our capability advantage against potential adversaries.

Current readiness shortfalls require additional operations and maintenance resources, and we have exhausted our internal options. Additional resources would facilitate exercises and training and correct repair parts shortfalls, while specifically addressing aviation specific operations and maintenance funding. In sum, the Marine Corps has a plan to regain and sustain unit readiness. With your support, we can execute our plan to achieve required organizational readiness.

Joint Force Requirements and Capacity to Respond

The 2014 Quadrennial Defense Review (QDR) and fiscal constraints directed the Marine Corps to decrease its end strength from 202,000 to 182,000. 2014 QDR assessments and assumptions identified limited global security challenges compared to what we face today. We must continue to counter violent extremist organizations and deter both an emboldened China and a more aggressive Russia. As a result, the need for deployed and forward stationed Marines has not diminished while the size of the force has decreased. Our current end strength challenges our ability to support Joint Force requirements while simultaneously maintaining the minimum adequate time at home stations and bases to reconstitute our units and train for the full range of military operations prior to next deployment. At our current end strength, the operational tempo is creating significant and unsustainable strain on the force.

Increased support for both equipment readiness and force structure levels remain critical requirements to improve our readiness. Time is equally as vital as funding to generate required readiness levels. Our sustainable deployment to dwell (D2D) ratio is 1:3, which means a deployment of six months is followed by a period of 18 months at home station. Units require adequate home station time to conduct personnel turnover; equipment reset and maintenance; and complete a comprehensive individual, collective, and cohesive unit training program. Units need this period to ensure they are ready to meet all core and assigned Mission Essential Tasks (METs) prior to re-deploying.

These challenges are compounded by the requirements on today's force. Those requirements place a 1:2 D2D ratio on many of our units and capabilities. The current ratio equates to a home station training period one third less than what our best military judgment and experience tells us is necessary and sustainable. Some units and personnel that possess critical high demand, low

density capabilities and skill sets currently operate below a 1:2 D2D ratio. Portions of Marine aviation experience operational tempo below a 1:2 D2D ratio. Our tiltrotor MV-22 Ospreys, deployed in conjunction with KC-130J aerial refueling aircraft, provide previously unthinkable reach and flexibility to the Joint Force. Deployment requirements have also brought both communities to unsustainable D2D ratios. We recently reduced the number of those aircraft assigned to our SPMAGTFs in order to move these communities closer to a sustainable path. The capabilities provided to the Joint Force will not change; however, capacity will decrease. With increasing demand, resource limitations will further reduce Joint Force capacity and/or incur risk for home station units required for major combat operations. Some of our formations lack the requisite days of supply to sustain a major conflict beyond the initial weeks. The Marine Corps continues to support existing operational requirements, but we may not have the required capacity – the “ready bench” - to respond to larger crises at the readiness levels and timelines required.

High Quality People

The success of our Marine Corps relies upon the high quality, character, and capabilities of our individual Marines and civilians; they are the cornerstone of our readiness. Since the establishment of the All-Volunteer Force over 40 years ago through the millennial generation of today, we have successfully recruited and retained the high caliber men and women we need to operate effectively in the global security environment. Nearly 70 percent of our Marines are serving in their first enlistment, and approximately 35,000 Marines leave the Marine Corps each year. They must be replaced with the same high quality men and women. Our recruiting efforts continue to succeed in providing highly talented, patriotic men and women to replace those Marines who loyally served before. 99.89% of our newest Marines and recruits are high school graduates. This speaks to the quality of the Marines that make up our force. Despite our continued successes, we must continue to seek ways to maintain the high quality people who will comprise tomorrow’s Marine Corps. We must closely track our ability to recruit and retain our most highly qualified and skilled Marines. In order to retain Marines on our team, we require the resources to offer incentives to Marines with experience, critical skills and valuable specialties.

Marine Corps Force 2025, a year-long, comprehensive, bottom-up review of the force identified various end-strengths and the associated capabilities and modernization required to

operate in the future security environment. Through this process, we determined that we need to increase active component end strength to at least 194,000, to build new capabilities that will deter, defeat and deny adversaries and meet future Joint Force requirements. An increase of 3,000 Marines per year maintains a rate of growth consistent with effective recruiting and accession while maintaining our high standards and ensuring a balanced force. We thank you for passing the 2017 NDAA that authorizes 185,000 active component Marines. Your authorization, combined with the appropriations we still require, puts your Marine Corps on the right path to realize necessary growth that will enhance readiness.

Installation Capability

Marine Corps installations are the power projection platforms that generate our readiness; they build, train and launch combat-ready forces. Our installations provide the capability and capacity we need to support the force. This includes our two depot maintenance facilities, which provide responsive and scalable depot maintenance support. While prioritizing deployed readiness, we defer infrastructure and facility investments and modernization necessary to sustain and train our Marine Corps for the 21st century. The continued deferment of Facility Sustainment, Restoration and Modernization (FSRM) requires increased infrastructure investment now to ensure that future FSRM requirements costs do not increase. We ask for your continued support to restore and modernize our facilities.

In addition to facilities sustainment and recapitalization, we require investment in military construction (MILCON). Those investments will support the fielding of new equipment and simulation systems that facilitate improved training standards and operational readiness enhancements. Improvements in training areas, to include aerial and ground ranges, require your support for special use airspace and additional land to replace inadequate facilities.

Modernization

Modernization is the foundation of our future readiness to deter and counter growing threats. Investing in and accelerating our modernization programs directly correlate to improved overall readiness. Previous decrements to our modernization efforts deferred and delayed our critical future programs and forced us to continue investment in aged legacy systems that lack the capabilities required for the 21st century. Over time, legacy systems continue to cost more to

repair and sustain. Simultaneously, we incur the opportunity costs associated with the delayed fielding of replacement systems and the increased capabilities they will provide. When we accelerate modernization, we reduce unit costs, achieve efficiencies and save taxpayer money.

Our Aviation Modernization Plan requires acceleration after suffering recent delays, many attributed to funding deficiencies. This modernization plan has proven its worth. Our MV-22 Ospreys expand the operational reach of Marines supporting Joint Force requirements. Increasing the procurement of the F-35 and CH-53K will result in similar and greater Marine aviation capability improvements. Our first operational F-35 squadron relocated to Iwakuni, Japan last month. The squadron will deploy the F-35B as part of a MEU for the first time in 2018. We look forward to the stand-up of our first F-35C squadron, further enhancing the 5th generation capabilities of our Navy-Marine Corps Team. The CH-53K Heavy Lift Replacement remains critical to maintaining the battlefield mobility our force requires. It will nearly triple the lift capacity of the aircraft it is replacing. The acceleration of these key modernization programs will directly improve our readiness and allow us to retire aircraft that have reached or exceeded their intended life.

To modernize our ground combat element and ensure success against increasingly capable 21st century threats, we need to accelerate investments in our ground systems. We need to replace our 40-year old AAV fleet soonest. The procurement of Joint Light Tactical Vehicles as planned will incrementally replace our High Mobility Multipurpose Wheeled Vehicles that we began operating over 30 years ago and that are still in use today. This needs to be accelerated. There is currently no replacement program for our legacy LAV fleet. We need to develop and invest in a next generation replacement for this system. Additionally, we need to establish programs that develop, procure and deliver active protection systems, counter-UAS and increased long-range precision fires capabilities. The Marine Corps will need your support to recapitalize and modernize these key ground capabilities required for the future operating environment.

Amphibious platforms provide the sovereignty, strategic mobility, unmatched logistical support, operational reach, and forcible entry capability required to deter and, when necessary, defeat our Nation's adversaries. Our amphibious capability is a centerpiece to the operational success of the Navy-Marine Corps Team. Our amphibious concepts - our Naval character and expeditionary mindset - have been validated by history, and we will remain agents of change in

the future. As the operating environment changes, the Marine Corps will continue to innovate as we implement our new Marine Corps Operating Concept (MOC). The availability of amphibious shipping remains paramount to our readiness, responsiveness and the MOC. The Nation's amphibious warship requirement remains at 38. The current inventory of 31 vessels falls well short of this requirement. Recurrent maintenance challenges in the aging amphibious fleet significantly exacerbate that shortfall. The current and enduring gap of amphibious warships to requirements inhibits our Navy-Marine Corps Team from training to our full capabilities, impedes our shared ability to respond to an emergent crisis, and increases the strain on our current readiness. We will explore procurement strategies including the possibility of block buys and accelerating schedules that offer the best value for the taxpayer and allow us to retain skilled artisans in our shipyards. Along with increased amphibious ship capacity and modernization, we require the funding for the associated surface connectors that transport our Marines from ship-to-shore, including the programmed replacement of the Landing Craft Air Cushioned and Landing Craft Utility platforms. These investments will improve our overall amphibious capability and capacity.

The 5th generation Marine Corps for the 21st century must dominate the information domain. We must both enable and protect our ability to command and control (C2) Marines distributed across an area of operations. This requires transforming MAGTF C2 capabilities through a unified network environment that is ready, responsive and resilient. Recently fielded C2 systems provide a significantly increased capability associated with maneuver across the battlespace. We require support from the Congress to fully field these capabilities to the tactical edge, both in our ground and aviation platforms. These are examples of modern capabilities that will facilitate improved battlefield awareness to and from small, dispersed tactical units. As warfare evolves into a battle of signatures and detection, improvements such as these are vital to maximize our Marines' protection and effectiveness.

For too long, we have balanced the cost of our modernization efforts against our current readiness by extending and refreshing many of our legacy systems. While we judge these risks to be at manageable levels today, those risks are increasing and they are yet more examples of the trade-offs we are required to make due to fiscal reductions that accompany operational demand increases. The continued support of this Congress can mitigate and reverse these risks.

Conclusion

On behalf of all of our Marines, Sailors - many deployed and in harm's way today - and their families and the civilians that support their service, we thank the Congress and this committee for this opportunity to discuss the key challenges your Marine Corps faces. I thank you for your support as articulated in the recent 2017 NDAA. While much work needs to be done, the authorizations within, coupled with sufficient funding and the repeal of the BCA, will begin to put us on a path to rebuild and sustain your Marine Corps for the 21st century. Our FY18 plan will require adjustment for decisions in FY17 NDAA authorizations. We need to carry over decisions for FY17 and FY18 into our FYDP planning. Along with your authorization, we ask for the continued support of this Congress to appropriate the funds required to rebuild your Marine Corps. Additional end strength authorized by the Congress will help put us on the path to generate both the capabilities and capacity required in the complex operating environment our Nation faces. Additional funds will provide the "ready bench" our Nation requires and the infrastructure the force needs to train and sustain itself. Our future readiness relies upon increased procurement and modernization funding that will facilitate amphibious ship capacity and allow us to off ramp the continued funding for sustaining legacy systems. We have a plan to reset, recapitalize and modernize your Marine Corps into a 5th generation force for the 21st century. With fiscal stability and predictability and increased resources, we will provide the Expeditionary Force in Readiness our Nation requires to protect its interests and security. With the support of the 115th Congress, we will move forward with our plan and vision to ensure your Marine Corps is organized, manned, trained and equipped to assure our allies, deter and, when necessary, defeat our adversaries.

**WITNESS RESPONSES TO QUESTIONS ASKED DURING
THE HEARING**

FEBRUARY 7, 2017

RESPONSES TO QUESTIONS SUBMITTED BY MR. WITTMAN

Admiral MORAN. In addition to minimizing wear-and-tear on the fleet, disciplined schedule adherence, via the Optimized Fleet Response Plan (OFRP), is important to ensure that the limited public and private sector ship repair capacity is fully utilized. This has been, and will continue to be, challenging because of the high demand for Navy assets. In addition to schedule management, Navy is taking a number of steps to mitigate the combined impact of the backlog and workforce growth within the maintenance enterprise. First, availability schedules and workload projections in the Naval Shipyards have been adjusted based on the actual efficiency achieved by the new workforce brought on board over the last several years. Navy also routinely engages private/contracted shipyards to review and adjust availability schedules and workload projections based on hiring and execution capacity. This should help reduce unanticipated delays and cost overruns which have contributed to the backlog. Second, the Naval Shipyards are implementing new, innovative training processes to reduce the time to get new workers the skill sets to be initially useful and eventually become fully effective members of the team in comparison to the traditional on-the-job approach. Furthermore, open dialogue between Navy and private industry ensures contracted shipyards are aware of and responsive to the maintenance needs of the Fleet. Lastly, while the new shipyard workforce is being trained, Navy plans to more heavily leverage private sector capacity to increase throughput and address the backlog sooner. This includes continuing to contract out some submarine availabilities to the private shipbuilders, and bringing in more contractors to supplement the work performed within the Naval Shipyards. [See page 37.]

RESPONSES TO QUESTIONS SUBMITTED BY MS. McSALLY

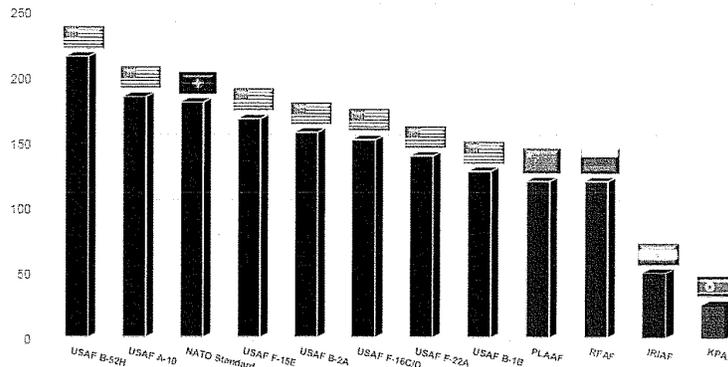
General WILSON. Current USAF flight hours approximate the NATO Standard and exceeds the flight hours of potential adversaries. [See graph.] [See page 46.]



UNCLASSIFIED

Flight Hour Comparison

Average Annual Training Hours



UNCLASSIFIED

Breaking Barriers ... Since 1947

RESPONSE TO QUESTION SUBMITTED BY MR. KELLY

General ALLYN. The National Defense Authorization Act (NDAA) 2017 authorizes the Army to grow its end strength to 1.018M which allows the Army to sustain 58 BCTs. At this end strength the Army is still at a significant risk level trending toward high. As CSA Mark Milley has previously testified, an Army of 1.2 million and 66 BCTs designed around the existing defense strategy is required to reduce the risk to a moderate level. Any increase in end strength must be fully resourced. [See page 14.]

Admiral MORAN. The Navy currently operates under a “tiered readiness” construct. To mitigate shortfalls in available resources the Navy has moved/re-prioritized aircraft, aircraft components and specific mission systems to ensure prescribed levels of readiness are met for those units advancing within their specific training cycle. The construct allows for the redistribution of finite assets according to resourcing requirements needed during each month of the Fleet Response Training Plan (FRTP). Fleet-wide requirements and risks to readiness are continually managed to ensure deployed units are fully capable for major combat operations. Typically, squadrons in a maintenance phase (not planned to deploy in the near future) or the Fleet Replacement Squadrons (FRS) are leveraged to support asset requirements. There are times a Carrier Air Wing (CVW) remains in a “sustainment” mode after a deployment. When this happens the CVW retains all of the necessary resource requirements to ensure they are able to deploy, if required. Generally, returning CVWs (not in sustainment) resource other unit requirements. Examples: Following the 2016 deployment, CVW-9 assets were re-prioritized to CVW-2 and CVW-11 for milestone training events. In March of 2017, three aircraft from Naval Air Station (NAS) Oceana, Virginia were moved to NAS Lemoore, California to support CVW-11 and CVW-17 milestone training events. The movement of assets (aircraft, aircraft components and specific mission systems) can be long-term such as a deployment or short-term to meet specific milestone training events. Ready Based Aircraft requirements are challenged by maintenance, repair, overhaul and parts shortages. In today’s fiscal environment with a reduced level of Ready Basic Aircraft, squadron proficiency is continually challenged. Second order impacts can be seen during later phases of a CVW training cycle (prior to deployment), due to aircrew and maintainer backlogs for training and maintenance requirements that have been postponed due to resource availability. These backlogs or cumulative training and readiness gaps risk established Navy readiness requirements to support major combat operations. [See page 14.]

General WILSON. The Air Force’s goal is to reach 60 healthy fighter squadrons and above 350,000 personnel. [See page 14.]

General WALTERS. [No answer was available at the time of printing.] [See page 14.]

QUESTIONS SUBMITTED BY MEMBERS POST HEARING

FEBRUARY 7, 2017

QUESTIONS SUBMITTED BY MR. LANGEVIN

Mr. LANGEVIN. I am a firm believer that there is a place for matured, advanced technologies on the battlefield to complement the more traditional, kinetic weapons systems we already have in place. The laser weapons system onboard the USS *Ponce* is a great example, and in an austere budget environment under sequestration and multiple continuing resolutions, the cheap cost-per-shot with directed energy weapon systems is appealing to many. How are your services utilizing and adapting to advanced technologies such as these? Are your soldiers, sailors, airmen, and marines building confidence in their employment of these types of weapon systems?

General ALLYN. The Army has an aggressive, but responsible, path to demonstrate a pre-prototype High Energy Laser Counter-Rocket Artillery & Mortar (C-RAM) and Counter-Unmanned Aerial System (C-UAS) capability in Fiscal Year 2022 to support the Indirect Fires Protection Capability Increment 2-Intercept (IFPC Inc 2-1) Program of Record (POR). We continue to invest in advanced beam control and tracking technologies required for use in adverse environmental conditions, and investing in research to decrease size, weight, and power requirements that will dictate the platform size for the overall laser weapon system.

In addition to some of the recent proof-of-concept demonstrations with the High Energy Laser Mobile Demonstrator, the Army has teamed with industry partners to integrate 2 kW and 5 kW lasers on to combat platforms for use in the annual Maneuver-Fires Integrated Experiment (MFI) at Ft. Sill, Oklahoma. At this year's MFI, Soldiers and Marines will use the laser system in realistic scenarios against small unmanned aerial systems. These type of events help inform requirements, tactics, techniques and procedures, concept of operations, and provide feedback to the developers that will be used to improve the system design for a POR.

Mr. LANGEVIN. I am a firm believer that there is a place for matured, advanced technologies on the battlefield to complement the more traditional, kinetic weapons systems we already have in place. The laser weapons system onboard the USS *Ponce* is a great example, and in an austere budget environment under sequestration and multiple continuing resolutions, the cheap cost-per-shot with directed energy weapon systems is appealing to many. How are your services utilizing and adapting to advanced technologies such as these? Are your soldiers, sailors, airmen, and marines building confidence in their employment of these types of weapon systems?

Admiral MORAN. The U.S. Navy has a spiral, multi-pronged approach to fielding laser weapon capability to the warfighter.

- Laser Weapon System (LaWS) on PONCE is a successful High Energy Laser (HEL) proof-of-concept that capitalized on advancements in COTS fiber laser technology. LaWS is the first-ever DOD laser weapon system deployed and approved for operational use, setting precedent for laser weapon safety and policy.
- Building on LaWS, the Navy is working on a plan to deliver Surface Navy Laser Weapon System (SNLWS) Increment 1 to a DDG in 2020. SNLWS is intended to incorporate a more powerful HEL with integrated Counter-ISR dazzling capability, leveraging mature and proven technology. By focusing on ship integration, combat system integration, reliability, and operational employment on a surface combatant, SNLWS Increment 1 will permit learning to inform future laser weapon acquisition efforts.
- SNLWS has been selected as the Navy's first Rapid Prototyping, Experimentation, and Demonstration (RPED) project, which will develop and field a HEL prototype and accelerate the integration of directed energy weapons into the fleet. The RPED program is designed to rapidly develop technologies that have an urgent field need.
- ONR's Solid State Laser Technology Maturation (SSL-TM) program is a 150 kW HEL demonstrator, scheduled for testing in 2018 against a variety of relevant target sets. SSL-TM is maturing technology to inform future SNLWS increments, which will permit increased capability and expanded mission sets.
- In parallel with these efforts, the Navy is conducting Simulation Experiments (SIMEXs) to engage Warfighters early and permit operational feedback on employment of laser weapon systems. The most recent SIMEX was held in Oct

2016, and explored Tactics, Techniques, and Procedures (TTP) and mission effectiveness of Solid State Laser (SSL) employment in a Carrier Strike Group. These combined efforts are building confidence in future employment of laser weapon systems, and enable an incremental approach to increased laser weapon capability as technology continues to mature.

Mr. LANGEVIN. I am a firm believer that there is a place for matured, advanced technologies on the battlefield to complement the more traditional, kinetic weapons systems we already have in place. The laser weapons system onboard the USS *Ponce* is a great example, and in an austere budget environment under sequestration and multiple continuing resolutions, the cheap cost-per-shot with directed energy weapon systems is appealing to many. How are your services utilizing and adapting to advanced technologies such as these? Are your soldiers, sailors, airmen, and marines building confidence in their employment of these types of weapon systems?

General WILSON. To date, there are no Air Force operationally fielded Directed Energy Weapons (DEWs). That being said, the Air Force believes we are at the pivotal point in history where DEWs are almost ready for transitioning out of the labs and into the hands of the warfighters. To support this transition, the Air Force has recently developed a DEW Flight Plan which is currently awaiting SecAF and CSAF approval. This flight plan directs multiple actions across the Air Force enterprise to enable the transition of Directed Energy capabilities to the warfighters by 2020, including experimentation, prototyping, and the establishment of a Joint Test Center to support the rapid transition of these capabilities while minimizing the cost to our taxpayers. We expect the current work being done will help Air Force Airmen adapt and use advanced DEWs technologies within the next 5 years.

Mr. LANGEVIN. I am a firm believer that there is a place for matured, advanced technologies on the battlefield to complement the more traditional, kinetic weapons systems we already have in place. The laser weapons system onboard the USS *Ponce* is a great example, and in an austere budget environment under sequestration and multiple continuing resolutions, the cheap cost-per-shot with directed energy weapon systems is appealing to many. How are your services utilizing and adapting to advanced technologies such as these? Are your soldiers, sailors, airmen, and marines building confidence in their employment of these types of weapon systems?

General WALTERS. [No answer was available at the time of printing.]

QUESTIONS SUBMITTED BY MR. TURNER

Mr. TURNER. The committee heard testimony from combatant commanders last year about the operational challenges they will face with the implementation of the policy restricting the use of cluster munitions, and the resulting shortfall in availability of critical weapon systems. We also understand that developing new compliant munitions is a costly and time-consuming process. In the interim, what resources do you need to acquire capabilities that: (a) meet commanders' operational requirements; (b) keep unexploded ordnance to a minimum; and (c) do so in a rapid, cost-effective manner?

What is the current status of the long range precision fires program, and in your opinion can we find reasonable ways to accelerate this program?

General ALLYN. The U.S. Army has developed a bridging solution for both the Cannon-Delivered Area Effects Munitions (C-DAEM) 155mm projectile and the Long Range Precision Fires (LRPF). The C-DAEM bridging strategy is an interim solution to replace the existing cannon delivered Dual Purpose Improved Conventional Munitions (DPICM) to mitigate or eliminate gaps for engagement of area targets, imprecisely located targets, moving targets, counterfire, and suppression of enemy air-defense. There is a directed requirement for the bridging strategy to procure 3,000(+) Sensor Fuzed Munitions delivered over a three year period to address medium and heavy armor targets. The bridging strategy also authorizes U.S. Army test & evaluation efforts of allied nation munitions to address light armor and personnel targets. Research Development Test and Engineering (RDT&E) cost to determine cluster munition compliance is estimated to be \$8M (FY17) and future funding is anticipated. The U.S. Army would procure ~5,000 of these anti-personnel type munitions delivered over a three year period. In addition, the U.S. Army is accelerating the Lithograph Fragmentation Technology for the M1128 projectile at a RDT&E cost of \$9.866M (FY17) with future funding anticipated. Although the bridging strategy will provide a near-term capability, it will not fully mitigate the impact created on 1 January 2019 when the use of our existing 155mm DPICM projectiles is prohibited. Furthermore, the C-DAEM program is not projected to begin deliv-

eries of a DOD Policy compliant munition until 2026. The U.S. Army will conduct a Service Life Extension Program (SLEP) of the Army Tactical Missile System (ATACMS) as a bridging solution to meet the capability gap until the U.S. Army procures LRPF. The U.S. Army plans to SLEP a total of 1,500 ATACMS missiles. LRPF is currently in the Materiel Solution Analysis phase and is completing documentation necessary to support a decision to enter the Technology Maturation and Risk Reduction phase. Shortening the time it takes to deliver capability to the warfighter is one of the U.S. Army's top priorities. The U.S. Army is considering acceleration options and decisions to execute those options will be based upon a risk informed evaluation as technology maturation provides opportunities.

Mr. TURNER. General Dunford and key combatant commanders have all discussed shortfalls in precision-guided munitions and global munitions inventories. What is the magnitude of this shortfall and what steps are being taken by the military services to address it?

General ALLYN. The Army has shortages of critical preferred munitions based on current and emerging requirements. Shortages include PATRIOT, THAAD, Hellfire, TOW, Precision Guidance Kits and Excalibur. These shortages impact the Army's ability to execute Combatant Command OPLANs and to respond and surge rapidly when needed. We are currently updating analysis based on strategic guidance to determine the magnitude of gaps and priorities to address shortfalls. The results of our analysis which will inform resourcing strategies. The Army plans to begin addressing these shortfalls in our FY18 budget request and future budget submission. Additionally, to better support Combatant Commands, we are reviewing munitions positioning to prioritize locations for forward positioned stocks.

Mr. TURNER. As you know, the Army is rebuilding capability and capacity in Europe through the European Reassurance Initiative or ERI. I am pleased to see the Army is returning armor back to Europe to provide for increased credible deterrence against ongoing Russian aggression on NATO's eastern flank. Returning an Armored Brigade Combat Team on a rotational basis is a good first step, but I am concerned this may not be enough. Are you considering growing additional Armored Brigade Combat Teams that could be deployed to Europe either on a rotational or permanent basis, and will these Armored Brigade Teams be equipped with modernized equipment, for example, will they be equipped with the most modernized versions of Abrams Tanks and Bradley Fighting vehicles?

General ALLYN. The Army is in the process of growing additional Armored Brigade Combat Teams that would be available for global commitment. In addition to the recently announced conversion of an Infantry Brigade Combat Team to an Armored Brigade Combat Team this calendar year (pending PB17 funding), we also plan to create a 16th Armored Brigade Combat Team by 2019. Significantly, the 16th Armored Brigade Combat Team will be equipped with our most modern versions of Abrams Tank and Bradley Fighting Vehicle. The addition of these two armored formations better postures the Army to meet the defense strategic guidance by developing necessary capabilities to deter and defeat peer competitors. These decisions, however, must be informed by our available resources. If budget requests remain un-appropriated by Congress, we cannot modernize our armored formations.

Mr. TURNER. Given the rapidly changing security environment and the proliferation of more advanced rocket propelled grenades and anti-tank guided missiles I am particularly interested in the Army's vehicle active protection system initiative that will help mitigate these threats in the near term. Please provide the committee with an update on this initiative and are there ways that we can accelerate the fielding of this capability?

General ALLYN. The Army's Modular Active Protection System (MAPS) Program of Record strategy is based on commonality of components, integration tailored to the vehicle, and incremental capability building blocks. The MAPS program is anticipated to support fleet-wide capability. In the near term, an expedited Non-Developmental Item (NDI) risk reduction effort is in process. This risk reduction effort installs and characterizes three different NDI Active Protective System (APS) on Abrams, Bradley and Stryker platforms to assess the technical maturity, performance and suitability. The APS prototypes are the Trophy (Manufacturer—Rafael Advanced Defense Systems) on Abrams; Iron Fist Light Decoupled (Manufacturer—Israeli Military Industries) on Bradley; and Iron Curtain (Manufacturer—Artis Corporation) on Stryker. The Abrams/Trophy effort has completed the installation and calibration portion and is currently conducting characterization. Bradley/Iron Fist Light Decoupled and Stryker/Iron Curtain are completing the APS kit mounting bracket design and fabrication that occurs prior to the installation/calibration. The effort is fully funded and on schedule to support a decision in 1QFY18 on whether to pursue limited APS fielding on an accelerated timeline.

Mr. TURNER. General Dunford and key combatant commanders have all discussed shortfalls in precision-guided munitions and global munitions inventories. What is the magnitude of this shortfall and what steps are being taken by the military services to address it?

Admiral MORAN. The DON has had to accept risk in certain mission areas due to BCA/BBA reductions. We have already begun to put into place steps that will help mitigate these risks which include but are not limited to: adjustments in loading plans and focusing future investments on procurement and sustainment funding.

WPN procurement in PB-17 was \$3.209B and with FY17 RAA we propose increasing procurement by \$0.172B for a total of \$3.38B Specific procurements include:

- 96 additional Tomahawk missiles
- 30 additional Rolling Airframe Missiles (RAM)
- 224 Laser Maverick Kits PANMC OCO procurement in PB-17 was \$0.066B and with FY17 RAA we propose increasing procurement by \$0.058B for a total of \$0.124B. The additional increase procures General Purpose bombs to replenish operational usage of JDAM and other munitions.

Mr. TURNER. Two years ago, the CNO testified that he had a strike fighter shortfall of “2–3 squadrons.” How has that changed over the past two years? What are the Navy’s plans to address current and future shortfalls? Are the Navy’s current plans in the future years defense program for procurement of F/A-18E/Fs and F-35Cs sufficient to address the strike fighter shortfall?

Admiral MORAN. We deploy our Carrier Strike Groups for strategic maritime control, for deterrence in places like the South China Sea or off the Korean Peninsula, and to project power where needed as in Syria and Iraq for the global fight on terror. The pace of deployed operations has not slowed, but the Strike Fighter inventory to conduct those operations continues to shrink as we expend approximately 2–3 Strike/Fighter squadrons a year. Navy tactical aircraft are designed for a limited service life. The F/A-18 variant was designed to fly 6,000 flight hours and to be in service 23 to 25 years. After 6,000 flight hours, the aircraft will need to be stricken from the inventory since it has expended the designed service life of the airframe, systems and components. The F/A-18 fleet is flying on average 180,000 flight hours per year which equates to the entire fleet expending 24–36 aircraft worth of service life per year, or approximately 2–3 squadrons. To complicate the situation, years of underfunded readiness accounts due to fiscal constraints of the Budget Control Act and Bipartisan Budget Acts have left our shelves short of parts, and many aircraft sit on the ramp in a non-mission capable status. This operational tempo and aircraft expenditure has caused an increasing strike fighter inventory management challenge. Our oldest F/A-18C aircraft are reaching the end of their service life, and the ones that are in the depot require extensive work due to corrosion and fatigue. To address this growing strike fighter shortfall, the Navy has three basic options or “levers”:

- 1) Manage and conserve hours on our aging fleet—unfortunately the world gets a vote and our operational tempo has not slowed;
- 2) Extend aircraft service life from their originally planned 6,000 hours to 9,000 hours (or more) using our aviation depots and commercial assistance;
- 3) Procure new aircraft. The Navy expects the first F/A-18E/F to reach 6,000 hours in CY 2018. By the mid-2020s, we expect to induct 60–70 aircraft per year into our depots. To solve our existing Strike Fighter gap, cover the surge in depot throughput, and increase capacity and readiness on the flight line, we must procure aircraft throughout the FYDP. The FY17 Request for Additional Appropriations begins to address these issues through increased funding of readiness accounts, depot maintenance and Super Hornet procurement, but sustained funding over time is necessary to solve the long-term Strike Fighter inventory problem.

Mr. TURNER. The committee heard testimony from combatant commanders last year about the operational challenges they will face with the implementation of the policy restricting the use of cluster munitions, and the resulting shortfall in availability of critical weapon systems. We also understand that developing new compliant munitions is a costly and time-consuming process. In the interim, what resources do you need to acquire capabilities that: (a) meet commanders’ operational requirements; (b) keep unexploded ordnance to a minimum; and (c) do so in a rapid, cost-effective manner?

General WILSON. The Air Force currently has plans for four development and procurement efforts to address different targeting aspects that were previous covered by cluster munitions. To address armored targets, both mobile and stationary, the Air Force is developing and procuring the Small Diameter Bomb increment II (SDB II). To address the smaller area softer targets, Air Force is developing and procuring

the 500-pound Cast Ductile Iron (CDI) bomb. To address the larger area soft targets, Air Force is planning to design and procure a high fragmenting 2,000 pound bomb (HF-2K). To enhance effectiveness and lethality, Air Force is designing a cockpit selectable height of burst sensor (C-HOBS) that will work with both legacy and new warheads. The combination of these technologies are expected to meet combatant commanders' operation requirements and will keep unexploded ordnance to a minimum by using unitary warheads and avoiding use of cluster munitions. The plan will start providing capability in late FY18 with additional capabilities coming on line over the FYDP. The resources planned for these developments and production needs to be preserved to ensure these technologies are provided to the warfighter in a timely manner.

Mr. TURNER. General Dunford and key combatant commanders have all discussed shortfalls in precision-guided munitions and global munitions inventories. What is the magnitude of this shortfall and what steps are being taken by the military services to address it?

General WILSON. Ongoing operations against ISIS are expending many more weapons (>51K) than planned for in a contingency operation (Air Force has expended an OPLAN level of munitions). As a result, most direct attack munitions have current and forecasted inventory shortfalls. Munitions experiencing shortfalls due to OIR are Hellfire missiles, Joint Direct Attack Munitions (JDAM), Small Diameter Bomb I (SDB I) and Hellfire missiles. High expenditures are expected to continue in FY17. We were able to utilize Overseas Contingency Operations funding to replenish the munitions with high combat expenditures to date. However, this funding, while important, is only a means of replenishing what is used in contingencies and generally results in replenishment 2-4 years after the munitions are expended.

Mr. TURNER. The Air Force currently has 55 fighter squadrons, but a recent "State of the Air Force" paper described a need to grow to 60 fighter squadrons. What requirement is driving that increase of five fighter squadrons?

General WILSON. The Air Force requires a fighter force structure to meet current Defense Planning Guidance (DPG) requirements and our current counterterrorism deployments. Our analysis has determined 55 fighter squadrons does not allow for rotational counterterrorism forces to remain on task during a major theater conflict as described in the DPG. Additionally, the rotational demand on the 55 fighter squadron force has proven to decay personnel and equipment readiness for full spectrum conflict. The gradual growth to 60 fighter squadrons will improve readiness and reduce our capability and capacity challenges associated with meeting both a DPG-tasked scenario and counter-terrorism operations.

Mr. TURNER. The committee heard testimony from combatant commanders last year about the operational challenges they will face with the implementation of the policy restricting the use of cluster munitions, and the resulting shortfall in availability of critical weapon systems. We also understand that developing new compliant munitions is a costly and time-consuming process. In the interim, what resources do you need to acquire capabilities that: (a) meet commanders' operational requirements; (b) keep unexploded ordnance to a minimum; and (c) do so in a rapid, cost-effective manner?

General WALTERS. [No answer was available at the time of printing.]

Mr. TURNER. General Dunford and key combatant commanders have all discussed shortfalls in precision-guided munitions and global munitions inventories. What is the magnitude of this shortfall and what steps are being taken by the military services to address it?

General WALTERS. [No answer was available at the time of printing.]

QUESTIONS SUBMITTED BY MR. SHUSTER

Mr. SHUSTER. The House Appropriations Committee has made cuts to the Army Operations and Maintenance Budget due to allegations that the Army is holding too much carryover. Can you discuss the impact that cuts to Army O&M have on things like production orders, systems, unit costs and depots? Would you say that ultimately these cuts cost us more than they save?

General ALLYN. I believe cuts to Army O&M impact our ability to conduct proper production planning, leading to inefficiencies and higher costs to the Army. Also, as workload declines, the reductions impact our ability to retain our skilled artisans and impact our ability to reconstitute capability requirements for wartime surge. This will make our ability to surge more expensive. Our goal is consistent and predictable funding that reduces this turbulence and enables our depots to create outputs that increase Army readiness at the lowest possible cost.

Mr. SHUSTER. General Allyn, given the heightened threat picture we see around the world and the readiness issues being reported, do you believe current Army Organic Industrial Base capability meets the demand? In other words, do we have enough capacity in our depots to deal with the array of dangers we face in the world?

General ALLYN. Yes, the Army Organic Industrial Base (OIB), which is comprised primarily of manufacturing arsenals, maintenance depots, and ammunition plants, has the required capability and capacity to deal with the array of dangers we face in the world and to meet readiness demands. The Army continually assesses the capability and capacity of its OIB to ensure the Army maintains the required level of readiness to meet the needs of the Warfighter.

QUESTIONS SUBMITTED BY MS. SPEIER

Ms. SPEIER. General Allyn, Deputy Secretary of Defense Robert Work reported to Congress last year that more than 20 percent of the Department's bases will be considered excess by 2019. How much will that excess capacity cost the Army per year? Could those savings instead be applied to meeting unfunded Army requirements?

General ALLYN. The Office of the Secretary of Defense uses the Parametric Capability Analysis to estimate excess "base loading capability. Using this analysis, the Army's estimated excess is 33 percent at a Total Army strength of 980,000 Soldiers. The Army has done additional internal analysis of excess capacity as measured in square footage of facilities, and concluded that the Army would have approximately 21 percent or 161 million square feet of underutilized or excess capacity and our FY17 NDAA authorized strength of 1.018M Soldiers. The vast preponderance of excess capacity is not empty buildings, but partially occupied ones costing about the same to maintain as fully occupied buildings. Namely, it costs the Army about \$3 per square foot per year to maintain an occupied facility, even if it is underutilized. So a conservative estimate for the carrying costs of this excess capacity is about \$500M per year. On top of the facility costs, excess capacity generates significant fixed annual recurring costs in the Army's Base Operations Support (BOS) accounts. It costs between \$30–50M per year to operate a medium-sized Army installation with municipal services like garbage/wastewater removal, security guards, IT support, landscaping, pest control management, child care, snow removal, commissaries etc. Most of these costs are the salaries of the garrison staff and support contractors, which are incurred regardless of whether the installation has 100 Soldiers, 1,000 Soldiers or 10,000 Soldiers assigned. Estimating excess capacity BOS costs is difficult because BOS expenses are non-linear relative to population, and savings accrue mainly when an installation is inactivated. Historically, this BOS expenses provided the bulk of the Army's \$2B in annual recurring savings from the five previous BRAC rounds were realized. BRAC savings can be reinvested into higher priority areas and unfunded requirements, such as maintaining a higher force structure, increased readiness levels through higher-funded training events, expanded research, or additional procurement. BRAC also provides the Reserve Components an opportunity to re-look the demographic areas in which they operate, and recapitalize into a more efficient and mission effective footprint.

Ms. SPEIER. Admiral Moran, Deputy Secretary of Defense Robert Work reported to Congress last year that more than 20 percent of the Department's bases will be considered excess by 2019. How much will that excess capacity cost the Navy per year? Could those savings instead be applied to meeting unfunded Navy requirements?

Admiral MORAN. Deputy Secretary of Defense Work's report to Congress indicated that indicated that the DOD has 22% excess infrastructure capacity when compared to then-projected FY19 force levels, distributed as follows: Army—33%; Navy—7%; Air Force—32%; and the Defense Logistics Agency—12%. This analysis was completed at a macro-level and did not identify specific bases or individual facilities by name. Since then, the Navy has proposed growing from an FY19 projection of 311 ships to 355 ships, and the Navy will need to reevaluate its excess capacity to determine if this amount still exists in light of potential force structure changes and/or increased requirements. The Base Realignment and Closure (BRAC) process is the only fair, objective, and proven process within which DOD can holistically review infrastructure to determine and reduce excess and configure its infrastructure so it is best positioned to meet strategic and mission requirements.

Ms. SPEIER. General Wilson, Deputy Secretary of Defense Robert Work reported to Congress last year that more than 20 percent of the Department's bases will be considered excess by 2019. How much will that excess capacity cost the Air Force

per year? Could those savings instead be applied to meeting unfunded Air Force requirements?

General WILSON. To date, the Air Force has only executed high-level parametric analysis and has not analyzed excesses by specific categories whose costs could be estimated. Whole base closures are the most effective means to reduce infrastructure costs, and on average, the Air Force's annual savings after a BRAC round implementation is roughly \$600M every year (five rounds of BRAC totaling \$2.9B in annual savings).

Savings from a new round of BRAC would be applied against the Air Force's next highest unfunded requirements. By consolidating missions onto fewer installations and closing whole installations it no longer needs, the Air Force would save every year in perpetuity, funding spent on keeping the gates open and lights on. This funding would be reallocated to bolster mission-critical readiness, modernization, and infrastructure spending at enduring installations.

Ms. SPEIER. General Walters, Deputy Secretary of Defense Robert Work reported to Congress last year that more than 20 percent of the Department's bases will be considered excess by 2019. How much will that excess capacity cost the Marine Corps per year? Could those savings instead be applied to meeting unfunded Marine Corps requirements?

General WALTERS. [No answer was available at the time of printing.]

QUESTIONS SUBMITTED BY MR. LAMBORN

Mr. LAMBORN. General Allyn, your testimony today is nearly identical to General Milley's testimony before this committee last year: the Army is not ready "to conduct sustained ground combat in a full spectrum environment against a highly lethal hybrid threat or near-peer adversary." In your best military judgment, do we have enough Armor BCTs, especially when you look at current and potential future commitments in Europe, the Pacific, and the Middle East?

General ALLYN. No. Based on extensive modeling and wargame analysis, any conflict in Europe would easily stretch the Army's armor capacity to a point where we don't have sufficient ready forces. What is often forgotten is the constant demand for armored formations in the ongoing operations in U.S. Army Central Command (USCENTCOM) area of responsibility, as well as the Korea rotation, and the requirement to support these missions indefinitely through the sustainable rotation of forces. Hence, if we were to confront two near simultaneous major conflicts, along with the current demand, we would barely have enough Armor BCTs, with every formation deployed regardless of readiness, and we would have no depth to rotate forces over the course of lengthy combat operations. This analysis is why an Army budget request for the FY17 Budget Supplemental and future budget requests will support the conversion of one IBCT to an ABCT in 2018 and 2019.

Mr. LAMBORN. The Army's recent Unfunded Priority List contained \$1 billion for air defense, which General Milley also recently spoke about as a priority at AUSA. Is the Army sufficiently prepared to defend itself from air threats, whether ISIS drones, attack helicopters, high-end fighters, bombers, and cruise missiles, or rockets, artillery, and mortars, and what are you doing to better address this threat?

General ALLYN. The Army currently has the capability to defend our Soldiers and assets from a variety of air threats, but we lack sufficient capacity and, in some cases, capability to counter advanced threats. To address this in the near-term, we are modernizing our Air and Missile Defense (AMD) forces with digital radar processors, improved interceptors, upgraded sensors, advanced software builds, and a command and control system to integrate all Army air and missile defense systems. The Army has a Counter-Rocket, Artillery, and Mortar system using the Land-Based Phalanx Weapons System, deployed to multiple locations in Iraq and Afghanistan. We have also provided a variety of systems to USCENTCOM to defend against low, slow, small drones, and we are testing even more systems for employment in the near term. The Army is taking a phased approach to developing AMD capability; in the interim we are developing Stinger-based solutions, e.g. Stinger Proximity Fuse to increase lethality against these small drones. The objective solutions may include kinetic and non-kinetic defeat options. We will increase Maneuver-Short Range Air Defense (SHORAD) capacity over the next several years to field a mobile, survivable platform to protect our Soldiers from attack helicopters, drones, and other air threats. Additionally, the Army has programmed funding for the development and fielding of the Indirect Fire Protection Capability, Increment 2-Intercept (IFPC, Inc 2-1), with Initial Operational Capability (IOC) scheduled for 2020. Once fielded, the Army will protect static and semi-static assets from cruise missiles and unmanned aerial systems (UAS), and the Army will identify and engage fixed

and rotary-wing threats at greater ranges than is currently possible. Finally, the Army intends to update our Patriot radar system with the Lower Tier Air and Missile Defense Sensor (LTAMDS). The effort will provide 360 degree capability to counter air threats from UAS to tactical ballistic missiles (TBM), with increased electronic and cyber protection to the system.

Mr. LAMBORN. What lessons did the Army learn from its recent movement of the 4th Infantry Division's 3rd Armored Brigade Combat Team from Germany to Poland via commercial rail?

General ALLYN. The Army utilized the deployment of 3/4 ID to validate current deployment processes and procedures. Multiple lessons learned from the tactical (unit load plans), operational (local port employee business practices) and strategic (sequencing of border crossings) will be incorporated into future operations. In addition, rail movement from ports in Europe to training areas in Poland provided us with an excellent opportunity to exercise our rail loading procedures and the command, control, coordination necessary to operate with both national and international partners. As we move forward and continue to conduct strategic mobilization and expeditionary operations, we will validate our rail and port operations during exercises in the continental United States and overseas.

Mr. LAMBORN. How are space and cyber being integrated into COCOM OPLANS, especially when it comes to addressing "worst-case scenario" space and cyber threats? Do you have sufficient authorities, resources, and posture to respond to space threats?

General WILSON. The DOD has multiple options when responding to "worst case scenarios" related to space and cyber threats. While U.S. Strategic Command has an overarching lead for addressing threat actors that cross multiple, Geographic Combatant Commands, the Air Force does have some thoughts for your consideration.

First, there is a space annex integrated into each of the OPLANS that describes the actions and deployment of Air Force space systems. We have identified the necessary forces and are fully prepared to execute the actions contained within these OPLANS. Additionally, each combatant commander has the responsibility to protect critical warfighting assets in all five warfighting domains. Exercising specific OPLANS enables combatant commanders to identify vulnerabilities and prepare to fight in a contested environment.

Air Force Space Command recognizes the growing space threat and continues to prepare forces for the contested space environment. The Space Enterprise Vision describes the future force and systems needed for mission assurance and the Space Mission Force construct permits Air Force Space Command personnel to conduct focused training for emerging threats.

Second, consistent with its core responsibilities, the Department of Defense is prepared to support the Department of Homeland Security or a sector-specific agency to address threats to U.S. civilian critical infrastructure. Therefore, when directed, the U.S. military can conduct military operations, including cyberspace operations, to counter an imminent or on-going attack against critical infrastructure. Additionally, to facilitate multi-domain operations, the Air Force stood up non-kinetic effects cells within our Air Operations Centers that enable OPLAN execution to address the Joint Force Air Component Commanders objectives.

To answer the second part of your question, CDR USSTRATCOM is responsible for posturing and employing space capabilities. We believe he is postured to employ his assets in a timely manner to respond to current and emerging space threats but doesn't have timely authorities, in all cases necessary, to fully protect all space assets. As the Space Domain becomes increasingly contested, we must develop and subsequently delegate authorities to the appropriate level to ensure the ability to protect of assigned systems against real-time threats.

The Air Force Space Enterprise Vision (SEV) identifies numerous capabilities to counter emerging space threats. We need your help in funding SEV identified capabilities. Additionally, the Space Mission Force is predicated on advanced training to prepare crews to operate in a contested environment with advanced adversaries. The current training infrastructure requires additional resources to sufficiently (1) upgrade our modeling and simulation, (2) provide advanced adversarial training (aggressors), and (3) upgraded training ranges.

QUESTIONS SUBMITTED BY MR. SCOTT

Mr. SCOTT. General Wilson related "it makes sense to invest wisely, so BRAC would help us make smart investments to prepare for the future." Furthermore, "the Air Force has 25 percent excess capacity."

Please provide additional context for this statement and define the term 'excess capacity'?

How was the figure 25 percent calculated and what is included?

Is it 25 percent of aircraft support facilities such as runways, hangars, etc.?

Is it 25 percent of overall base infrastructure to include work space facilities and housing?

What installations have this excess?

Given the Air Force's stated shortfall of pilots, low aircraft inventory, and the ever increasing demand on the depot facilities, how does the 25 percent excess capacity statement square with demand for growth?

General WILSON. The Air Force estimates its excess infrastructure capacity using a parametric capacity analysis (PCA) that compares force structure and infrastructure inventory from a benchmark year 1989, and compares it to a future year force structure and infrastructure inventory. Infrastructure inventory was evaluated across several subsets including: parking apron; depot capacity; classroom space; space operations facilities; and product centers, laboratories, test and evaluation centers. PCA does not evaluate housing excess capacity.

PCA yielded 28% excess capacity when plugging in AF's FY12 force structure (333K Active end strength and 5,587 Total Aircraft Inventory (TAI)). If we raise our force structure to 350K Active end strength with comparable increase in reserve component & TAI, PCA yields 24% excess capacity. VCSAF in testimony just rounded these figures to a rough "25% excess capacity."

PCA is deliberately designed to not determine specific excess at any one base, but rather be a leading indicator of excess capacity across the Air Force enterprise considering changes in inventory and force structure. We do not have an installation-by-installation assessment of excess capacity as this would require a much more detailed, installation and weapon-system specific data collection and analysis effort.

In summary, even at most aggressive force structure increases (350K Active end strength), AF still anticipates having sufficient excess capacity to allow divestiture of whole installations while maintaining enough swing space for contingencies. A BRAC will allow the AF to analyze future force structure and develop beddown scenarios which will allow us to grow in the right places.

QUESTIONS SUBMITTED BY MR. GRAVES

Mr. GRAVES. General Wilson, in your testimony, you state "we must restore full-spectrum readiness to continue to provide unrelenting Airpower for the joint force." The Air National Guard, and the National Guard in general, has seen an increase in overseas involvement since 2001, not only to combat terrorism but to provide vital support for peacekeeping missions.

Given that part of their Federal mission is to maintain a well-equipped force to be ready to defend the United States at a moment's notice, how have our current budget constraints affected the Guard's ability to fulfill their Federal commitment? Specifically how has our airlift capability been affected and how does that impact the overall goal of "full-spectrum readiness?"

General WILSON. The Air National Guard has faced many challenges in fulfilling our federal commitment. We were engaged in the Air Expeditionary Force before 9/11 and contributed essential forces to overseas contingencies as a key part of the U.S. Air Force. However, twenty-seven years of continuous combat combined with the negative incrementalism of force structure cuts to the active component and mission changes to the Guard have created a situation where our readiness has significantly degraded over the last eight years. Prior to BRAC 2005 our readiness concerns were focused on equipment. Today our most significant readiness concerns for both fighter and airlift capabilities has been personnel and training. The retirement of the baby boomers and significant and repeated unit mission changes along with the reduction of the active component training force (namely Air Education and Training Command) and more technical and demanding training has created a less experienced and younger force operating very old and aging aircraft and systems. Funding shortages have created parts and spares shortfalls and with an average fleet age of 31 years many parts are no longer available and must be specially manufactured. Many of our KC-135 aerial tankers were manufactured in the late 1950s but are at the heart of our ability to project power throughout the world. Budget cuts have reduced our C-5 and C-130 fleets to bare bones numbers and even with the lower numbers we struggle to train enough aircrews and maintenance personnel. Overall, our full-spectrum readiness is at historically low levels and not projected to level off or improve for several years. The good news is that Guardsmen continue to step up to their calling and have fulfilled their federal mission although

this has been done at a great cost to themselves, their families, and their employers as the operations tempo keeps Guardsmen deployed to support our Combatant Commanders throughout the world.

QUESTIONS SUBMITTED BY MR. BROOKS

Mr. BROOKS. Congress has demonstrated our desire for the Department of Defense (DOD) to use tubular LED (TLED) lights to replace fluorescent lights through many legislative means in the recent past. Congress has also encouraged the DOD to change the Unified Facilities Criteria (UFC) to allow greater usage of TLEDs on military bases. The Navy fleet already allows direct wire TLED technology for the fleet with great energy and manpower savings. Can you please explain to the committee why the DOD bans a safe and proven technology, used at major hospitals, schools, and other public building? Would you support changing the UFC to allow direct wire TLEDs on DOD bases?

General ALLYN. The Army does not support changing the UFC to allow Type B (aka, direct wire) Tubular LED retrofits into fluorescent lighting fixtures. The Department of Defense currently prohibits this type of lamp to be used as a retrofit on the basis that retrofitting fixtures with the Type B tubular LED has the potential for adverse incidents including overheating, smoking, and catching fire. Furthermore, the Tri-Services Electrical Working Group has expressed concern regarding worker safety in bypassing the ballast. This action could allow someone merely changing the light tube to be potentially subjected to voltages higher than 120V, which could result in serious injury, death, and arc flash hazard. Manufacturers of the Type B lamp will argue that by properly removing or disabling the ballasts eliminates the possibility the ballasts can overheat and thus become a life/health/safety risk. There is no easy way to ascertain that a retrofit project has correctly removed 100% of the ballasts without exception. Army sampling of projects retrofitted with Type B ballasts has found instances where the installer inadvertently left the ballast connected in multiple fixtures. It is important to note that when the fixtures are modified (or not) to accept the Type B lamps, there is no way to inspect without disassembling the lighting fixtures to ensure that the required modifications have been properly accomplished. This leaves open the possibility that the retrofit team may have inadvertently omitted fixtures from being properly retrofitted. Type B lamp retrofits require electrical (and possibly mechanical) fixture modification to bypass or remove the ballast, creating opportunities for unsafe alterations and associated electrical hazards. For these reasons, the Army does not intend to retrofit fluorescent lighting fixtures with direct wire TLEDs. The Department approves Type A lamps, which do not require any electrical or mechanical modifications, to be used during lighting efficiency retrofits. In fact, this is the most cost-effective Energy Conservation Measure (ECM) commonly used in Energy Savings Performance Contracts.

Mr. BROOKS. The tubular LED (TLED) lights used in today's fleet are not just glass tubes filled with gas, they are sophisticated, high-tech pieces of electronic equipment. That sophistication is what allows TLEDs to produce the highest quality light and reduce energy consumption while meeting the rigorous requirements of the Navy lighting specification. The Navy must be certain of the supply chain for the electronic components used in TLEDs. The Defense Logistics Agency (DLA) recently approved a Canadian manufacturer whose components are unknown to sale TLEDs to the U.S. Navy fleet. What will you do to ensure that the domestic industrial base for high-tech TLEDs are protected and how will you ensure that the components brought on board Navy ships are safe and secure?

Admiral MORAN. Under 10 U.S.C. 2500(1), Canada is considered part of the national technology and industrial base. The Navy defers inquiries regarding protections to the domestic industrial supply base to the Defense Logistics Agency. Tubular LED lighting is one of several LED lighting options available for shipboard use. Other available LED shipboard lighting options include LED lighting fixtures with an array of LED elements built into the fixture. LED lighting is widely available in the commercial, commercial marine and industrial lighting markets. By leveraging vendors and products that supply the commercial and industrial lighting markets, the Navy is utilizing an existing industrial base. These LED lighting vendors have demonstrated via a rigorous qualification process that they can produce LED lighting that meets the requirements for the shipboard environment. Navy technical and qualification requirements ensure components are safe for naval use. LED lighting products are tested per specification (MIL-DTL-16377) to ensure safety of personnel and equipment in a shipboard environment. From a security perspective, LED lighting is only connected to the shipboard electrical power and struc-

tural systems. Additionally, the lights undergo electromagnetic interference testing to insure that signals or interference from the LED lights will not impact or interfere with surrounding equipment.

Mr. BROOKS. Currently, the Navy has no commonality/standardization in regards to how you are updating your interior lighting for the fleet. You are using legacy fluorescent tubes, a LED bolt on array, a light guide, and replacing legacy fluorescent tubes with tubular LED (TLED) lights. Vice Admiral William Hilarides recommended a “Common Interface” for light sources across the fleet in all Type III shipboard luminaries. What steps are you and your office doing to implement this recommendation and achieve a “Common Interface?” It is my understanding that the Navy has converted roughly 34 percent of the fleets lighting from fluorescent tubes to TLEDs. Is simply keeping the current fixture and replacing fluorescent tubes with TLEDs the right answer?

Admiral MORAN. It is the Navy’s intent to shift shipboard lighting away from fluorescent and incandescent lamps to LED lighting solutions to implement energy savings and to improve sailor shipboard quality of life. NAVSEA concluded that the most cost effective “common interface” is achieved through standardization of power, size, and mounting requirements. Updated requirements (MIL-DTL-16377) were signed out in June 2014 and allows for implementation of LED lighting in an affordable manner. The specification covers a broad range of shipboard applications, which allows users to select the proper configuration. This “common interface” accommodates the necessary commonality requirements to support both fixtures and tubes and allows for the use of TLEDs for new construction ships, and as replacements for fluorescent tubes as an economical “backfit” option for in-service ships.

Mr. BROOKS. Congress has demonstrated our desire for the Department of Defense (DOD) to use tubular LED (TLED) lights to replace fluorescent lights through many legislative means in the recent past. Congress has also encouraged the DOD to change the Unified Facilities Criteria (UFC) to allow greater usage of TLEDs on military bases. The Navy fleet already allows direct wire TLED technology for the fleet with great energy and manpower savings. Can you please explain to the committee why the DOD bans a safe and proven technology, used at major hospitals, schools, and other public building? Would you support changing the UFC to allow direct wire TLEDs on DOD bases?

Admiral MORAN. UFC 3-530-01 Interior Exterior Lighting and Controls allows the use of Type A TLEDs. This is supported across the Services and is recognized in criteria and contract solicitations. Type B (direct wire) TLEDs are not supported by UFC 3-530-01 Interior Exterior Lighting and Controls. The fluorescent light fixture ballasts serve to significantly limit incoming line current to the lamp holders. This limits the potential shock hazard and ARC flash (thermal) hazard to anyone changing a burned-out lamp while the fixture is energized. Type B LED retrofit installation requires removal or bypass of the light fixture’s ballast. With the ballast removed or bypassed, incoming line current at full voltage (120, 277, or 480 volts) directly reaches the lamp holders. This exposes maintenance personnel to significant safety risks including electrical shock, ARC flash hazard, and fall hazard when installing and routinely replacing a lamp. On the other hand, Type A TLEDs do not require fixture modifications and provide safe and cost effective implementation of TLED technology into DOD facilities. A further complication is the lack of an industry standard for Type B lamp holders. Each manufacturer has its own unique lamp holder which prevents use of lamps from other manufacturers. This differs from all other types of commercially-available lighting technology (e.g., incandescent, metal halide, high-pressure sodium, induction, and fluorescent), each of which follows a common industry standard. (Type A linear LED lamps also fall into this category, by accommodating the standard lamp holder for fluorescent fixtures.) Should one make and model of Type B lamp prove unsatisfactory or become unavailable, the user would be forced to perform yet another modification to the fixture to accommodate the lamp holder of a different model or manufacturer.

Mr. BROOKS. Congress has demonstrated our desire for the Department of Defense (DOD) to use tubular LED (TLED) lights to replace fluorescent lights through many legislative means in the recent past. Congress has also encouraged the DOD to change the Unified Facilities Criteria (UFC) to allow greater usage of TLEDs on military bases. The Navy fleet already allows direct wire TLED technology for the fleet with great energy and manpower savings. Can you please explain to the committee why the DOD bans a safe and proven technology, used at major hospitals, schools, and other public building? Would you support changing the UFC to allow direct wire TLEDs on DOD bases?

General WILSON. Unified Facilities Criteria (UFC) 3-530-01, Interior and Exterior Lighting Systems and Controls, was updated on 1 Jun 2016 to allow linear LED lamps (also referred to as TLED lights) for Air Force and Army projects. The up-

dated UFC can be found at <https://www.wbdg.org/ffc/dod/unified-facilities-criteria-ufc/ufc-3-530-01>.

QUESTIONS SUBMITTED BY MS. STEFANIK

Ms. STEFANIK. Like many of my colleagues, I want to focus on military readiness, but in the context of emerging threats, and how we maintain the edge on a 21st century battlefield. Other near-peer adversaries and terrorist organizations have both exercised an increased use of cyber capabilities to support their objectives. How confident are you in each of your services cyber capabilities and how well they are tied in to the interagency apparatus?

General ALLYN. The Army is very confident in its progress and development of the Cyber Mission Force and its operational capabilities in a very complex and contested domain. Today, the Army is engaged in real world cyberspace operations against our adversaries, and we will need additional tools, platforms, architecture and force structure to meet some operational demands. The Army's mission is to protect the Army's portion of the DOD information environment, support the joint cyber mission force and Unified Combatant Command requirements, as directed. In order to maintain our technological edge and prevail in the cyber domain we require sustained investment in building out the right force structure and development of the right capabilities. Cybersecurity requires a collaborative approach with a range of interagency and industry partners. Through U.S. Cyber Command (USCYBERCOM), ARCYBER partners with the DOD and Intelligence Community and collaborates with federal agencies, industry, academia and international partners. The Army can no longer assume continuous superiority in any domain because potential adversaries have made significant strides to disrupt or deny the use of Army combat capabilities that rely on the electromagnetic spectrum. In addition, we must also recognize the close interrelationship and interdependencies between the electromagnetic spectrum and the cyber domain. Accordingly, it is critical that the Army modernize its Electronic Warfare (EW) capabilities in order to first counter and then overmatch potential adversaries in the Electromagnetic Spectrum with EW capability and capacity.

Ms. STEFANIK. Like many of my colleagues, I want to focus on military readiness, but in the context of emerging threats, and how we maintain the edge on a 21st century battlefield. Other near-peer adversaries and terrorist organizations have both exercised an increased use of cyber capabilities to support their objectives. How confident are you in each of your services cyber capabilities and how well they are tied in to the interagency apparatus?

Admiral MORAN. The Navy has taken aggressive steps to hire and retain the cyber talent needed to operate and win in this new threat environment. We are maturing cyber offensive and defensive capabilities in concert with the joint forces and the interagency in order to assure our network availability and integrity while holding adversaries at risk. There is more work to be done to fully assure maritime command and control in a contested cyber environment, as the nature of this threat continues to morph over time. No one service or agency can do it alone and much of this work is conducted through the U.S. Cyber Command Cyber Mission Force on behalf of Combatant Commanders, DISA, and the Services. For cyberspace operations, collaboration, integration and coordination is extremely important due to the global operational nature of the cyber domain. To that end, the Navy has established a close working relationship with U.S. Cyber Command, our sister-services, and our interagency partners to support a whole of nation response to cyber threats. As we continue to face this rapidly changing cyber threat environment, the Navy will remain vigilant in detecting and sharing cyber threat information with our joint and interagency partners to share best practices and ensure mission success across all warfighting domains.

Ms. STEFANIK. Like many of my colleagues, I want to focus on military readiness, but in the context of emerging threats, and how we maintain the edge on a 21st century battlefield. Other near-peer adversaries and terrorist organizations have both exercised an increased use of cyber capabilities to support their objectives. How confident are you in each of your services cyber capabilities and how well they are tied in to the interagency apparatus?

General WILSON. The USAF has strong ties with the interagency and engages regularly with DHS, the National Intelligence community, and other federal partners. Our robust relationship helps with the sharing of indications and warnings and aids in focusing our mutual employment of our defensive cyber capabilities. While we continually strive to improve our operations, I am confident that our offensive forces

can rise to the occasion when tasked to employ the required capabilities to achieve the desired effects.

Ms. STEFANIK. Like many of my colleagues, I want to focus on military readiness, but in the context of emerging threats, and how we maintain the edge on a 21st century battlefield. Other near-peer adversaries and terrorist organizations have both exercised an increased use of cyber capabilities to support their objectives. How confident are you in each of your services cyber capabilities and how well they are tied in to the interagency apparatus?

General WALTERS. [No answer was available at the time of printing.]

QUESTIONS SUBMITTED BY MS. HANABUSA

Ms. HANABUSA. Our 21st century Army is playing a critical role in the Asia-Pacific, and notably strengthening our regional ties through programs like Pacific Pathways. Pohakuloa Training Area, on the Big Island of Hawaii, is leased by the Army but is used extensively for training by all the services, as well as the Hawaii National Guard and our State and County emergency responders. The Army's lease with the State is due to expire in 2029, and although there are several steps left in the Army's internal process before it can enter into negotiations with the State, Army Garrison Hawaii has made it clear that without access to the great training facilities at PTA, it will likely have to relocate the majority of its forces from Hawaii to the mainland. General, can you speak to the Army's commitment to maintaining its presence in Hawaii, and may I ask for your commitment to seek a long-term lease renewal with the State?

General ALLYN. The Army Operating Concept envisions Pohakuloa Training Area (PTA) as a regional training center, within the Pacific Training Complex, capable of supporting the United States Army Hawaii (USARHAW) home station and joint/multinational training requirements. The training environment is fully supported by Live-Virtual-Constructive integrated training systems that enable Army units to achieve full readiness potential. Achieving this vision will require infrastructure investments to support the air, maritime, space, and cyber domains, and assured future access to the State of Hawaii leased lands on terms that allow the Army to fully utilize PTA to train as we fight. To that end, Headquarters, Department of the Army is coordinating with USARHAW and United States Army Pacific (USARPAC) on a request to be forwarded through the chain of command for authority to acquire a long-term interest in the currently leased State of Hawaii lands.

Ms. HANABUSA. Admiral Moran, as you know, the Pacific Missile Range Facility on Kauai is home to an Aegis Ashore test site. What are your thoughts on converting PMRF into a combat-ready facility for missile defense to rebuff North Korea, and to a lesser extent China as needed?

Admiral MORAN. The Pacific Missile Range Facility (PMRF) and Aegis Ashore Missile Defense Test Complex (AAMDTC) are critical to Test and Evaluation (T&E) and training across a variety of warfare areas, directly benefiting programs from all the services and MDA. PMRF's unique, strategic, mid-Pacific location, combined with extensive range space, specialized instrumentation, and unique testing-focused logistics support, provide important capabilities to Ballistic Missile Defense testing and help sustain Navy readiness. If the AAMDTC was operationalized, it would adversely impact the further development of Joint defenses to rebuff a wide range of threats from North Korea or China due to losing a T&E and training site for a combat-ready, missile defense facility. MDA has commenced siting studies for a Homeland Defense Radar-Hawaii, which will provide better defense of the Hawaiian Islands. The AAMDTC would provide better service as it was originally intended—as the test bed for future Aegis technologies.

Ms. HANABUSA. Maintaining the shipyard at Pearl Harbor provides us a huge strategic and geographical advantage, as it is 14 days steam time from Honolulu to the South China Sea, as opposed to 21 from the west coast of the U.S. Currently, however, our dry docks and infrastructure are in need of some significant upgrades. For example, Dry Dock 3 is not large enough to service *Virginia*-class submarines. Will the proposed buildup and improvement of Navy ships correspond with similar investment in our shipyards and other facilities?

Admiral MORAN. Once the Navy determines the timing of ships and makes homeporting decisions, infrastructure investment requirements will be identified and prioritized to ensure continued warfighter readiness.