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S. HRG. 114–204, PT. 3

DEPARTMENT OF DEFENSE AUTHORIZATION FOR APPROPRIATIONS FOR FISCAL YEAR 2016 AND THE FUTURE YEARS DEFENSE PROGRAM

HEARING

BEFORE THE

COMMITTEE ON ARMED SERVICES
UNITED STATES SENATE

ONE HUNDRED FOURTEENTH CONGRESS

FIRST SESSION

ON

S. 1356

TO AUTHORIZE APPROPRIATIONS FOR FISCAL YEAR 2016 FOR MILITARY ACTIVITIES OF THE DEPARTMENT OF DEFENSE, FOR MILITARY CONSTRUCTION, AND FOR DEFENSE ACTIVITIES OF THE DEPARTMENT OF ENERGY, TO PRESCRIBE MILITARY PERSONNEL STRENGTHS FOR SUCH FISCAL YEAR, AND FOR OTHER PURPOSES

PART 3
READINESS AND MANAGEMENT SUPPORT

MARCH 11, 25; APRIL 22, 2015

Printed for the use of the Committee on Armed Services

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DEPARTMENT OF DEFENSE AUTHORIZATION FOR APPROPRIATIONS FOR FISCAL YEAR 2016 AND THE FUTURE YEARS DEFENSE PROGRAM

WEDNESDAY, MARCH 11, 2015

U.S. SENATE,
SUBCOMMITTEE ON READINESS
AND MANAGEMENT SUPPORT,
COMMITTEE ON ARMED SERVICES,
Washington, DC.

MILITARY CONSTRUCTION, ENVIRONMENTAL, ENERGY, AND BASE CLOSURE PROGRAMS

The subcommittee met, pursuant to notice, at 2:32 p.m. in room SH–216, Hart Senate Office Building, Senator Kelly Ayotte (chairman of the subcommittee) presiding.

Committee members present: Senators Ayotte, Rounds, Ernst, Kaine, Hirono, and Heinrich.

OPENING STATEMENT OF SENATOR KELLY AYOTTE, CHAIRMAN

Chairman AYOTTE. Good afternoon. Today, the Readiness and Management Support Subcommittee meets to receive testimony on military construction, facility sustainment, environmental and energy programs of the Department of Defense. Senator Kaine and I look forward to working with you very much this Congress, as we have the opportunity of leading this important subcommittee of the Armed Services Committee.

We are joined today by Mr. John Conger, who is performing the duties of Assistant Secretary of Defense for Energy, Installations and Environment; the Hon. Katherine Hammack, Assistant Secretary of the Army for Installations and Environment; the Hon. Dennis McGinn, Assistant Secretary of the Navy for Energy, Installations, and Environment; and the Hon. Miranda Ballentine, the Assistant Secretary of the Air Force for Installations, Environment and Energy.

We look forward to hearing your testimony, and I, certainly, appreciate Mr. Conger being here since he is a Granite Stater. It is always great to see you.

Well-maintained, modern Department of Defense installations play an essential role in maintaining the readiness of our Armed Forces. Military construction (MILCON) projects are not just buildings. They are the homes and barracks in which our soldiers, sail-

ors, airmen, and marines live. They are the facilities where servicemembers and our skilled Department of Defense (DOD) civilians work, train, conduct maintenance and support operations. That is why we must not shortchange military construction or facilities sustainment, restoration, and modernization funding.

The Department of Defense has proposed a budget for 2016 that includes $8.4 billion for military construction, including family housing, and $10.6 billion for facility sustainment, restoration, and modernization.

I look forward to discussing this request in detail.

I will also be interested in hearing from our witnesses about the impact on these programs of a potential return to defense sequestration. We need a defense budget based on our National security interests and the threats we face, not an arbitrary budget that is based on caps, which ignore the fact that the foremost responsibility of the Federal Government is to protect the American people.

I look forward to working in a bipartisan way with the members of this committee to address defense sequestration.

Before I turn to my ranking member and we hear from the witnesses, I would like to address some military construction issues that are important to New Hampshire and our National Guard and my constituents who work at the Portsmouth Naval Shipyard.

I had the opportunity to welcome recently the Air Force Chief of Staff, General Welsh, to Pease Air National Guard Base last month, where we discussed ongoing preparations for the KC–46A. In anticipation of the arrival of the KC–46A, I am very pleased that the $41.9 million in military construction projects at Pease Air National Guard Base that we authorized last year in the 2015 National Defense Authorization Act (NDAA) are moving ahead.

More specifically, the projects will modernize the aircraft ramp refueling system, reconfigure the airfield's parking apron and taxi lanes, and expand and upgrade two aircraft hangars that are on track.

I am also is very pleased that the department is requesting $2.8 million for fiscal year 2016 to upgrade the flight simulator at Pease to allow our pilots to train for the bedding of the KC–46A.

While there is very positive MILCON progress for New Hampshire, in terms of the Air National Guard, I continue to be troubled by the condition of New Hampshire Army National Guard readiness centers, and I know that we've talked about this in our meetings. This is a trend that I know is reflected across the country.

However, the condition of readiness centers in New Hampshire is particularly unacceptable. The average condition index of New Hampshire Army National Guard readiness centers is poor, 64 out of 100, and ranking New Hampshire 51 out of 54 States and territories evaluated nationwide.

The Manchester Readiness Center was constructed in 1938. It does not comply with building code standards, as well as life, health, safety, and antiterrorism force protection standards.

Members of the New Hampshire Army National Guard and servicemembers like them around the country deserve better, and I am pleased that the department is finally requesting funding for the New Hampshire Army National Guard vehicle maintenance

shops in Hooksett and Rochester for 2017, as well as readiness centers in Pembroke and Concord for 2018 and 2020, respectively.

Considering the poor state of New Hampshire Army National Guard facilities, it is essential that these projects not be postponed and that they stay on schedule.

I also look forward to addressing the MILCON situation at Portsmouth Naval shipyard, which is the Navy center of excellence for fast attack submarine maintenance, modernization, and repair. I also look forward, with the ranking member, to talking about and having hearings about the importance of our shipyards.

I would like to get an update on the P–266 structural shops consolidation reprogramming from all of you. I look forward to discussing two other military construction projects that I understand have been delayed from fiscal year 2016 to 2018, and that is the P–309 crane rail and P–285 barracks.

Finally, the department is once again seeking authority for another round of base realignment and closure, or BRAC, a BRAC round, despite the cost and inefficiencies associated with the 2005 BRAC round. That round is conservatively estimated to have cost $35 billion and has been the subject of much discussion and criticism.

Even after acknowledging the shortcomings of the 2005 round, the Department continues to request the same legislative framework. I remain opposed to BRAC and do not want to give the department the open-ended authority to pursue another BRAC round that has the potential to incur significant upfront costs when we do not have the room in our budget in the next few years to afford many of the fundamental readiness issues that we need to address.

I thank our witnesses for being here and for all that you do for our country, and I would like to turn it over to my ranking member, Senator Kaine from Virginia.

STATEMENT OF SENATOR TIM KAINE

Senator KAINE. Thank you, Madam Chairwoman. Thank you all for your service and for being here today, and also to all of our colleagues who are joining us for this important discussion. The hearing is to receive testimony on military construction, environmental, energy, and base closure programs, as we look at the defense authorization request for fiscal year 2016 and Future Years Defense Programs. These are important topics, and let me just address a couple of them, getting right to it.

Madam Chair, I do look forward to working with you. This committee is really a good one in the Senate because we have such a tradition of bipartisanship. That doesn't mean we don't have differences of opinion, because these are tough issues. We are going to have differences of opinions on many issues. But we work in a bipartisan way, and I know that that is the way this subcommittee will operate.

On the military construction side, as the chairwoman indicated, the budget is $8.4 billion. The good news is that is $1.5 billion higher than fiscal year 2015. That is good, but in historical perspective, the MILCON requests that were forwarded to the DOD in the early 2000s to Congress averaged about $20 billion a year.

The budget request for facility sustainment, restoration, and modernization is trending positively, 81 percent of the requirement necessary to keep facilities in good working order would be met by this request, up from 65 percent last year. That is positive, but that would suggest, even if we met the request, 20 percent of our needs would remain unfunded. That can lead, over time, to degradation of facilities that our servicemembers live and work in, higher costs to address deficiencies, to do repairs, and to ultimately need to replace the infrastructure sooner than you otherwise would have to if you were maintaining it at an optimal level.

On the energy side, the DOD is the largest energy user in government, and it continues to make significant operational investments in fiscal year 2016. This is a statistic that kind of stunned me when I came across it. During Operation Iraqi Freedom, 20 percent of all casualties came from units having to protect resupply convoys, of which 70 percent to 80 percent of resupply was for water and fuel. So the energy, fuel, water issues are critical.

There shouldn't be anything politically divisive about investments that enhance combat capabilities, save lives, increase energy security, and reduce the logistical burdens that can lead to insecurity. The Navy invests in more efficient hull coatings, stern flaps, and bow bulbs that allow ships to stay out an extra week and use fuel more efficiently. This results in a longer presence at sea without intrusive maintenance.

I continue to support these smart investments and urge my colleagues to do the same.

One success story in the last years has been the tremendous drop in the per unit cost for purchases of biodiesel. Even between 2012 and today, we have seen a drop in the per gallon costs from the $12 range to the $3.50 range, with more positive developments to come.

I am encouraged to see that climate change adaptation roadmap last year, because the DOD is the environmental stewards of tens of thousands, hundreds of thousands of acres of land in the U.S. for decades, and are some of the most forward-thinking stewards of these land resources.

Virginia understands very, very well that weather events have severe consequences on the operation of our military. Mr. Conger was with us this summer in Hampton Roads in August, when we held a community-wide discussion about the effects of sea level rise and its critical impact on a number of Virginia bases, including the largest naval base in the world, the Norfolk Naval Base and Langley Air Force Base.

The Norfolk Naval Shipyard experiences today floods on a regular basis, deploys over 10,000 sandbags along with a floodwall and a super-floodwall under its destructive weather plan. There are plans at this space to build an additional 8,000-foot floodwall to protect the shipyard and its drydock from the effects of sea level rise.

These are not tomorrow issues. They are today issues.

Underpinning all these, as the chairwoman ably stated, is the need to remove budget caps wisely and to, thus, reduce the threat of sequestration.

In a hearing yesterday in the full committee, I said, as somebody who has done a lot of budgets in the private sector and public sector, sequestration violates every last budget principal that any wise public or private sector manager would embrace.

There isn't any reason that we should just keep drifting along on this path when we have the capacity to change it. That is something that, as both a Budget and Armed Services Committee member, I want to work on.

The tools that have allowed the Department of Defense to weather the first few years of sequestration, the budget storms, the furloughs, the government shutdowns, the uncertainty, those tools, largely, the easy tools have been used. So there were unobligated balances that have now been used, and other tools that are not so easy to come by as a shock absorber. So if the budget caps remain in place, the DOD will be forced to sacrifice much needed investments in facilities, energy, and environmental cleanup. Readiness seems to take the most significant hit.

So what your views are on these issues are critical.

Finally, I will just say a word about BRAC. I have been involved in BRAC from many different sides of the aisle. As a mayor, as a governor in the 2005 round, lieutenant governor and governor, working on BRAC issues. While I, certainly, understand the need to periodically rationalize base infrastructure, just like we analyze what weapons system makes sense, or should there be changes to the personnel, we have to look at all the assets on the table, especially at a time when we have a significant budget deficit and debt.

I have had questions about the BRAC process, whether it is the best way to do that very thing. As the chairwoman indicated, while we wouldn't necessarily assume that 2005 would be precisely analogous, nevertheless, the 2005 BRAC round was not a cost-saver. It was a cost increase that significantly exceeded the budget at that time. We have, I think, some legitimate worries about whether it would be the same.

So we look forward to hearing your views on those going forward as well.

Senator Ayotte, thanks for calling this hearing.

For the witnesses, thanks for your service, and we look forward to your testimony. I know all members will have significant questions.

Thanks very much.

Senator AYOTTE. Thank you so much, Senator Kaine.

I would like to call Mr. Conger for his testimony. Thank you.

STATEMENT OF JOHN C. CONGER, PERFORMING THE DUTIES OF ASSISTANT SECRETARY OF DEFENSE, ENERGY, INSTALLATIONS AND ENVIRONMENT

Mr. CONGER. Thank you very much. Chairwoman Ayotte, Ranking Member Kaine, distinguished members of the subcommittee, I appreciate the opportunity to be here to discuss the department's fiscal year 2016 request for energy, installations, and environment.

My written statement addresses the budget request in detail. So instead of summarizing it, I would like to raise just two topics for you to consider as we enter today's discussion.

First, we cannot contemplate the budget request without considering the context of the Budget Control Act of 2014 (BCA) caps. The department submitted a budget request that was $35 billion higher than the caps, $38 billion higher than last year. Forcing us to adhere to these caps will have reverberations across the budget.

The President's Budget request includes a significant increase for facilities over last year's request, nearly $2 billion in MILCON and $2.5 billion in facilities, sustainment, and recapitalization. Legislation will be required to provide relief from the Budget Control Act caps, like the relief provided by the Bipartisan Budget Act a couple years ago.

If you must adhere to the BCA caps, Congress will have to cut $35 billion from this request and will, certainly, have to consider cutting funds from the request for facilities.

On this note, I would like to recognize the strong support of this committee, of Chairman McCain, of Senator Reed, and appreciate the fact that they have already advocated a higher budget figure to the Senate Budget Committee.

The second issue I wanted to raise was BRAC. It should be no surprise that we are again requesting authority to conduct a BRAC round. As we deal with this constrained budget environment, considerable force structure decreases since 2005, we must look for ways to divest excess spaces and to reduce the cost of supporting our smaller force structure.

I wanted to make a few key points about BRAC as we go into today's discussion.

First, the Army and the Air Force have done analyses, indicating 18 percent and 30 percent excess capacity already. I will note that the Army's analysis is based on a figure of 490,000 soldiers, not the projected 450,000. This aligns with our prediction, based on the analysis we performed in 2004. There is clearly enough excess to justify another BRAC round.

Second, partially in response to Congress' urging, we conducted a BRAC-like review of European facilities, delivered to Congress in January 2015, which we project will save more than $500 million annually, once implemented.

I am happy to take questions on that when we enter into the discussion.

Third, in this budget environment, a new round of BRAC must be focused on efficiencies. I know BRAC 2005 was unpopular, expensive, and not necessarily the way that this committee would want to see a BRAC handled. But the recommendations from that round were not necessarily designed to save money. That was the problem.

We did an analysis of those recommendations and found that roughly half of the recommendations would pay back in less than 7 years. From the outset, that was the intent. From the outset, the intent was for the other half to have either no payback at all or to payback in more than 7 years.

If you look at the planned efficiency recommendations, those cost $6 billion and pay back $3 billion a year in perpetuity. That shows that when we want to save money, we do.

The other recommendations, the ones that were more transformational in nature, that were never intended to save money,

cost $29 billion and save $1 billion a year. So successfully, we don't save money when we are not trying to.

So the point is that if we wanted to hold an efficiency BRAC round that mirrors the success of the 1990s, we can.

The new issue that has been raised during this year's discussions the chair mentioned earlier, is that we can't expect Congress to pass our legislative proposal because it mirrors the 2005 legislation. I understand the reality that no matter how many times the administration asserts that a future BRAC round will be about cost savings, Congress may want more than just our assurance.

Let me be clear, we are open to a discussion on this point. I would like to solicit your suggestions as to changes in the BRAC legislation that would make it more acceptable. I would offer that Congressman Smith from the House Armed Services Committee introduced a proposal last year that puts more constraints on what we might do in execution of BRAC recommendations.

I would note that, in last year's defense authorization bill, there was a cost cap placed on the Guam relocation that we were told to spend no more than this amount, you have no more authority than this. A model like that would be worth discussion.

There are a number of things we can do. We are not necessarily wedded to the original proposal. We want to have a conversation about this.

So with that, let me yield back. I appreciate your time and look forward to your questions.

Senator AYOTTE. Thank you, Mr. Conger.

[The prepared statement of Mr. Conger follows:]

PREPARED STATEMENT BY MR. JOHN CONGER

INTRODUCTION

Chairman Ayotte, Ranking Member Kaine and distinguished members of the subcommittee: Thank you for the opportunity to present the President's fiscal year 2016 budget request for the Department of Defense programs supporting energy, installations, and the environment.

In my testimony, I will focus first on the budget request. As you will note, the Administration's budget includes $8.4 billion for Military Construction (including family housing), and $10.6 billion for Facility Sustainment and Recapitalization. These are both significant increases from last year, increases made possible because the total defense budget request is $35 billion more than the Budget Control Act cap for fiscal year 2016. It allows a significant reduction in facilities risk from last year, but if we are compelled to return to the budget caps, we will undoubtedly need to accept more risk in facilities. As I have said in the past, facilities degrade more slowly than readiness, and in a constrained budget environment, it is responsible to take risk in facilities first.

My testimony will also address the environmental budget. This budget has been relatively stable, and we continue to show progress in both our compliance program, where we've seen a decrease in environmental violations, and in cleanup, where 82 percent of our 39,000 sites have reached Response Complete. We remain on track to meet our goals of 90 percent Response Complete in 2018, and 95 percent in 2021.

Given the merger between the Installations & Environment office and the Operational Energy Plans and Programs office into the new, combined Energy, Installations & Environment office, this testimony will also address both Operational and Facilities Energy budgets, though these are not as explicitly broken out in the budget request in the same way many of the facilities and environmental accounts are. I will address the Operational Energy Budget Certification in my testimony, though the formal certification report will follow separately.

In addition to budget, I will also highlight a handful of top priority issues—namely, the Administration's request for BRAC authority, European consolidation efforts, the status of the movement of Marines from Okinawa to Guam, an overview of our energy programs, and climate change.

FISCAL YEAR 2016 BUDGET REQUEST—MILITARY CONSTRUCTION AND FAMILY HOUSING

The President's fiscal year 2016 budget requests $8.4 billion for the Military Construction (MILCON) and Family Housing Appropriation- an increase of approximately $1.9 billion from the fiscal year 2015 budget request (see Table 1 below). This increase recognizes the Department's need to invest in facilities that address critical mission requirements and life, health, and safety concerns, while acknowledging the constrained fiscal environment. In addition to new construction needed to bed-down forces returning from overseas bases, this funding will be used to restore and modernize enduring facilities, acquire new facilities where needed, and eliminate those that are excess or obsolete. The fiscal year 2016 MILCON request ($6.7 billion) includes projects in support of the strategic shift to the Asia-Pacific, projects needed to support the realignment of forces, and projects to take care of our people and their families, such as unaccompanied personnel housing, medical treatment facilities, and schools.

Despite the slight increase in this year's budget request, the DOD Components continue to take risk in the MILCON program in order to decrease risk in other operational and training budgets.

While the Department's fiscal year 2016 budget request funds critical projects that sustain our warfighting and readiness postures, taking continued risk across our facilities inventory will degrade our facilities and result in the need for significant investment for their repair and replacement in the future. Our limited MILCON and Family Housing budget for fiscal year 2016 leaves limited room for projects that would improve aging workplaces, and therefore, could adversely impact routine operations and the quality of life for our personnel.

TABLE 1. MILCON AND FAMILY HOUSING BUDGET REQUEST, FISCAL YEAR 2015 VERSUS FISCAL YEAR 2016

[in millions of dollars]

Category	Fiscal Year 2015 Request	Fiscal Year 2016 Request	Change from Fiscal Year 2015	
			Funding	Percent
Military Construction	4,859	6,653	1,794	37%
Base Realignment and Closure	270	251	(19)	(7%)
Family Housing	1,191	1,413	222	19%
Chemical Demilitarization	39	0	(39)	(100%)
NATO Security Investment Program	200	120	(80)	(40%)
Total	6,559	8,437	1,878	29%

MILITARY CONSTRUCTION

We are requesting $6.7 billion in the military construction *account* (note the difference between that and the military construction *appropriation* which includes items like Base Realignment and Closure (BRAC) and Family Housing). While this represents a nearly 37 percent increase from our fiscal year 2015 request, this level of funding is still significantly less than historic trends prior to the Budget Control Act. This fiscal year 2016 military construction funding request addresses routine requirements for construction at enduring installations stateside and overseas, and for specific programs such as the NATO Security Investment Program and the Energy Conservation Investment Program. In addition, we are targeting MILCON funds in three key areas as discussed immediately below.

First and foremost, our MILCON request supports the Department's operational missions. MILCON is key to supporting forward deployed missions as well as implementing initiatives such as the Asia-Pacific rebalance, European Infrastructure Consolidation, and cyber mission effectiveness. Our fiscal year 2016 budget request includes $50 million for construction of an airlift ramp and taxiway at Agadez, Niger; $90 million for construction of a pier replacement and ship maintenance support facility in Bahrain; and $94 million for the second phase of a Joint Intelligence Analysis Complex Consolidation at Royal Air Force Croughton, United Kingdom. The budget request also includes funding to support bed-down of new missions, such as $72 million for three projects to support arrival of F–35C squadrons at Naval Air Station Lemoore, California; $69 million for three projects to support arrival of F–35A squadrons at Nellis Air Force Base, Nevada; $37 million for a KC–46A Depot Maintenance Dock at Tinker Air Force Base, Oklahoma; $126 million for a Live-Fire

Training Range Complex at Joint Region Marianas, Guam; $221 million for two projects supporting an Aegis Ashore Missile Defense Complex at Redzikowo Base, Poland; $37 million for Literal Combat Ship Support Facilities at Naval Base San Diego, California; and $86 million for a Joint Operations Center to support U.S. Cyber Command at Fort Meade, Maryland.

Second, our fiscal year 2016 military construction budget request includes $376 million to replace or modernize ten DOD Education Activity (DODEA) schools that are in poor or failing physical condition, a reduction compared to the fiscal year 2015 request of $394.4 million. The projects included in our fiscal year 2016 budget request, four of which are at enduring locations overseas, support the Department's plan to replace or recapitalize more than half of DODEA's schools over the next several years, but at a slower pace to improve execution and to allow time for DODEA to assess the impact of pending force structure changes. The recapitalized or renovated facilities, including a $55 million replacement elementary school at West Point, New York, are intended to be models of sustainability and will provide a modern teaching environment for the children of our personnel.

Third, the fiscal year 2016 budget request includes $673 million for seven projects to upgrade our medical treatment and research facilities, to include $122 million for a behavioral health/dental clinic at Schofield Barracks, Hawaii and $124 million for replacement of a medical/dental clinic at Marine Corps Air Station Kaneohe Bay, Hawaii. The request also includes $85 million for the fifth increment of the Rhine Ordnance Barracks Hospital Replacement, Germany; $239 million for the seventh increment of the Fort Bliss Hospital Replacement, Texas; and $62 million for the fourth increment of the Ambulatory Care Center at Joint Base San Antonio, Texas. Our fiscal year 2016 request focuses on medical infrastructure projects that are crucial to ensure that we can deliver the quality healthcare our service members and their families deserve when stationed stateside and during overseas deployments.

One final note on the MILCON request—while the fiscal year 2016 Overseas Contingency Operations (OCO) budget request includes $789 million to continue the President's European Reassurance Initiative (ERI) to provide temporary support to bolster the security of our North Atlantic Treaty Organization allies and partner states in Europe, the request includes no ERI military construction funding.

FAMILY AND UNACCOMPANIED HOUSING

A principal priority of the Department is to support military personnel and their families and improve their quality of life by ensuring access to suitable, affordable housing. Service members are engaged in the front lines of protecting our national security and they deserve the best possible living and working conditions. Sustaining the quality of life of our people is crucial to recruitment, retention, readiness and morale.

Our fiscal year 2016 budget request includes $1.4 billion to fund construction, operation, and maintenance of government-owned and leased family housing worldwide as well as to provide services to assist military members in renting or buying private sector housing (see Table 2 below). Included in this request is $61 million for the second phase of new construction family housing at Camp Walker, South Korea, and $20 million for replacement family housing at Rock Island Arsenal, Illinois.

Most government-owned family housing is on enduring bases in foreign countries now that the Department has privatized the vast majority of our family housing in the United States. Our request does not include funding for oversight of privatized housing because we will utilize cost savings in fiscal year 2015 to cover our fiscal year 2016 expenses. However, we anticipate requesting funding for oversight of privatized housing in future budget requests. The requested fiscal year 2016 funding will ensure that U.S. military personnel and their families continue to have suitable housing choices.

TABLE 2. FAMILY HOUSING BUDGET REQUEST, FISCAL YEAR 2015 VERSUS FISCAL YEAR 2016

[in millions of dollars]

Category	Fiscal Year 2015 Request	Fiscal Year 2016 Request	Change from Fiscal Year 2015	
			Funding	Percent
Family Housing Construction/Improvements	95	277	182	192%
Family Housing Operations & Maintenance	1,094	1,136	42	4%
Family Housing Improvement Fund	2	0	(2)	(100%)
Total	1,191	1,413	222	19%

The Department also continues to encourage the modernization of Unaccompanied Personnel Housing (UPH) to improve privacy and provide greater amenities. In recent years, we have heavily invested in UPH to support initiatives such as BRAC, global restationing, force structure modernization, and the Navy's Homeport Ashore initiative. The fiscal year 2016 MILCON budget request includes $360 million for construction and renovation projects that will improve living conditions for Active Duty trainees and unaccompanied personnel, to include $68 million for Marine Corps bachelor enlisted quarters at Kaneohe Bay, Hawaii, and $71 million for an Air Force dormitory at Joint Base San Antonio, Texas.

The Military Services completed its Military Housing Privatization Initiative (MHPI) award phase in fiscal year 2013 with award of the final three Air Force MHPI projects, bringing the total privatized inventory to about 205,000 housing units. The new challenge will be to manage the government's interests in these privatized projects to ensure they continue to provide quality housing for their expected lifespan.

Families choosing to live in privatized housing typically pay their Basic Allowance for Housing (BAH) as rent which serves as the primary revenue stream for the MHPI project. BAH rates in 2015 have been updated to incorporate two changes to the computation BAH. First, renter's insurance was eliminated from the 2015 Basic Allowance for Housing rate computation. Second, based on recent amendment of section 403(b)(3) of title 37, United States Code, by the fiscal year 2015 National Defense Authorization Act, a member cost-sharing element (i.e., out-of-pocket expense) of 1 percent of the national average monthly cost of adequate housing was introduced into the housing allowance rates. As a result, the Military Departments will review their housing projects and implement necessary changes to the rental arrangements to ensure the continued quality of privatized housing, and to ensure that residents of privatized housing bear out-of-pocket expenses similar to military families living on the local economy.

FACILITIES SUSTAINMENT AND RECAPITALIZATION

In addition to new construction, the Department invests significant funds in maintenance and repair of our existing facilities. Sustainment represents the Department's single most important investment in the condition of its facilities. It includes regularly scheduled maintenance and repair or replacement of facility components—the periodic, predictable investments that should be made across the service life of a facility to slow its deterioration, optimize the Department's investment, and save resources over the long term. Proper sustainment retards deterioration, maintains safety, preserves performance over the life of a facility, and helps improve the productivity and quality of life of our personnel.

The accounts that fund these activities have taken significant cuts in recent years. Recognizing that too much risk has been endured in maintaining their facilities, the Military Departments increased Facility Sustainment commitments in fiscal year 2016. The fiscal year 2016 DOD budget request includes $6.4 billion of Operations and Maintenance (O&M) funding for sustainment of our real property, representing 81 percent of the requirement based on the Facilities Sustainment Model (FSM).

TABLE 3. SUSTAINMENT AND RECAPITALIZATION BUDGET REQUEST, FISCAL YEAR 2015 VERSUS FISCAL YEAR 2016

[in millions of dollars]

Category	Fiscal Year 2015 Request	Fiscal Year 2016 Request	Change from Fiscal Year 2015	
			Funding	Percent
Sustainment (O&M)	6,429	8,022	1,593	25%
Recapitalization (O&M)	1,616	2,563	946	59%
Total	8,046	10,585	2,539	32%

For fiscal year 2016, the Department's budget request includes nearly $8.0 billion for sustainment and $2.6 billion for recapitalization (see Table 3 above) in Operations & Maintenance funding. The combined level of sustainment and recapitalization funding ($10.6 billion) reflects a 32 percent increase from the fiscal year 2015 President's Budget (PB) request ($8.0 billion), but still reflects an acceptance of significant risk in DOD facilities. In fact, the request supports average DOD-wide sustainment funding level that equates to 81 percent of the FSM requirement as compared to the Department's goal to fund sustainment at 90 percent of modeled requirements.

Recent and ongoing budget constraints have limited investment in facilities sustainment and recapitalization to the point that 24 percent of the Department's facility inventory is in "poor" condition (Facility Condition Index (FCI) between 60 and 79 percent) and another 6.5 percent is in "failing" condition (FCI below 60 percent) based on recent facility condition assessment data. The Department ultimately will be faced with larger bills in the out-years to restore or replace facilities that deteriorate prematurely due to funding constraints.

In an effort to better track—and limit—the risk we were accepting in our facilities, we issued policy in fiscal year 2014 that reiterates DOD's goal to fund sustainment programs at 90 percent or higher of the Facility Sustainment Model requirement; establishes 80 percent as the minimum inventory-wide Facility Condition Index goal for each Component to meet annually for the facilities they manage; and directs Components to develop mitigation plans for their failing facilities (those with an FCI below 60 percent) to ensure that we have a strategy to improve the condition of our real property inventory in the coming years. Component mitigation plans could address failing facility conditions through repair, replacement, mothballing, or demolition. To complement these goals, we've issued policy to standardize inspections and ensure that all of the Services are measuring their facility condition the same way.

FISCAL YEAR 2016 BUDGET REQUEST—ENVIRONMENTAL PROGRAMS

The Department has long made it a priority to protect the environment on our installations, not only to preserve irreplaceable resources for future generations, but to ensure that we have the land, water and airspace we need to sustain military readiness. To achieve this objective, the Department has made a commitment to continuous improvement, pursuit of greater efficiency and adoption of new technology. In the President's fiscal year 2016 budget, we are requesting $3.4 billion to continue the legacy of excellence in our environmental programs.

The table below outlines the entirety of the DOD's environmental program, but I would like to highlight a few key elements where we are demonstrating significant progress—specifically, our environmental restoration program, our efforts to leverage technology to reduce the cost of cleanup, and the Readiness and Environmental Protection Integration (REPI) program.

TABLE 4: ENVIRONMENTAL PROGRAM BUDGET REQUEST, FISCAL YEAR 2016 VERSUS FISCAL YEAR 2015

[in millions of dollars]

Program	Fiscal Year 2015 Request	Fiscal Year 2016 Request	Change from Fiscal Year 2015	
			Funding	Percent
Environmental Restoration	1,105	1,108	3	0.3%
Environmental Compliance	1,458	1,389	(69)	(4.7%)
Environmental Conservation	381	389	8	2.1%
Pollution Prevention	119	102	(17)	(14.3%)
Environmental Technology	172	200	28	16.3%
BRAC Environmental	264	217	(47)	(17.8%)
Total	3,499	3,405	(94)	(2.7%)

ENVIRONMENTAL RESTORATION

We are requesting $1.3 billion to continue cleanup efforts at remaining Installation Restoration Program (IRP—focused on cleanup of hazardous substances, pollutants, and contaminants) and Military Munitions Response Program (MMRP—focused on the removal of unexploded ordnance and discarded munitions) sites. This includes $1.1 billion for "Environmental Restoration," which encompasses active installations and Formerly Used Defense Sites (FUDS) locations and $217 million for "BRAC Environmental." While the amount of BRAC Environmental funds requested is nearly 18 percent less than the 2015 request, this amount will be augmented by $135 million of land sale revenue and prior year, unobligated funds. These funds coupled with the $217 million request brings the total amount of BRAC Environmental funding to $352 million DOD will invest in fiscal year 2016, a 33 percent increase over the fiscal year 2015 request. These investments help to ensure DOD continues to make steady progress towards our program goals. We remain engaged with the Military Departments to ensure they are executing plans to spend all remaining unobligated balances.

TABLE 5: PROGRESS TOWARD CLEANUP GOALS

Goal: Achieve Response Complete at 90% and 95% of Active and BRAC IRP and MMRP sites, and FUDS IRP sites, by FY2018 and FY2021, respectively

	Status as of the end of FY 2014	Projected Status at the end of FY 2018	Projected Status at the end of FY 2021
Army	89%	96%	97%
Navy	78%	88%	94%
Air Force	76%	90%	95%
DLA	88%	96%	96%
FUDS	79%	90%	96%
Total	82%	92%	96%

By the end of 2014, the Department, in cooperation with state agencies and the Environmental Protection Agency, completed cleanup activities at 82 percent of Active and BRAC IRP and MMRP sites, and FUDS IRP sites, and is now monitoring the results. During fiscal year 2014 alone, the Department completed cleanup at over 1,000 sites. Of the roughly 39,000 restoration sites, almost 31,500 are now in monitoring status or cleanup completed. We are currently on track to meet our program goals—anticipating complete cleanup at 96 percent of Active and BRAC IRP and MMRP sites, and FUDS IRP sites, by the end of 2021.

Our focus remains on continuous improvement in the restoration program: minimizing overhead; adopting new technologies to reduce cost and accelerate cleanup; refining and standardizing our cost estimating; and improving our relationships with State regulators through increased dialogue. All of these initiatives help ensure that we make the best use of our available resources to complete cleanup.

Note in particular that we are cleaning up sites on our active installations in parallel with those on bases closed in previous BRAC rounds—cleanup is not something that DOD pursues only when a base is closed. In fact, the significant progress we have made over the last 20 years cleaning up contaminated sites on active DOD installations is expected to reduce the residual environmental liability in the disposition of our property made excess through the BRAC process or other efforts.

ENVIRONMENTAL TECHNOLOGY

A key part of DOD's approach to meeting its environmental obligations and improving its performance is its pursuit of advances in science and technology. The Department has a long record of success when it comes to developing innovative environmental technologies and getting them transferred out of the laboratory and into actual use on our remediation sites, installations, ranges, depots and other industrial facilities. These same technologies are also now widely used at non-Defense sites helping the nation as a whole.

While the fiscal year 2016 budget request for Environmental Technology overall is $200 million, our core efforts are conducted and coordinated through two key programs—the Strategic Environmental Research and Development Program (SERDP—focused on basic research) and the Environmental Security Technology Certification Program (ESTCP—which validates more mature technologies to transition them to widespread use). The fiscal year 2016 budget request includes $66 million for SERDP and $33 million for ESTCP for environmental technology demonstrations, with an additional $20 million requested specifically for energy technology demonstrations.

These programs have already achieved demonstrable results and have the potential to reduce the environmental liability and costs of the Department—developing new ways of treating groundwater contamination, reducing the life-cycle costs of multiple weapons systems, and improving natural resource management.

This past year, the Air Force has deployed a full scale robotic laser depainting system at Hill AFB that is the culmination of a substantial, multi-year investment by SERDP, ESTCP, and the Air Force Research Laboratory. The system is currently operational and offers a more environmentally sustainable method to perform essential maintenance on the F–16, decreasing processing time from seven days to three and increasing the mission availability of the aircraft. Additionally, the new process reduces the amount of hazardous waste generated from 2000 pounds per F–16 aircraft using previous processes to less than one pound using the new system—all while generating approximately 70 percent savings in per unit costs and decreasing associated labor from 400 hours per aircraft to just 100 hours. A second system is planned for the C–130, and similar results are expected. This technology truly represents a win-win for the environment and the mission.

Looking ahead, our environmental technology investments are focused on the Department's evolving requirements. This year, we expect to complete the demonstrations of revolutionary new technology that allows us to discriminate between hazardous unexploded ordnance and harmless scrap metal without the need to dig up every object and we're moving out aggressively to transition the technology to everyday use. We will continue our investments in technologies to address the challenges of contaminated groundwater sites where no good technical solutions are currently available, and we'll seek out innovative ways to address munitions in the underwater environment. Lastly, we'll continue our efforts to develop the science and tools needed to meet the Department's obligations to assess and adapt to climate change, and we'll continue the important work of reducing future liability and life-cycle costs by eliminating toxic and hazardous materials from our production and maintenance processes.

ENVIRONMENTAL CONSERVATION AND COMPATIBLE DEVELOPMENT

To maintain access to the land, water and airspace needed to support our mission needs, the Department continues to successfully manage the natural resources entrusted to us—including protecting the many threatened and endangered species found on our lands. DOD manages approximately 25 million acres containing many high-quality and unique habitats that provide food and shelter for over 520 species-at-risk and over 400 that are federally listed as threatened or endangered species. That is 9 times more species per acre than the Bureau of Land Management, 6 times more per acre than the United States Fish and Wildlife Service (USFWS), 4.5 times more per acre than the Forest Service, and 3.5 times more per acre than the National Park Service. A surprising number of rare species are found only on military lands—including more than ten listed species and at least 75 species-at-risk.

The fiscal year 2016 budget request for Conservation is $389 million. The Department invests these funds to manage its imperiled species as well as all its natural resources in an effort to sustain the high quality lands our service personnel need for testing, training and operational activities, and to maximize the flexibility our servicemen and women need to effectively use those lands. Species endangerment and habitat degradation can have direct mission-restriction impacts. That is one reason we work hard to prevent species from becoming listed, or from impacting our ability to test and train if they do become listed.

As a result of multiple law suits, the United States Fish and Wildlife Service (USFWS) entered into a court-approved agreement in 2011 that requires USFWS to make decisions about whether to list 251 species that are "candidates" for listing as threatened or endangered under the Endangered Species Act by 2016. Of the 125 found on or adjacent to military lands, the Department determined 37 of them—if USFWS listed and designated critical habitat on DOD lands—could have significant or moderate potential to impact military readiness at locations such as Yakima Training Center and Joint Base Lewis-McChord (JBLM). Furthermore, 12 of those 37 species were identified to have the greatest potential to significantly impact military actions. So far, USFWS has listed 119 of those 251 species, at least 47 of which are on our lands. To minimize actual and potential mission impacts, these installations have increased monitoring for these species, incorporated appropriate management strategies into their Integrated Natural Resource Management Plans, and—when needed—are working with USFWS to avoid critical habitat designations and to ensure that listed species conservation is consistent with military readiness needs.

Our focus has been on getting ahead of any future listings. In 2011, I tasked the Military Departments to ensure our management plans adequately address all listed and candidate species to avoid critical habitat designations. All but two of our plans now adequately address these species, and we have successfully avoided critical habitat for all these candidate species where USFWS has made listing decisions.

We make investments across our enterprise focused on threatened or endangered species, wetland protection, and protecting other natural, cultural and historical resources, but we cannot continue to manage these resources in isolation. Instead, we are working with partners across the fence line to expand our conservation activities off-installation and promote compatible land uses around our installations and ranges. I want to highlight one particularly successful and innovative program that is advancing these innovative partnerships—the Readiness and Environmental Protection Integration (REPI) Program. Included within the $389 million for Conservation, $60.3 million is directed to the REPI Program. The REPI Program is a cost-effective tool to protect the nation's existing training, testing, and operational capabilities at a time of decreasing resources. In the last 12 years, REPI partnerships have protected more than 356,000 acres of land around 80 installations in 28 states. In addition to the tangible benefits to testing, training and operations, these efforts have resulted in significant contributions to biodiversity and recovery actions supporting threatened, endangered and candidate species.

Under REPI, the Department partners with conservation organizations and state and local governments to preserve buffer land and sensitive habitat near installations and ranges. Preserving these areas allows the Department to avoid much more costly alternatives such as workarounds, restricted or unrealistic training approaches, or investments to replace existing test and training capability. Simultaneously, these efforts ease the on-installation species management burden and reduce the possibility of restricted activities, ultimately providing more flexibility for commanders to execute- their missions.

The REPI Program supports the warfighter and protects the taxpayer because it multiplies the Department's investments through unique cost-sharing agreements. Even in these difficult economic times, REPI is able to directly leverage the Department's investments at least one-to-one with those of our partners, effectively securing critical buffers around our installations for half-price.

In addition, DOD, along with the Departments of the Interior and Agriculture, announced the Sentinel Landscapes Partnership to protect large landscapes where conservation, working lands, and national defense interests converge—places defined as Sentinel Landscapes. The Sentinel Landscapes Partnership further strengthens interagency coordination and provides taxpayers with the greatest leverage of their funds by aligning federal programs to advance the mutually-beneficial goals of each agency. The pilot Sentinel Landscape project at Joint Base Lewis-McChord (JBLM) helped USFWS avoid listing a butterfly species in Washington, Oregon, and California, citing the "high level of protection against further losses of habitat or populations" from investments made by Joint Base Lewis-McChord's REPI partnership on private prairie lands in the region. These actions

allow significant maneuver areas to remain available and unconstrained for active and intense military use at JBLM.

FISCAL YEAR 2016 BUDGET REQUEST—ENERGY PROGRAMS

Unlike the Department's Military Construction and Environmental Remediation programs, where the budget request includes specific line items, our energy programs are subsumed into other accounts. The following sections describe the Energy portion of the budget request. Further discussion of energy follows in the highlighted issues section.

OPERATIONAL ENERGY

There is no explicit request for Operational Energy. Fuel is not separately budgeted, but instead is part of multiple operational accounts. We can track previous years' fuel expenditures, and know that we spent approximately $14 billion on fuel in fiscal year 2014. However, investments in how the Department uses operational energy are spread across multiple appropriations, and are detailed in the Department's annual budget certification report, which assesses the alignment of the President's Budget with the goals of the DOD Operational Energy Strategy.

The Department of Defense budgeted approximately $1.6 billion in fiscal year (FY) 2016 and $10.9 billion over the five-year Future Defense Plan (FYDP) on operational energy initiatives. Although the FY 2016 budget request maintains approximately the same funding levels as FY 2015, the overall FY 2016–20 FYDP funding includes an increase of approximately $2 billion over FY 2015–19 FYDP funding. The increase largely results from increases in Army and Air Force operational energy funding over the FYDP.

Approximately 92 percent of Department spending on operational energy initiatives focuses on reducing demand, while the remainder addresses energy supplies and adapting the future force. Specific to energy demand, the Services are investing in an array of innovations designed to improve the endurance, resilience, and agility of Joint operations. For instance, the Army is investing in vehicle power train technology, improved batteries and solar chargers for individual Soldier equipment, and more efficient generators. The Navy is pursuing hybrid electric propulsion for the DDG–51 class destroyers that will increase time on station, and aviation simulator upgrades that will allow more training to occur in simulators, reducing the amount of fuel and aircraft maintenance needed to support the Naval Flight Hour program. Marine Corps investments include tactical vehicle fuel efficiency and improvements in expeditionary base camp initiatives. The Air Force is pursuing a range of improved operational practices for the airlift and tanker fleet, as well as mid-life engine upgrades (KC–135 Engine Upgrade) and wholly new propulsion programs (Adaptive Engine Technology Development) that increase range, payload, and/or endurance.

The full certification report, which will be provided to Congress in the near future, will provide a more comprehensive assessment of the alignment of these operational energy initiatives in the fiscal year 2016 President's Budget with the goals of the Operational Energy Strategy.

FACILITIES ENERGY

As with Operational Energy, there is no explicit request for Facilities Energy—utilities expenditures are included in the Base Operations O&M request. We can track actual expenditures, and we spent $4.2B on Facilities Energy in fiscal year 2014. Energy efficiency initiatives are found either as part of construction or sustainment budgets. Moreover, the preponderance of renewable energy initiatives that the Services pursue involve third party investments and power purchase agreements that result in electricity bills that are less than or equal to historical prices.

The Department's fiscal year 2016 budget request includes approximately $700 million for investments in conservation and energy efficiency, most of which will be directed to existing buildings. The majority ($550 million) is in the Military Components' operations and maintenance accounts, to be used for sustainment and recapitalization projects. Such projects typically involve retrofits to incorporate improved lighting, high-efficiency HVAC systems, double-pane windows, energy management control systems, and new roofs. The remainder ($150 million) is for the Energy Conservation Investment Program (ECIP), a Military Construction account used to implement energy efficiency, water conservation and renewable energy projects. Each individual ECIP project has a positive payback (i.e. Savings to Investment Ratio (SIR) > 1.0) and the overall program has a combined SIR greater than 2.0. This means for every dollar we invest in ECIP, we generate more than two dollars in savings.

The Military Component investments include activities that would be considered regular maintenance and budgeted within the Operation and Maintenance accounts for Facilities Sustainment, Restoration, and Maintenance activities. The risk that has been accepted in those accounts will not only result in fewer energy projects, but failing to perform proper maintenance on our buildings will without question have a negative impact on our energy usage. In plain terms, upgrades to air conditioning systems will not reduce energy usage as projected if the roof is leaking or the windows are broken. Sequestration and BCA budget cuts to the Department's facilities energy program have negatively impacted the DOD's ability to meet mandated energy intensity reduction goals. The DOD projects the Department will catch up and begin meeting its energy intensity reduction goals in fiscal year 2019.

In addition to retrofitting existing buildings, we continue to drive efficiency in our new construction. We are implementing a new construction standard for high-performance, sustainable buildings issued by my office last year, which will govern all new construction, major renovations, and leased space acquisition. This new standard, which incorporates the most cost effective elements of commercial standards like ASHRAE 189.1, will accelerate DOD's move toward efficient, sustainable facilities that cost less to own and operate, leave a smaller environmental footprint, and improve employee productivity.

HIGHLIGHTED ISSUES

Base Realignment and Closure

Given the state of the budget and the fact that we demonstrated we can save money by closing and realigning facilities in Europe, the Administration is once again requesting the authority from Congress to conduct a BRAC round.

Many members of Congress have stated that the Government as a whole could more efficiently use its resources. We absolutely agree. BRAC is an objective, proven, and effective means of doing just that. The Deputy Secretary, the official responsible for the efficient management of the Department, has been clear on this. Last fall he said "[The] first place we should look at is our basing infrastructure." He went on to talk about how large private companies would not retain excess capacity. Reiterating the need for BRAC, he said; "in this time of constrained resources, I just don't understand why we are hamstringing ourselves. [M]aintaining that extra capacity is a big problem for us because it is wasteful spending, period. It is the worst type of bloat."

Getting at this bloat is why the goal for BRAC remains focused on efficiency and savings.

We believe the opportunity for greater efficiencies is clear, based on three basic facts that have not changed over the last year:

- In 2004, DOD conducted a capacity assessment that indicated it had 24 percent aggregate excess capacity;
- In BRAC 2005, the Department reduced only 3.4 percent of its infrastructure, as measured in Plant Replacement Value—far short of the aggregate excess indicated in the 2004 study;
- Force structure reductions subsequent to that analysis—particularly Army personnel (from 570,000 to 450,000 or lower), Marine Corps personnel (from 202,000 to 182,000 or lower) and Air Force force structure (reduced by 500 aircraft)—point to the presence of additional excess.

A new BRAC round will be different than BRAC 2005, where we incurred significant costs by forwarding recommendations that did not promise significant savings. That said, in BRAC 2005, we also included many recommendations that returned the initial investment in less than 7 years. These "efficiency" recommendations cost $6 billion and resulted in $3 billion in annual savings. (The "transformation" recommendations cost $29 billion and return $1 billion in annual savings.)

We project that a new efficiency-focused BRAC round will save about $2 billion a year after implementation with costs and savings during the six year implementation being a wash at approximately $6 billion. Our projection is based on the efficiency rounds of the 1990s.

In addition to being a proven process that yields savings, BRAC has several advantages that we have outlined before in our testimony. I want to highlight a few of these:

- BRAC is comprehensive and thorough—all installations are analyzed using certified data aligned against the strategic imperatives detailed in the 20-year force structure plan

- The BRAC process is auditable and logical which enables the Commission to conduct an independent review informed by their own analysis and testimony of affected communities and elected officials
- The Commission has the last say on the Department's recommendations—being fully empowered to alter, reject, or add recommendations
- The BRAC process has an "All or None" construct which prevents the President and Congress from picking and choosing among the Commission's recommendations; thereby insulating BRAC from politics
- The BRAC process imposes a legal obligation on the Department to close and realign installations as recommended by the Commission by a date certain; thereby facilitating economic reuse planning by impacted communities; and grants the Department the authorities needed to satisfy that legal obligation.

While we are certainly open to some changes to the legislatively designed BRAC process that has remained essentially the same for each of the last four BRAC rounds, we should be careful about altering the fundamental principles of the process, particularly those that I outlined above.

For example, Congressman Adam Smith circulated an amended version of the BRAC authorization last year, proposing several changes to the BRAC process. His bill required a certification that the new round would primarily focus on eliminating excess infrastructure; it required emphasis on the cost criteria as well as military value; it required all recommendations to be completed more quickly—within five years rather than six; and it required master plans that would constrain the execution of recommendations and limit cost growth. Taken together, the intent is clear: the Smith proposal is designed to create cost and business case constraints on the BRAC process from the outset—unfortunately while several aspects of that proposal would fundamentally alter key aspects of what makes BRAC work: the priority given to military value; insulation from politics; and the legal obligation to implement the recommendations together with the authorities needed to satisfy that legal obligation—the proposal advances a constructive discussion of BRAC authorization.

While not in the context of BRAC, recent legislation authorizing the Department to proceed with the relocation of Marines to Guam imposed a cost cap on the overall program in an effort to underscore cost consciousness and limit the Department's fiscal exposure.

We would welcome discussion on mechanisms to limit cost and emphasize savings in future BRAC rounds. Ultimately, we recognize the reality that no matter how many times the Administration asserts that a future BRAC round will be about cost savings, Congress may want more than just our assurance.

Whatever changes we discuss, the key is maintaining the essence of the BRAC process: treating all bases equally, all or none review by both the President and Congress, an independent Commission, and a clear legal obligation to implement all of the recommendations in a time certain together with all the authorities needed to accomplish implementation (specifically MILCON).

EUROPEAN INFRASTRUCTURE CONSOLIDATION

Past and ongoing force structure changes, a changing security environment, and our tough fiscal climate provided the Department a catalyst to undertake a comprehensive review of the infrastructure requirements necessary to support U.S. forces and their missions in and around Europe. The actions resulting from this comprehensive review of our European infrastructure will allow us to create long-term savings by eliminating excess infrastructure without reducing our operational capabilities. In other words, operationally we will continue to do everything we currently do—but at a lower cost.

The Department has been reducing its European footprint since the end of the Cold War. Generally, infrastructure reductions have been proportional to force structure reductions, but prior to our European Infrastructure Consolidation (EIC) effort we hadn't taken a holistic, joint review of our European infrastructure. In response to our recent requests for Base Realignment and Closure (BRAC) authority, Congress made it clear that it wanted DOD to do so.

To analyze our European infrastructure we used a process very similar to the proven U.S. BRAC process. We looked at capacity, requirements, military value, cost, and at the diplomatic dynamics involved with each action. As we consolidate our footprint, the infrastructure remaining in place will continue to support our operational requirements and strategic commitments, but we will not need as many support personnel (military, civilian, and host nation employees) to maintain a reduced infrastructure. We did not contemplate changes that reduced operational force structure or warfighting capability—that was a fundamental constraint of the analysis.

The largest action resulting from the EIC analysis is our return of RAF Mildenhall to the United Kingdom. Approximately 3,200 U.S. personnel from RAF Mildenhall will be re-stationed elsewhere. This move will be partially offset by the addition of about 1,200 personnel that will support the F–35s being stationed at nearby RAF Lakenheath. Both of these events will occur in the 2018–2021 timeframe.

Including the initial adjustments announced last April and the final actions announced in January, the Department will realize more than $500 million in annual recurring savings once all actions are fully implemented—all while maintaining the same operational capability. This is in addition to the more than $600 million in annual savings resulting from previously announced Army divestitures of Bamberg and Schweinfurt that were validated through the EIC process—divestitures directly associated with the recent force structure reductions in Europe.

Although detailed implementation planning is still underway, initial estimates indicate these actions will require approximately $800 million to construct facilities at receiving sites. The vast majority of these construction requirements support divesting RAF Mildenhall (construction likely beginning in fiscal year 2017) and consolidation of our joint intelligence analysis facilities at RAF Croughton, with $93 million for the second of three phases included in this year's budget request.

These recommendations will be executed over the next several years, but that does not mean that everything will remain static in Europe while these changes occur. There were consolidations made before EIC and there will undoubtedly be future basing actions. However, the holistic review we conducted over the last two years allows us to redirect resources currently supporting unneeded infrastructure and apply them to higher priorities, thus strengthening our posture in Europe.

Although we continually seek efficiencies as we manage installations worldwide, the Department does not conduct this degree of comprehensive analyses of its infrastructure on a regular basis. That's one of the reasons we have requested BRAC authority from Congress to do a review of our U.S. installations. In this fiscal environment it would be irresponsible of us not to look for such savings.

REBASING OF MARINES FROM OKINAWA TO GUAM

The movement of thousands of Marines from Okinawa (and elsewhere) to Guam is one of the most significant re-basing action in recent years. We appreciate Congress' support in lifting restrictions on the relocation. Removal of these restrictions will allow us to move forward on this essential component of our rebalance to the Asia-Pacific region, resulting in a more geographically dispersed, operationally resilient, and politically sustainable posture in the area. As a U.S. territory, Guam offers strategic advantages and operational capabilities that are unique in the region. Presence in Guam is a force multiplier that contributes to a force posture that reassures allies and partners and deters aggression.

We understand Congress' concerns regarding both the cost and feasibility of the previous plan. Now, after much effort, we have a unified position on an executable plan. It is affordable, has fewer effects on Guam (peak population, power demand, and water demand are all reduced significantly), and is de-linked from progress on the Futenma Replacement Facility on Okinawa, yet preserves Japan's commitment to fund a substantial portion of the relocation. The new plan stations a smaller and more rotational force on Guam (~5,000 Marines/1,300 dependents) leaving ~11,500 Marines on Okinawa. The new plan, similar to the previous plan, requires Japan to contribute $3.1 billion (all in cash) of the estimated $8.7 billion total cost (in fiscal year 2012$).

In addition to the $3.1 billion the Government of Japan has committed to construction on Guam, it is committing approximately $12 billion to relocation efforts on Okinawa, including approximately $7–8 billion for Okinawa consolidation and approximately $4–5 billion for the Camp Schwab replacement for Marine Corps Air Station Futenma.

The Department has begun executing the Guam Master Plan in earnest and we expect only minor adjustments going forward. The Department plans to execute more than half a billion dollars of combined U.S. and Japanese funds in fiscal year 2016. Specifically, in fiscal year 2016, the Department is requesting $126 million for the Known Distance Live-Fire Training Range at the Northwest Field of 0ersen. We appreciate the fiscal year 2015 authorization and appropriation of $50.7 million for construction of Ground Support Equipment shops and Marine Wing Support Squadron Facilities at Andersen's North Ramp.

The relocation effort will reach a critical milestone in 2015, as the Department will complete the Supplemental Environmental Impact Statement (SEIS) associated with the modified plan and issue a Record of Decision. That document will reflect

the significantly reduced strain that will be imposed on Guam as a result of a much smaller—and much slower—transition.

The long-term effects of the earlier plan's greater number of Marines and their families, larger footprint, need for additional land in the vicinity of the culturally important Pagat Cave (for the live—fire range), and the large number of imported workers necessary to meet the 2014 construction deadline fueled opposition. The new plan addresses most of these concerns through a smaller, more rotational number of Marines with less effect on the island; no requirement for additional land; a "preferred alternative" for the live-fire range at existing Andersen Air Force Base (AAFB) property; and a longer timeline needing far fewer imported workers. Additionally, in August 2014, the Department of Navy revised its planning to take advantage of existing, but underutilized, family housing at AAFB that needs recapitalization—a more cost- effective joint USMC/Air Force solution that further reduces our planned footprint.

The table below from the SEIS highlights some of the key differences between the original and revised plans:

Key Differences Between 2010 Final EIS and 2015 Final SEIS

2010 Final EIS		2015 Draft SEIS
Approximately 8,600 Marines and 9,000 dependents relocating over 5 years	Relocated Population	Approximately 5,000 Marines and 1,300 dependents relocating over 12 years
7-year intense construction boom followed by sharp decline	Construction Period	13-years of moderate construction activity with gradual phase out
More than 79,000 new Guam Residents at peak	Peak Population Increase	Less than 10,000 new Guam residents at peak
More than 33,000 additional Guam residents	Steady State Population Increase	Approximately 7,400 additional Guam residents
2,580 acres at Finegayan preferred alternative	Project Area: Cantonment	1,723 acres at Finegayan/AAFB Preferred alternative
Acquisition of 688 acres of non-federal land Finegayan preferred alternative	Land Acquisition: Cantonment	No land acquisition at Finegayan/AAFB preferred alternative
5,529 acres for Route 15 Preferred alternative (4,439 acres) in SDZs, mostly over ocean)	Project Area: LFTRC	3,957 ACRES FOR Northwest Field Preferred alternative (3,701 acres in SDZs, mostly over ocean)
Acquisition of more than 1,000 acres of non-federal land at Route 15 preferred alternative	Land Acquisition: LFTRC	No land acquisition at Northwest Field preferred alternative
20 megawatts	Power Demand	5.7 megawatts
5.32 million gallons/day	Potable Water Demand	1.7 million gallons/day
2.6 million gallons/day	Wastewater Generation	1.2 million gallons/day
165,600 pounds/day	Solid Waste Generation	54,250 pounds/day
4 alternative sites in EIS analysis, all in same vicinity	EIS Alternatives: Cantonment	5 alternative sites in 3 different areas on Guam
2 alternative sites in EIS analysis, Both in same vicinity	Solid Waste Generation	5 alternative sites in 3 different areas on Guam

In parallel with the effort on the SEIS, the Department called a formal meeting of the Economic Adjustment Committee on July 29, 2014 to begin an assessment of "outside-the-fence" requirements. The EAC's work is important as the earlier plan required significant investment due to the build-up's effects on Guam's fragile infrastructure. Nearly $1.3 billion was previously identified in water and wastewater investments following the Navy's 2010 Record of Decision. Japan was to provide $740 million in financing for these investments with the Department providing the balance.

However, because the new plan significantly reduces the effect on Guam's infrastructure and because Guam itself has upgraded some of its infrastructure, "outside-the-fence" requirements are expected to be significantly less. At its formal meeting on July 29, 2014, the EAC empowered teams of member agencies to identify required actions, their costs, and a timeline for outside- the- fence investments for those requirements specifically identified in the Navy's Final SEIS as being necessary to mitigate effects on the Territory. The plans and reports from these efforts will comprise the content for the final 2014 NDAA Section 2822 report (the "EAC Implementation Plan") to Congress. The EAC Implementation Plan is to be issued no later than the Department of the Navy's Record of Decision later this year.

We understand the concerns about spending funds for "outside-the-fence" projects, but the Department intends to seek funding only for those projects required by the SEIS to address impacts of the build-up. The President's fiscal year 2016 budget requests an additional $20.0 million for work necessary to repair Guam's civilian water and wastewater infrastructure and remedy deficiencies that could affect the health of DOD personnel. This effort is aligned with the water and wastewater investments identified as part of the Guam SEIS and the parallel EAC analysis. A more detailed—and complete—cost estimate will be included in our Report to Congress later this year.

OPERATIONAL AND FACILITIES ENERGY

Merger of the Energy, Installations, and Environment Organizations

In the fiscal year 2015 National Defense Authorization Act, Congress directed the merger of the Assistant Secretary of Defense for Operational Energy Plans and Programs and the Deputy Under Secretary of Defense for Installations and Environment, creating a new Assistant Secretary of Defense for Energy, Installations and Environment, mirroring the organizational structure of the Services.

Without question, the operational and facilities facets of the Department's energy programs have much in common. First, they principally focus on the ability of the Department to carry out its missions. Both at installations and in combat platforms, energy is a critical resource and vulnerability across the full range of military operations. As an enabler, energy availability and resilience define the capabilities of weapons platforms, facilities and equipment. In addition, energy remains a substantial expense that competes with other investments in people and equipment. The drive to protect taxpayer dollars, especially in this budget environment, compels us to pursue cost-effective measures that increase energy efficiency and reduce our cost of operations.

The management strategies are similar also. Both heavily emphasize energy efficiency and reduction in demand, but also include recognition of the need to diversify supply. Energy security is a common theme, and while that means different things to different people, here it means the need for assured access to energy, during both combat and day-to-day operations. Finally, they look to the future and note the important role that technology investments play in setting the groundwork for the future force.

While there are many similarities in approach, fuels, the dominant manifestation of operational energy, and electricity, the primary medium of facilities energy, are fundamentally different and involve very different communities and programs within the Department of Defense. I'd like to highlight a few topics in each area.

Operational Energy

Within the operational energy portfolio, most of our efforts to date reflected the imperatives of operations in Afghanistan and Iraq, and focused on mitigating the risks of supplying energy to distributed contingency bases in an environment characterized by desert conditions and irregular adversaries. Looking ahead, we recognize that the Department's rebalance to the Asia-Pacific will mean a shift in our own operational energy initiatives to reflect a broader set of missions, equipment, and threats. I believe we must focus on the energy implications of air and sea operations supported from a mix of permanent and contingency locations in both the United States and other host countries.

Over the long run, including energy considerations early in the force development process offers the largest opportunities to increase capability, reduce risk, and mitigate costs. We have continued to enhance the role of operational energy in Service Title X wargames that influence future organization, training, and equipment. Operational energy played a role in wargames led by each of the Services and the Defense Logistics Agency over the past year, and we anticipate this trend to continue in fiscal year 2016.

The Department also continues to advocate the importance of developing and acquiring platforms that are energy supportable and operationally effective in contested environments. Achieving this goal will rely on the consistent and appropriate use of the Energy Key Performance Parameter (KPP) in new programs. During 2014, we worked with the Joint Staff J–4 to refine the Energy KPP instructions in the Joint Capabilities Integration and Development System (JCIDS) Manual to improve the quality and use of energy supportability analyses. By analyzing the energy performance and supportability early in the requirements and acquisition process, the Department is provided the opportunity to make informed decisions with regard to operational energy.

Using the new guidance, ASD (EI&E) and Joint Staff J–4 continued to assess the role of the Energy KPP compliance in new and updated systems, including LHA(R), TAO(X), Amphibious Combat Vehicle (ACV) and KC–46A aerial tanker. For example, with ASD (EI&E) and Joint Staff direction, the USMC is using a future wargame to analyze the operational ability of the LHA(R), the largest of the Amphibious Assault Ships, to support the F–35B Joint Strike Fighter (JSF). OASD (EI&E) and Joint Staff also are working with the Services to determine whether the planned fleet of air and sea refuelers—TAO(X) and KC–46A—are sufficient to meet the energy needs of the future force.

As the Department considers additional initiatives to address the demand for operational energy, I anticipate future attention to how adaptations to air and sea platforms can improve our operational capability and decrease risks. Changes in operational practices, improvements in supporting routing, maintenance, and onboard energy management systems, and mid-life upgrades each represent significant opportunities for improvement.

Facilities Energy

Where operational energy is most often a characteristic of warfighting platforms, the use of electricity, natural gas and other utilities is a fundamental characteristic of the nearly 300,000 buildings DOD owns and operates. The very nature of the problems are different, both in complexity and risk. Delivery of fuel to a forward operating location or an aircraft carrier in the Pacific Ocean is fundamentally different than tapping into the commercial electric grid. As such, fiscal considerations can take a more prominent role in facilities energy decisions. For example, energy efficiency projects are prioritized, in large part, by return on investment.

This also leads us to emphasis on third-party financing. For example, the Services have increased their focus on third-party financing tools, such as Energy Savings Performance Contracts (ESPCs) and Utility Energy Service Contracts (UESCs), to improve the energy efficiency of their existing buildings. With these tools private energy firms or utility companies make energy upgrades to our buildings and are paid back over time using utility bill savings. While such performance-based contracts have long been part of the Department's energy strategy, since 2012 the Department has significantly increased our efforts in response to the President's Performance Contracting Challenge issued in Dec 2011 and extends to 2016 and beyond.

In addition, most renewable energy projects we pursue are financed by private developers. DOD's authorities for renewable energy—particularly the ability to sign power purchase agreements of up to 30 years—provide incentives for private firms to fund the projects themselves, and can also provide a strong business case that they are able to offer DOD lower energy rates than are being paid currently. In addition, both Congress and the President have established renewable energy goals that motivate us to pay closer attention to these opportunities.

As a result, the Military Services have stepped up their efforts to develop robust renewable energy programs with a goal to deploy a total of 3 gigawatts of renewable energy by 2025.

Within the last three years, the Department has more than doubled the number of renewable energy projects in operation with over 800 megawatts in place today. The Military Departments are developing a number of new renewable energy projects, anticipating that all these will be operational by fiscal year 2020. These planned projects will provide approximately 2 gigawatts of additional renewable energy, enough to power 400,000 American homes. The Army recently completed a number of large renewable energy projects, including Fort Drum, NY (28 MW Bio-

mass) and Fort Huachuca, AZ (18 MW Solar PV), and the Air Force's large solar project at Davis-Monthan Air Force Base came online in fiscal year 2014 (16.4 MW Solar PV). In addition, the Navy has innovatively partnered with utilities across the U.S. to construct large renewable energy projects to power multiple Navy bases at once, with over 380 MW being procured in California and the East Coast.

CLIMATE CHANGE ADAPTATION

Climate change continues to be a priority for the Department. Both the 2010 and 2014 Quadrennial Defense Review (QDR) discussed that the impacts associated with a changing climate present a threat to DOD's national security mission. I know there is interest in Congress on this issue, and many would like to ensure we do not take significant risks in response to climate projections. I would suggest that not only are we not taking such risks, but we are working to minimize the risks posed by future climate changes through prudent planning and analysis.

First, it is important to understand that DOD looks at climate change impacts through the lens of its mission. In the QDR, we refer to climate change as a "threat multiplier" because it has the potential to exacerbate many of the challenges we are dealing with today—from infectious disease to terrorism.

My focus, however, is on installations and infrastructure. Sea-level rise results in degradation or loss of coastal areas and infrastructure, as well as more frequent flooding and expanding intrusion of storm surge across our coastal bases. Facilities and transportation infrastructure are already impacted by thawing permafrost and melting sea ice around our Alaskan installations. The changing environment increases the threat to 400 threatened or endangered species our installations are home to, leading to increased probability of training and operating restrictions. Increased high-heat days impose limitations on what training and testing activities our personnel can perform. Decreasing water supplies and increased numbers of wildfires in the Southwest may jeopardize future operations at critical ranges.

Our warfighters cannot do their jobs without bases from which to fight, on which to train, or in which to live when they are not deployed. When climate effects make our critical facilities unusable, that is an unacceptable impact.

Even without knowing precisely how the climate will change, we can see that the forecast is for more sea level rise; more flooding and storm surge on the coasts; continuing Arctic ice melt and permafrost thaw; more drought and wildfire in the American Southwest; and more intense storms around the world. DOD is accustomed to preparing for contingencies and mitigating risk, and we can take prudent steps today to mitigate the risks associated with these forecasts. These range from the strategic (DOD's Arctic Strategy) to the mundane (ensuring backup power and computer servers are not in basements where facilities are facing increased flood risk). In 2014, we released the updated DOD Climate Change Adaptation Roadmap, which outlines our strategy for responding to climate change across the Department.

The Military Services have conducted initial studies that indicate critical installations in the West could run out of water within decades. Not only do we need to begin reducing this risk today, but we need to comprehensively review our installation footprint to identify similarly vulnerable installations. We are conducting a screening level assessment of all DOD sites world-wide to identify where we are vulnerable to extreme weather events and tidal anomalies today. This assessment will be completed later this year and will inform the Military Services more comprehensive assessments of individual site adaptation needs.

Given the projected increases in major storm events, we've conducted a review of power resilience. We did a comprehensive review of installations to ensure critical capabilities have been identified, and have back-up power resources that have been tested and will work when there is a significant outage.

We have reviewed Department-level directives, instructions and manuals to identify where considerations of climate change should be incorporated. We are continuing to update those policies and programs that provide the foundation of the Department's actions to ensure we are considering the effects of a changing climate on our investments and actions. It's not necessarily exciting to change a master planning policy, but when we decide to build on higher ground, it reduces the risk to those new facilities and is a wiser use of taxpayer funds.

Our research continues on the effects of thawing permafrost on our Alaskan infrastructure, Southwestern extreme heat, Gulf and Atlantic coast sea level rise risks, and water issues in the Pacific islands.

In conclusion, our goal is to increase the Department's resilience to the impacts of climate change. To achieve this goal, we are dealing with climate change by taking prudent and measured steps to reduce the risk to our ability to conduct missions.

CONCLUSION

Thank you for the opportunity to present the President's fiscal year 2016 budget request for DOD programs supporting installations, energy, and the environment. As I have outlined above, our request is significantly more than last year because the total defense budget request is $35 billion more than the Budget Control Act cap for fiscal year 2016. That translates into a significant reduction in facilities risk from last year, but if we are compelled to return to the budget caps, that reduction in risk will evaporate.

We appreciate Congress' continued support for our enterprise and look forward to working with you as you consider the fiscal year 2016 budget.

Senator AYOTTE. Ms. Hammack?

STATEMENT OF HON. KATHERINE G. HAMMACK, ASSISTANT SECRETARY OF THE ARMY, INSTALLATIONS, ENERGY AND ENVIRONMENT

Ms. HAMMACK. Chairwoman Ayotte and Ranking Member Kaine, and other members of the committee, thank you for the opportunity to talk about the Army's fiscal year 2016 budget for military construction, Army family housing, environmental, and energy.

To lay the framework, the velocity of instability around the world has increased, and the Army is now operating on multiple continents simultaneously in ways unforeseen a year ago. Although we believe we can meet the primary missions of the Defense Strategic Guidance today, our ability to do so has become tenuous.

Fiscal challenges brought on by the Budget Control Act strain our ability to bring into balance readiness, modernization, and end strength. Even as demand for Army forces is growing, budget cuts are forcing us to reduce end strength and base support to dangerously low levels.

We face a mismatch between requirements and resources. Although, in 2016, the Army is asking for a 26 percent increase from 2015 in military construction, family housing, and base closure activities, our budget request is a 33 percent reduction from fiscal year 2014, and a 55 percent reduction from fiscal year 2013.

So as force structure declines, we must right-size the supporting infrastructure. We must achieve a balance between the cost of sustaining infrastructure and Army readiness, because degraded readiness makes it more difficult for us to provide for the common defense.

The BCA increases risk for sending insufficiently trained and underequipped soldiers into harm's way, and that is not a risk that this Nation should accept.

We need a round the base closure and realignment in 2017. Without a BRAC, the realized cost savings from a BRAC, the only alternative is to make up for shortages in base funding by increasing risk and readiness.

We did conduct a facility analysis, like Mr. Conger talked about, based upon our 2013 audited real property, and determined that excess facility capacity is 18 percent at a force of 490,000.

As Army force structure declines even further, excess capacity is going to grow. We must size and shape the Army facilities for the forces that we support.

The European infrastructure consolidation review addressed excess capacity in Europe. For the Army, an investment of $363 million results in annual savings of $163 million, which is less than

a 3-year payback. Our focus was to reduce capacity, not capabilities.

We are facing critical decisions that will impact our capabilities for the next decade. It is important that we make the right decisions now.

Without the savings from a BRAC round, the risk is that our installations will experience larger cuts than would otherwise occur. We look forward to working with Congress to ensure the Army is capable of fulfilling its many missions.

So on behalf of soldiers, families, and civilians, and the best Army in the world, thank you for the opportunity to be here today. I look forward to your questions.

Senator AYOTTE. Thank you, Secretary Hammack.

[The prepared statement of Ms. Hammack follows:]

PREPARED STATEMENT BY MS. KATHERINE G. HAMMACK

INTRODUCTION

Chairman Ayotte, Ranking Member Kaine, and Members of the Committee, on behalf of the Soldiers, Families, and Civilians of the United States Army, thank you for the opportunity to present the Army's fiscal year 2016 military construction (MILCON) and installations programs budget request.

The Army installation management community is committed to providing the facilities necessary to enable a ready and capable Army. The President's fiscal year 2016 MILCON budget request supports a regionally-engaged Army in a fiscally-constricted environment.

We ask for the Committee's continued commitment to our Soldiers, Families, and Civilians and support for the Army's MILCON and installations programs.

OVERVIEW

The President's fiscal year 2016 budget requests $1.6 billion for Army MILCON, Army Family Housing (AFH), and Base Closure Accounts (BCA). This request represents 1.3 percent of the total Army budget request. Of this $1.6 billion request, $743 million is for Military Construction, Army; $197 million is for Military Construction, Army National Guard; $114 million is for Military Construction, Army Reserve; $493 million is for AFH; and $30 million is for BCA.

The Army's facility investments are focused on supporting necessary training, maintenance, and operations facilities. These investments take into consideration the fiscal landscape we are facing as a Nation, which is influenced by the Budget Control Act of 2011, the Bipartisan Budget Agreement of 2013, and the strategic shift to realign forces toward the Asia/Pacific theater.

ARMY FORCE STRUCTURE

Fiscal reductions required by current law, and outlined in the 2014 Quadrennial Defense Review, have put the Army on a path to shrink our active component end strength and corresponding force structure a second time from a peak of 570,000 in fiscal year 2010, to 450,000 by fiscal year 2017. This is a total reduction of 120,000 active component Soldiers, approximately 22 percent. If sequestration level cuts are imposed in fiscal year 2016 and beyond, the Army may have to reduce our end strength and corresponding force structure to 420,000 Soldiers by fiscal year 2019. This is a cumulative reduction of 150,000 Soldiers, approximately 26 percent.

These reductions will affect every installation in the Army. The Army must retain our adaptability and flexibility so we can continue to provide regionally-aligned and mission-tailored forces in support of national defense requirements. Failing to maintain the proper balance between end-strength, readiness, and modernization will result in a "hollow" Army. The Army is already reducing our active component from 45 Brigade Combat Teams (BCTs) to 32 by the end of fiscal year 2015.

When we evaluated our initial force structure reductions from 570,000 to 490,000 Soldiers, we conducted a Programmatic Environmental Assessment (PEA), which was prepared in accordance with the National Environmental Policy Act (NEPA). The PEA analyzed potential environmental impacts that could result from the force reductions, including socioeconomic impacts at specified population loss thresholds. Since the Army's active component end-strength and corresponding force structure

will decline further than 490,000 to 450,000 by fiscal year 2017, the Army initiated a supplemental PEA (SPEA) analysis in February 2014 to analyze additional potential population loss scenarios that accounted for the impacts of full sequestration and Budget Control Act funding levels in fiscal year 2016 and beyond. Following publication of the SPEA, the Army is in the process of conducting approximately 30 community listening sessions at all Army installations with military and civilian populations of 5,000 or more. The community listening sessions give communities an opportunity to contribute feedback that will be taken into consideration by Army leaders before decisions are made on force structure reductions for specific installations.

FACILITY CAPACITY ANALYSIS

As the Army reorganizes to address these reductions, we must gauge the facility capacity and facility mix that we require to support a ready and resilient Army. We have begun conducting a facility capacity analysis to determine how much excess capacity will be created at the aggregate or enterprise level by the decrease in our end strength and corresponding force structure.

We have conducted programmatic analyses of real property needed to support an end-strength and corresponding force structure of 490,000 active component Soldiers. Results show that with 490,000 active component Soldiers, we will have nearly 18 percent excess capacity across our worldwide installations, totaling over 160 million square feet of facilities that could be repurposed to serve a wide variety of other uses (including satisfying other Army facility requirements). Inside the United States, excess capacity ranges between 12 and 28 percent, depending on facility category group, with an average of approximately 18 percent.

The Army estimates it costs $3 per square foot each year to maintain underutilized facilities. Accordingly, it costs the Army over $480 million a year to operate and sustain worldwide excess capacity. Additional excess capacity will be created when the active component shrinks further, necessitating incremental facility capacity analyses

In January 2013, the Secretary of Defense directed a thorough review of European infrastructure requirements. This effort is consistent with the Congressional direction communicated in the fiscal year 2014 National Defense Authorization Act. In May 2014, the first set of decisions resulting from the European Infrastructure Consolidation (EIC) analysis was released. The Secretary of Defense approved 22 actions, 13 of which were Army actions. Many of these actions had been underway prior to EIC, yet they were formally reevaluated and found to be wholly consistent with the intent of EIC: to reduce excess infrastructure and associated operating costs, without sacrificing operational capabilities.

In January 2015, the Department of Defense announced 26 additional decisions, 20 of which were Army actions, which resulted from a rigorous analytic method that adapted elements of the Base Closure and Realignment (BRAC) process to an overseas environment. This analysis included a Capacity Analysis, a Military Value Analysis, and a structured Scenario Development and Evaluation process. The Army is now nearing completion of fully developed and coordinated business plans to ensure these decisions are implemented between 2016 and 2020, in a manner that conforms to the Secretary of Defense's guidance and achieves both the projected savings and infrastructure reductions.

The 33 Army EIC actions will significantly reduce our infrastructure in Europe at a considerably faster pace than previously envisioned. They are projected to yield Annual Recurring Savings of $163 million by fiscal year 2021 after implementation costs of $358 million are incurred between fiscal year 2014 and 2020.

The use of BRAC methods and tools to evaluate our European infrastructure was helpful in building expertise and proficiency that will help prepare the Army for a future BRAC Round. Moreover, the rigor of the analysis helped to demonstrate that DOD has reduced, or identified for reduction, all that it can overseas, and must now seek reductions within the United States, for which new BRAC authority is essential. This authority is needed to eliminate excess, balance infrastructure and force structure, and operate within projected fiscal constraints. DOD and the Army have the tools and authorities needed to identify and reduce our excess capacity overseas. Inside the United States, however, the best and proven method to address excess infrastructure, in a cost-effective, transparent, and equitable manner, is through the BRAC process.

Our evaluation of European infrastructure followed the BRAC analytic methods and laid the foundation for the next round of BRAC. BRAC is a proven, fair, and cost effective process; the savings have been validated by the Government Accountability Office (GAO). Similar to our EIC effort, the Army is committed to a future

BRAC round that is focused on efficiency and consolidation rather than transformation.

The Army needs BRAC to achieve savings of a sufficient magnitude to prevent the deterioration of our critical infrastructure. As the Army's end-strength and force structure decline alongside available funding, hundreds of millions of scarce dollars will be wasted in maintaining underutilized buildings and infrastructure. Trying to spread a smaller budget over the same number of installations and facilities will inevitably result in rapid declining conditions of Army facilities.

The Army has used existing authorities to vacate leased space and move from temporary buildings into permanent buildings. For example, at Fort Campbell, Kentucky, when the Fourth BCT of the 101st Airborne Division was inactivated, it resulted in 228 facility reallocation moves affecting 5 different Brigades. At the end of the process, Fort Campbell vacated and removed 91 relocatable buildings consisting of over 200,000 square feet.

As laudable as the Fort Campbell efficiency measures have been, however, the stark budgetary reality is that modest savings from these prudent efficiency measures cannot substitute for the significant savings of a new BRAC round. The cost of running a garrison is relatively fixed, regardless of whether the supported population is reduced by 10, 20, or 40 percent. The Army must continue to evaluate, balance, and right-size the diverse and extensive supporting infrastructure that enables our effective fighting forces. BRAC is the only proven authority that allows the Army to achieve this balance, reduce costs, and achieve the necessary savings.

For many communities near our installations, BRAC is better than proceeding with the reduction of force structure and excess capacity under current law. It provides the impacted communities a chance to conduct comprehensive redevelopment planning with federal resources to assist them. It also can provide the community additional property conveyance options. Neither the Army nor the supporting communities benefit from retaining underutilized installations that are unaffordable for the Army with diminished economic benefit to the community.

FACILITY INVESTMENT STRATEGY (FIS)

As the Army shapes the Force of 2025 and Beyond through a series of strategic initiatives, the Installation Management Community continues to focus on providing quality, energy-efficient facilities in support of the Army Leadership priorities.

The FIS provides a strategic framework that is synchronized with the Army Campaign Plan (ACP); Total Army Analysis; and the Planning, Programming, Budgeting & Execution (PPBE) to determine capital investment needed to sustain Army facilities at installations and Joint Service bases across the country. The FIS is a cost-effective and efficient approach to facility investments that reduces unneeded footprint, saves energy by preserving efficient facilities, consolidates functions for effective space utilization, demolishes failing buildings, and uses appropriate excess facilities to eliminate off-post leases.

FIS uses MILCON funding to replace failing facilities and build out critical facility shortages; Operation and Maintenance (O&M) funding to address the repair and maintenance of existing facilities; O&M Restoration and Modernization (R&M) funding to improve existing facility quality; O&M Sustainment funding to maintain existing facilities; and Demolition and Disposal funding to eliminate failing excess facilities. Focused investments from MILCON and O&M funding support facilities grouped in the following categories: Redeployment/Force Structure, Barracks, Revitalization, Ranges, and Training Facilities. The fiscal year 2016 budget request implements the FIS by building out shortfalls for unmanned aerial vehicle units, Army Cyber, initial entry training barracks, selected maintenance facilities, and reserve component facilities. Additional departmental focus areas include Organic Industrial Base and Energy/Utilities.

FISCAL YEAR 2016 BUDGET REQUEST

MILITARY CONSTRUCTION, ARMY

The fiscal year 2016 Military Construction, Army (MCA) budget requests an authorization of $609 million and appropriations for $743.2 million. The appropriations request includes $134.2 million for planning and design, minor military construction, and host nation support. The MCA program is focused on the MILCON categories of Army Cyber, Barracks, Revitalization, Ranges and Training Facilities, and Other Support Programs.

Of the $743.2 million, $90 million will be spent on Army Cyber. The fiscal year 2016 MCA budget requests a Command and Control Facility for the recently-estab-

lished Army Cyber Command (ARCYBER) and Joint Forces Headquarters Cyber at Fort Gordon, Georgia.

Of the $743.2 million, $56 million will be spent on Barracks. As part of the Army's continued investment in barracks, the fiscal year 2016 MCA budget provides for one project to complete a Reception Barracks Complex at Fort Sill, Oklahoma, which includes 254 barracks spaces and company operations facilities for Initial Entry Training (IET) Soldiers during their in-processing.

Of the $743.2 million, $397.6 million will be spent on Revitalization. As part of the Army's Facility Investment Strategy, the Army is requesting eight projects to address failing facilities and/or critical facility shortfalls to meet the unit mission requirements. Projects include the $43 million Homeland Defense Operation Center at Joint Base San Antonio, Texas; a $70 million Waste Water Treatment Plant at West Point, New York; a $37 million Instruction Building at Joint Base Myer-Henderson Hall, Virginia; a $85 million Powertrain Facility (Infrastructure/Metal) at Corpus Christi Army Depot, Texas; a $98 million replacement of Pier 2 at the Military Ocean Terminal Concord, California; a $7.8 million Physical Readiness Training Facility at Fort Greely, Alaska; a $5.8 million Rotary Wing Taxiway at Fort Carson, Colorado; and a $51 million Vehicle Maintenance Shop at Grafenwoehr Training Area, Germany.

Of the $743.2 million, $65.4 million will be spent on Ranges and Training Facilities. These funds will be invested to construct a Non-Commissioned Officer (NCO) Academy at Fort Drum, New York ($19 million) as well as two new Training Support Facilities. These facilities are located at Fort Sill, Oklahoma ($13.4 million) and Fort Lee, Virginia ($33 million) to meet Program of Instruction (POI) training requirements for Soldiers, Non-Commissioned Officers and Junior Officers undergoing Military Occupational Specialty training.

Of the $743.2 million, $134.2 million will be spent on Other Support Programs. This includes $73.2 million for planning and design of MCA projects, $36 million for the oversight of design and construction of projects funded by host nations, and $25 million for unspecified minor construction.

MILITARY CONSTRUCTION, ARMY NATIONAL GUARD

The fiscal year 2016 Military Construction, National Guard (MCNG) budget requests an authorization of $132.1 million and appropriations for $197.2 million. The appropriations request includes $35.3 million for planning and design and minor military construction and $29.8 million for previously-authorized projects at Dagsboro, Delaware ($10.8 million) and Yakima, Washington ($19 million). The MCNG program is focused on the readiness centers, maintenance facilities, training facilities, ranges and barracks.

Of the $197.2 million, $88.3 million will be spent on Readiness Centers. The fiscal year 2016 budget request includes five readiness centers: Palm Coast, Florida ($18 million); Easton, Maryland ($13.8 million); Salem, Oregon ($16.5 million); Richmond, Virginia ($29 million); and Camp Hartell, Connecticut ($11 million). The readiness centers include new facilities as well as expansions/alterations to existing facilities. The projects primarily address space shortfalls and replacement of obsolete facilities. In one case, the project will eliminate the need to continue leasing a facility. The new readiness centers will enhance the Army National Guard's readiness to perform state and federal missions.

Of the $197.2 million, $26.7 million will be spent on Maintenance Facilities. Three National Guard maintenance shops are included in the request. The Dagsboro, Delaware facility ($10.8 million) addresses shortfalls in interior space, privately-owned vehicle parking, and military vehicle parking. A project in North Hyde Park, Vermont ($7.9 million) adds space to an existing facility that only has 22 percent of the required space. One final addition/alteration project is located in Reno, Nevada ($8 million) and will address space shortfalls and modernize the existing facility.

Of the $197.2 million, $16 million will be spent on Training Facilities. At Fort Indiantown Gap, Pennsylvania, a new training aids center ($16 million) replaces a deteriorated World War Two-era facility and other temporary storage.

Of the $197.2 million, $11.9 million will be spent on Ranges. The Army National Guard's request contains four range projects. Two range projects are located in Salina, Kansas and consist of an automated combat pistol/military police firearms qualification course ($2.4 million) and a modified record fire range ($4.3 million). Both of these ranges are necessary in order to meet current training range criteria and achieve the required throughput. The range project at Camp Ravenna, Ohio, a modified record fire range ($3.3 million), will provide needed capacity for unit

training. In Sparta, Illinois a basic firing range ($1.9 million) will address the lack of this type of facility in south central Illinois.

Of the $197.2 million, $19 million will be spent on Barracks facilities. At Yakima, Washington, a new transient training barracks ($19 million) addresses a shortfall in space and quality.

Of the $197.2 million, $35.3 million will be spent on Other Support Programs. The fiscal year 2016 Army National Guard budget request includes $20.3 million for planning and design of future year projects and $15 million for unspecified minor military construction.

MILITARY CONSTRUCTION, ARMY RESERVE

The fiscal year 2016 Military Construction, Army Reserve (MCAR) budget requests an authorization of $88.2 million and appropriations for $113.6 million. The appropriations request includes $16.1 million for planning and design and minor military construction and $9.3 million for a previously-authorized project at Starkville, Mississippi.

Of the $113.6 million, $97.5 million will be spent on Revitalization. The fiscal year 2016 Army Reserve budget request includes five projects that build out critical facility shortages and replace and modernize failing infrastructure and inefficient facilities with new operations and energy efficient facilities. The Army Reserve will construct three new reserve centers in Riverside, California; MacDill AFB, Florida; and Starkville, Mississippi that will provide modern training classrooms, simulations capabilities, and maintenance platforms that support the Army force generation cycle and the ability of the Army Reserve to provide trained and ready soldiers for Army missions when called. The Starkville, Mississippi project was authorized in the fiscal year 2015 National Defense Authorization Act, but no funds were appropriated. In Conneaut Lake, Pennsylvania the Army Reserve, through the Defense Access Road Program, will improve an access road leading to an Army Reserve Local Training Area and maintenance facilities. The request also includes a new vehicle maintenance facility at Orangeburg, New York.

Of the $113.6 million, $16.1 million will be spent on Other Support Programs. The fiscal year 2016 Army Reserve budget request includes $9.3 million for planning and design of future year projects and $6.8 million for unspecified minor military construction to address unforeseen critical needs.

ARMY FAMILY HOUSING

The Army's fiscal year 2016 AFH budget requests $493.2 million for construction and housing operations worldwide. The AFH inventory includes 10,614 government-owned homes, 4,984 government-leased homes, and 86,077 privatized-homes. The Army has privatized over 98 percent of on-post housing assets inside the United States. All Army overseas Family housing quarters are either government-owned or government-leased units.

Of the $493.2 million, $85.8 million will be spent on Operations. The Operations account includes four sub-accounts: management, services, furnishings, and a small miscellaneous account. Within the management sub-account, Installation Housing Services Offices provide post housing, non-discriminatory listings of rental and for-sale housing, rental negotiations and lease review, property inspections, home buying counseling, landlord-tenant dispute resolution, in-and-out processing housing assistance, and assistance with housing discrimination complaints and act as a liaison between the installation and local and state agencies. In addition, this account supports remote access to housing information from anywhere in the world with direct information or links to garrison information such as schools, relocation information, installation maps, housing floor plans, photo and housing tours, programs and services, housing wait list information, and housing entitlements.

Of the $493.2 million, $65.6 million will be spent on Utilities. The Utilities account includes the cost of delivering heat, air conditioning, electricity, water, and wastewater support for owned or leased (not privatized) Family housing units.

Of the $493.2 million, $75.2 million will be spent on Maintenance and Repair. The Maintenance and Repair account supports annual recurring projects to maintain and revitalize AFH real property assets and is the account most affected by budget changes. This funding ensures that we appropriately maintain the 10,614 housing units so that we do not adversely impact Soldier and Family quality of life.

Of the $493.2 million, $144.9 million will be spent on Leasing. The Army Leasing program is another way to provide Soldiers and their Families with adequate housing. The fiscal year 2016 budget request includes funding for 575 temporary domestic leases in the US, and 4,409 leased units overseas.

Of the $493.2 million, $22 million will be spent on Privatization. The Privatization account provides operating funds for the Army's Residential Communities Initiatives (RCI) program portfolio and asset management and government oversight of privatized military Family housing. The need to provide oversight of the privatization program and projects is reinforced in the fiscal year 2013 National Defense Authorization Act, which requires more oversight to monitor compliance, review, and report performance of the overall privatized housing portfolio and individual projects.

In 1999, the Army began privatizing Family housing assets under the Residential Communities Initiative (RCI). All scheduled installations have been privatized through RCI. RCI Family housing is established at 44 locations—98 percent of the on-post Family housing inventory inside the United States. Initial construction and renovation investment at these 44 installations is estimated at $13.2 billion over a 3–14-year initial development period (IDP), which includes an Army contribution of approximately $2 billion. All IDPs are scheduled to be completed by 2019. From 1999 through 2013, our RCI partners have constructed 31,935 new homes and renovated another 25,834 homes.

Of the $493.2 million, $99.7 million will be spent on Construction. The Army's fiscal year 2016 Family Housing Construction request is for $89 million for new construction, $3.5 million for construction improvements and $7.2 million for planning and design. The Army will construct 38 single Family homes at Rock Island Arsenal, Illinois to support Senior Officer and Senior Non-Commissioned Officer and Families. These new homes enable the Army to fully address the housing deficit and to eliminate dependency on leased housing. The Army will construct 90 apartment quarters on Camp Walker in Daegu, Korea to replace aged and worn out leased units to consolidate Families on post.

BASE CLOSURE ACCOUNT (BCA)

BRAC property disposal remains an Army priority. Putting excess property back into productive re-use, which can facilitate job creation, is important to the communities in which they are located.

The Army's portion of the fiscal year 2016 BCA budget request totals $29.7 million. The request includes $14.6 million for caretaker operations and program management of remaining properties and $15.1 million for environmental restoration efforts. In fiscal year 2016, the Army will continue environmental compliance and remediation projects at various BRAC properties. The funds requested are needed to keep planned environmental response efforts on track particularly at legacy BRAC installations including Fort Ord, California and Pueblo Chemical Depot, Colorado. Additionally, funds requested support environmental projects at several BRAC 2005 installations including Riverbank Army Ammunition Plant, California; Fort Monmouth, New Jersey; Fort Monroe, Virginia; and Umatilla Chemical Depot, Oregon. The current estimated cost to complete all BRAC environmental cleanup requirements is $957 million over a period of approximately 30 years.

When the Army sells excess BRAC property, proceeds go back into our Base Closure Account to fund remaining Army environmental and maintenance requirements on our BRAC sites. Sales of Army BRAC property at substantially fair market value help protect programs that support Active, Guard, and Reserve installations.

In total, the Army has disposed of almost 225,000 acres (76 percent of the total acreage disposal requirement of 297,000 acres), with approximately 72,000 acres (24 percent) remaining. The current goal is for all remaining excess property to be conveyed by 2023. Placing this property into productive reuse helps communities rebuild the local tax base, generate revenue, and, most importantly, replace lost jobs.

There is life after BRAC for defense communities. BRAC-impacted communities have leveraged planning grants and technical assistance from the DOD Office of Economic Assistance (OEA), as well as BRAC property disposal authorities, to adjust in ways that are often not possible outside the BRAC process. There are many instances of how BRAC property has been put to new uses; below are three examples.

At Fort Monmouth, transferred property is now in productive re-use. During November 2014, CommVault, a data protection and information software company moved its global headquarters to a portion of the former Fort Monmouth. CommVault moved 500 existing employees and 400 new employees into the new 275,000 square foot facility less than two years after the Army conveyed a 55 acre parcel to the public development authority in consideration for an Economic Development Conveyance under BRAC law CommVault officials anticipate 2,000 additional employees will be hired upon completion of a 650,000 square foot addition to

the 55 acre campus. The company's decision to re-locate and expand at its new location is a major step to establish a technology hub on the former Fort Monmouth.

At Fort Gillem, Kroger, one of the world's largest grocery retailers, will open a one million square foot state-of-the-art distribution center on 253 acres at the former Fort Gillem, creating 120 new jobs and investing more than $175 million into the former Army and Air Force Exchange Service (AAFES) distribution facility over the next five years. The new jobs will include warehouse, security, transportation management, engineering and facilities management positions. The community anticipates 1,500 new jobs over the next two years and revenues to support critical services for the residents of Forest Park. Like Ft Monmouth, the Army conveyed this property to the Local Redevelopment Authority as an Economic Development Conveyance, receiving $15 million at closing with an additional $15 million in structured payments over the next seven years.

The third BRAC example is the US Army Reserve Center #2 in Houston, Texas. This six acre site, including more than 15,000 square feet, was conveyed in August 2012 to the City of Houston under a Department of Justice Public Benefit Conveyance (PBC) for use as a police department. This type of re-use is common across the country whenever the Army closes a Reserve Center.

ENERGY

The Army is improving our installation energy use and sustainability efforts. In fiscal year 2016, the Installation Energy budget total is $1.68 billion. This budget total includes $45.8 million from the DOD-wide MILCON appropriation for the Energy Conservation Investment Program (ECIP), $150.1 million for the Energy Program/Utilities Modernization Program, and $1.48 billion for Utilities Services. The Army conducts financial reviews, business case and life cycle cost analysis, and return on investment evaluations for all energy initiatives.

Of the $1.68 billion, $45.8 million will be spent on the Energy Conservation Investment Program (ECIP). The Army invests in energy efficiency, on-site small-scale energy production, and grid security through the DOD's appropriation for ECIP. In fiscal year 2014, the DOD began conducting a project-by-project competition to determine ECIP funding distribution to the Services. In fiscal year 2016, the Army received $45.8 million for seven projects, including six energy conservation projects and one renewable energy project.

Of the $1.68 billion, $150.1 million will be spent on Energy Program/Utilities Modernization. Reducing consumption and increasing energy efficiency are among the most cost-effective ways to improve installation energy security. The Army funds many of its energy efficiency improvements through the Energy Program/Utilities Modernization program account. Included in this total are funds for energy efficiency projects, the Army's metering program, modernization of the Army's utilities, energy security projects, and planning and studies. In addition, this account funds planning and development of third party financed renewable energy projects through the Office of Energy Initiatives (OEI). The OEI currently has 14 projects completed, under construction, in the procurement process, or in the final stages before procurement with a potential of over 400 Mega Watts (MW) of generation capacity. Power purchased in conjunction with OEI projects will be priced at or below current or projected installation utility rates.

Of the $1.68 billion, $1.48 billion will be spent on Utilities Services. The Utilities Services account pays all Army utility bills including the repayment of Utilities Privatization (UP), Energy Savings Performance Contracts (ESPCs), and Utilities Energy Service Contracts (UESCs). Through the authority granted by Congress, ESPCs and UESCs allow the Army to implement energy efficiency improvements through the use of private capital, repaying the contractor for capital investments over a number of years out of the energy cost savings. The Army has the most robust ESPC program in the Federal government. The ESPC program has more than 200 Task Orders at 78 installations, representing $1.68 billion in private sector investments, and over 370 UESC Task Orders at 47 installations, representing $583 million in utility sector investments. We have additional ESPC projects in development, totaling over $300 million in private investment and $60 million in development for new UESCs. From December 2011 through December 2014, under the President's Performance Contracting Challenge, the Army executed $725 million in contracts with third-party investment using ESPCs and UESCs.

ENVIRONMENT

The Army's fiscal year 2016 budget provides $1.1 billion for Environmental Programs in support of current and future readiness. This budget supports legally-driven environmental requirements under applicable Federal and State environmental

laws, binding agreements, and Executive Orders. It also promotes stewardship of the natural resources that are integral to our capacity to effectively train our land-based force for combat.

This budget maintains the Army's commitment to acknowledge the past by restoring Army lands to a useable condition and by preserving cultural, historic and Tribal resources. It allows the Army to engage the present by meeting environmental standards that enable Army operations and protect our Soldiers, Families, and communities. Additionally, it charts the future by allowing the Army to institutionalize best practices and technologies to ensure future environmental resiliency.

SUSTAINMENT/RESTORATION & MODERNIZATION (R&M)

This year's fiscal year 2016 sustainment funding is $2.9 billion or 80 percent of the DOD Facilities Sustainment Model (FSM) requirement for all the Army components. Due to this lower level of sustainment funding, we are accepting a level of risk in degraded facilities due to deferred maintenance. Our facility inventory is currently valued at $299 billion.

In keeping with the FIS, the Army continues to invest in facility restoration through O&M R&M currently budgeted for $562 million. Our focus is to restore trainee barracks, enable progress toward energy objectives, and provide commanders with the means of restoring other critical facilities. The Army's demolition program has been increased by 46 percent to $42.2 million, which increases the rate at which we are removing failing excess facilities. Facilities are an outward and visible sign of the Army's commitment to providing a quality of life for our Soldiers, Families, and Civilians that is consistent with their commitment to our Nation's security.

BASE OPERATIONS SUPPORT

The Army's fiscal year 2016 Base Operations Support (BOS) request is $9.2 billion in support of leadership's commitment to provide quality of life to our Soldiers, Civilians, and Families that is commensurate with their service. The fiscal year 2016 BOS funding request represents a 10 percent reduction compared to fiscal year 2014 full year execution (including OCO authorized in support of Base Budget). It should be noted that the fiscal year 2016 BOS budget reflects a 6 percent increase above the fiscal year 2015 BOS-enacted level ($8.7 billion), demonstrating senior leadership's desire to address installation readiness. Although the Military and Civilian workforce is being reduced, the number of installations remains the same. Balancing the BOS funding across 154 installations world-wide stresses the Army's ability to provide a safe training environment and a respectable quality of life on our installations. The Army will continue to be fiscally challenged to meet the demands of our installation communities.

The Army remains committed to our Family programs and continues to evaluate these services in order to maintain relevance and effectiveness. Ensuring the resiliency of our Soldiers and Families is the priority of programs such as Army Substance Abuse Program, Soldier Family Assistance Centers, and Suicide Prevention.

Given fiscal realities, the Army continues to evaluate programs to fully optimize resources by eliminating redundant or poorly performing programs and making tough decisions to adjust service levels and then manage expectations. We continue to seek internal efficiencies/tradeoffs as our fiscal environment forces the internal realignment of BOS funds to support these Army priorities.

Budget uncertainties are producing real life consequences in training and installation readiness, as well as the local community. Current funding requires installations to scale back or cancel service contracts that employ people in local communities and requiring installations to work with commanders to use special duty assignments to support installation services and programs (e.g., installation security, transportation, vehicle and range maintenance, POL and Ammo handling).

Without a reduction in the number of installations, the Army will be forced to sacrifice quality of life programs at the expense of maintaining excess capacity. The cumulative effect of funding reductions over the years harm the overall quality of life on our installations and adjoining communities as the Army realigns our Military and Civilian population and reduces supporting service program contracts across the garrisons.

INTERGOVERNMENTAL SUPPORT AGREEMENTS

The Army is implementing an overarching strategy to incorporate Intergovernmental Support Agreements (IGSAs) as authorized in the fiscal year 2013 NDAA, Section 331 (codified as 10 U.S.C. § 2336). The clarification included in the fiscal year 2015 NDAA facilitates the Army's ability to enter and participate in public-

public partnerships. The Department of the Army issued an Execution Order to Army Commands in August of 2013 with initial guidance. Installations have identified 96 IGSA concepts, three of which have been submitted to Army headquarters for approval. These initial proposals will assist the Army to develop a standardized process for identifying, evaluating and approving IGSAs. Further guidance is being developed from the clarifications provided last year.

CONCLUSION

The Army's fiscal year 2016 installations management budget request is a balanced program that supports the Army as we transition from combat and supports our Soldiers, Families, and Civilians while recognizing the current fiscal conditions.

The Army's end-strength and force structure are decreasing consistent with the 2014 QDR. At 450,000 active component Soldiers, we have evidence that the Army will have well over 18 percent excess capacity. The Army needs the right tools to right size our capacity. Failure to reduce excess capacity will divert hundreds of millions of dollars per year away from critical training and readiness functions.

The European Infrastructure Consolidation Assessment (EIC) has been extremely successful. It shows that the combination of our Army BRAC-based Infrastructure Analysis and the already robust strategic plans effort of the U.S. Army in Europe prepare us to meet the challenges of the future. The European Infrastructure Consolidation results demonstrate the Army's commitment to seek greater efficiencies and ensure we are focusing resources where they can have the greatest effect. The resulting actions ensure, even in the context of a challenging fiscal environment, that we are ready and able to defend U.S. interests and meet our commitment to our Allies now and in the future.

BRAC is a proven and fair means to address excess capacity. BRAC has produced net savings in every prior round. On a net $13 billion investment, the BRAC 2005 round is producing a net stream of savings of $1 billion a year. In this case, BRAC 2005 is producing a 7.7 percent annual yield. That is a successful investment by any definition. A future round of BRAC is likely to produce even better returns on investment. We look forward to working with Congress to determine the criteria for a BRAC 2017 round.

Thank you for the opportunity to appear before you today and for your continued support for our Soldiers, Families, and Civilians.

Senator AYOTTE. Secretary McGinn?

STATEMENT OF HON. DENNIS V. MCGINN, ASSISTANT SECRETARY OF THE NAVY, ENERGY, INSTALLATIONS AND ENVIRONMENT

Mr. MCGINN. Chairman Ayotte, Ranking Member Kaine, members of the committee, I would like to start my testimony by noting the tragic loss overnight of 11 patriotic Americans in the Gulf of Mexico, 4 Army National Guard, 7 marines. We send our thoughts and prayers to their families, and hope that they find solace in the fact that the loss of their loved ones was in the service of our country.

The world events of last year and the first part of this year demonstrate the complex and unpredictable nature of our times. From the rise of the Islamic State, an emboldened Russian Federation, outbreak of the Ebola virus, the Navy and Marine Corps team has been on station forward as America's first responders, operating around the clock and around the world.

Our installations provide the backbone of support for our maritime forces, enabling that forward presence. Our Nation's Navy and Marine Corps team must have the ability to sustain and project power, effect deterrence, and provide humanitarian assistance in disaster relief whenever, wherever, and for however long needed to protect the interests of the United States and our allies.

Yet, fiscal constraints introduce additional complexity and challenges as our department strives to strike the right balance between resources, risk, and strategy.

The President's Budget request for fiscal year 2016, while supporting the 2014 Quadrennial Defense Review, requests $13.3 billion to operate, maintain, and recapitalize our Department of the Navy shore infrastructure.

This is a welcome increase of $1.5 billion from amounts appropriated in fiscal year 2015, but remains below the DOD goal for facilities sustainment.

On the question of risk and reduced investment, we are funding the sustainment, restoration and, modernization of our facilities at a level to arrest the immediate decline in the overall condition of our most critical infrastructure. By deferring less critical repairs, especially for nonmission-critical items, we acknowledge that we are allowing certain facilities to degrade.

However, this budget has us headed back in the right direction. Last year's budget risks would lead, if continued, to rapid degradation of overall shore establishment readiness, if continued into the future.

I will look forward to working with you to sustain the warfighting readiness and quality of life for the U.S. Navy and Marine Corps, the most formidable expeditionary fighting force the world has ever known.

Thank you for the opportunity to testify, and I look forward to your questions.

Senator AYOTTE. Thank you, Secretary McGinn.

Please know, as a committee, that we offer our condolences as well to the families and to those lost by the marines.

Mr. MCGINN. Thank you.

Senator AYOTTE. Thank you.

[The prepared statement of Mr. McGinn follows:]

PREPARED STATEMENT BY DENNIS V. MCGINN

Chairman AYOTTE. Ranking Member Kaine, and members of the Subcommittee, I am pleased to appear before you today to provide an overview of the Department of the Navy's (DON's) investment in its infrastructure and energy programs.

TOWARD A MORE SECURE FUTURE

The world events of 2014 demonstrate the complex and unpredictable nature of our times. From the rise of the Islamic State, an emboldened Russian Federation, and the outbreak of the Ebola virus, the Navy-Marine Corps team has been on station as America's "first responders", operating around the clock and around the world. Our Navy and Marine Corps must be manned, trained, and equipped to deter and respond to geo-political crises and natural events wherever, whenever, and however they occur.

Our installations provide the backbone of support for our maritime forces, enabling their forward presence. Last year's budget, while conforming to the spending caps imposed by the Bipartisan Budget Act of 2013, would lead to rapid degradation of shore establishment readiness if continued into the future. In contrast, the DON's President's Budget request for fiscal year 2016 (PB 2016) makes progress toward achieving a more sustainable investment profile, with increases of 50 percent in military construction funding and nearly 30 percent in the Facilities Sustainment, Restoration and Modernization accounts, while continuing to manage risk in shore infrastructure investment and operations. This increased funding enables the Department to meet the 6 percent statutory investment in our shipyards, aviation fleet readiness centers, and depots and will accomplish the deferred critical maintenance on other facilities. We're making investments in safety and quality of life projects,

too, but this progress assumes the Department will not be held to the discretionary budget caps.

INVESTING IN OUR INFRASTRUCTURE

Overview In fiscal year 2016, the Department is requesting $13.3 billion in various appropriations accounts, an increase of $1.5 billion from amounts appropriated in fiscal year 2015 to operate, maintain and recapitalize our shore infrastructure. These investments will enable the Department to support the three pillars upon which the 2014 Quadrennial Defense Review (QDR) is based: *protect the homeland, build security globally; project power and win decisively*. Figure 1 provides a comparison between the fiscal year 2015 enacted budget and the PB 2016 request by appropriation.

	FY 2015 *enacted* ($M)	PB 2016 ($M)	Delta ($M)	Delta (%)
Military Construction, Active + Reserve	1,136	1,705	569	50.1%
Family Housing, Construction	16	17	0	0.6%
Family Housing Operations	354	353	-1	-0.3%
BRAC[1]	140	157	17	12.1%
Sustainment Restoration & Modernization (O&M)[2]	2,356	3,052	696	29.5%
Base Operating Support[2]	7,546	7,748	202	2.7%
Environmental Restoration, Navy	277	292	15	5.4%
[1]Prior funds will also support FY2015 BRAC activites				
[2]Includes OCO				
TOTAL	**11,825**	**13,324**	1,498	12.7%

Figure 1: DON Infrastructure Funding by Appropriation

We continue to accept risk in shore infrastructure by prioritizing life/safety issues and efficiency improvements to existing infrastructure, focusing on the repair of only the most critical components of our mission critical facilities, and by deferring less critical repairs, especially for non-mission-critical facilities.

Protecting the Homeland Together, the Navy and Marine Corps will invest over $250 million domestically in military construction funds to upgrade or modernize utilities and critical infrastructure that will ensure continuity of operations in the event of man-made or natural disasters. In Georgia at Kings Bay, the Navy would upgrade the electrical distribution and supporting communications network that haven't been substantially modified since 1997. At its logistics base in Albany, the Marine Corps will replace an aging and degraded heating and ventilation system that has exceeded its useful life. In Washington State, a $34 million project would complete the waterfront restricted area at Naval Submarine Base, Bangor, ensuring the security of our strategic weapons arsenal.

We're making investments to protect and be good stewards of our natural environment, too. At its Recruit Depot in Parris Island, South Carolina, the Marine Corps will construct additional safety berms at its ranges to retain expelled rounds and thereby protecting the adjacent sensitive wetlands from copper and lead contamination. At the Naval Magazine in Indian Island, Washington, the Navy will provide shore power to an ammunitions pier, replacing leased generators that now run under operationally limiting air permits. Unrelated to the broader issue of rebalancing forces to the Asia-Pacific Region, the Navy will correct deficiencies in the storm water and waste water systems in Guam, resolving an outstanding Notice of Violation issued by the Environmental Protection Agency.

Building Global Security The fiscal year 2016 budget request supports global security by strengthening our international partnerships and enhancing our defense

posture abroad. Fulfilling the U.S. commitment to our NATO allies regarding the Phased Adaptive Approach to European ballistic missile defense, we will construct an interceptor site in Redzikowo, Poland, complementing the one we're building in Romania. We have enduring interests in the Middle East and the Gulf region. In Bahrain, the pier replacement and ship maintenance support facility projects included in this budget request will enable our forces to respond swiftly to emerging threats.

We will also continue to rebalance our force structure to the Asia-Pacific region and this budget request includes funding to support the arrival of new aviation assets to Marine Corps Base Kaneohe, Hawai'i and Japan. Additionally, the DON budget request provides $126 million to construct a live-fire training range complex in Guam that will support current and future training needs of the Marine Corps and our allied partners. Finally, DOD, through its Office of Economic Adjustment, is requesting an additional $20 million to supplement the amount of $106 million previously appropriated—and the associated authority— to continue improvements to Guam's civilian water and wastewater infrastructure necessary to support the Marine relocation.

Guam, and the relocation of Marines to that island, remains an essential part of the United States' larger Asia-Pacific strategy of achieving a more geographically distributed, operationally resilient and politically sustainable force posture in the region. The Department appreciates the removal of the restrictions from the National Defense Authorization Act for fiscal year 2014, as well as the language in section 2822 in the National Defense Authorization Act for fiscal year 2015 permitting the Navy to enter into a Refuge agreement with the U.S. Fish and Wildlife Service. Together, these provisions will allow us to move forward on the essential Guam component of our Pacific force laydown plan.

Last July we provided Congress with our revised Guam Master Plan. Under this plan, also referred to as "the distributed laydown," approximately 5,000 Marines and 1,300 dependents will come to Guam versus the original plan that had considered approximately 8,600 Marines and 9,000 dependents. The estimated cost, scope, and schedule for the military construction and Government of Japan funded projects necessary to carry out the revised plan were detailed in the Guam Master Plan. In the next year the Government of Japan will commit $176 million to construct a Driver Convoy Course and a complex for Urban Terrain Range Operations at Anderson AFB South. To date, we have received in our Treasury almost $1 billion in Japanese funding toward completion of the relocation. This in itself is indeed a strong statement of the Japanese commitment to the relocation.

Projecting Power The advanced capabilities of our ships and aircraft help make us the most effective expeditionary fighting force in the world and these weapons systems and platforms require facilities and infrastructure capable of supporting them. The fiscal year 2016 budget request will provide hangars and mission control facilities to accommodate our increasing deployment of and dependence on unmanned aerial systems such as the Navy's Triton and the Marine Corps' "Blackjack." As the Navy continues its transition from the Orion P–3 maritime patrol aircraft to the Poseidon P–8s, we will build hangars and other necessary facilities to enable their deployment to Hawai'i and Sigonella, Italy. Finally, the Navy will construct supporting facilities for the Littoral Combat Ships homeported in San Diego, California and Mayport, Florida. Together, these investments will increase our ability to collect intelligence, and conduct surveillance, reconnaissance and targeting—extending our reach and enabling us to prevail in anti-access and area-denial regions.

INVESTING IN OUR PEOPLE

Overview The strength of our Navy-Marine Corps team lies not only in advanced weaponry or faster, stealthier ships and aircraft. Our naval forces derive their greatest strength from the Sailors and Marines who fire the weapon, operate and maintain the machinery, or fly the plane, and from the families and civilians supporting them. We continue to provide the best education, training, and training environments available so our forces can develop professionally and hone their warfighting skills. Providing quality of life is a determining factor to recruiting and retaining a highly professional force. To this end, we strive to give our people access to high-quality housing, whether government-owned, privatized, or in the civilian community, that is suitable, affordable, and located in a safe environment.

Training and Education Of the $1.7 billion request for military construction, the Navy and Marine Corps together have programmed almost $190 million in operational and technical training facilities, including the live-fire training range complex in Guam. Of the remaining projects, the majority support aviation training for

a variety of manned and unmanned aircraft, including the Joint Strike Fighter, E–2D Hawkeye, KC–130 tankers, MH–60 and CH–53 helicopters, and the Triton. Finally, the Marine Corps will construct a Reserve Center that will support the training requirements of an amphibious assault unit that is relocating from Little Creek to Dam Neck, Virginia.

Unaccompanied Housing The Navy plans to make $117.6 million in operations & maintenance-funded repairs to its bachelor housing inventory, focusing on the barracks in the worst condition. This is a three-fold increase over the amount of funds programmed in fiscal year 2015. Additionally the Navy's budget request includes two projects that will recapitalize inadequate (Q4) barracks at Naval Air Station Pensacola, Florida and at Naval Air Station, Patuxent River, Maryland. The Marine Corps completed programming of its substantial investment in unaccompanied housing in fiscal year 2012, although several are in various stages of construction. The arrival of new aviation squadrons at Marine Corps Base Hawai'i will increase personnel base loading and in response, the fiscal year 2016 budget request includes funds to construct a new barracks and improve our Marines' quality of life.

Family Housing The Department continues to rely on the private sector as the primary source of housing for Sailors, Marines, and their families. When suitable, affordable, private housing is not available in the local community, the Department relies on government-owned, privatized, or leased housing. The fiscal year 2016 budget request of $370 million supports Navy and Marine Corps family housing operation, maintenance, and renovation requirements. Of this amount, $11.5 million will revitalize government owned homes at Marine Corps Air Station Iwakuni, Japan and Wallops Island, Virginia. The budget request also includes $260.2 million for the daily operation, maintenance, and utilities expenses of the military family housing inventory.

To date, over 62,000 Navy and Marine Corps family housing units have been privatized through the Military Housing Privatization Initiative. As a result, the Department has leveraged its resources to improve living conditions for Sailors, Marines, and their families. The Department has programmed $28.7 million to provide oversight and portfolio management to ensure the Government's interests in these public/private ventures remain protected and quality housing continues to be provided to military families.

Safety Workforce Initiative The safety workforce reform initiative is already in progress supporting over 750,000 personnel serving the Department in diverse, complex and evolving missions across the globe. The Naval Safety program is pressing forward on two key fronts: people and technology. To do this, the Department is recruiting, hiring and developing its safety professionals to ensure we employ the right people at the right place at the right time. Concurrently, we are expanding our global online training resources to ensure the Naval Safety workforce exceeds best practices found throughout industry.

Steps toward expanding the knowledge base of our safety workforce have yielded positive results. During fiscal year 2014 global online safety training increased 65 percent from previous years with savings in administrative costs and the equivalent of 1,720 workdays of productivity gained. The same was true for the Annual Joint Safety Professional Development Conference (PDC). As a result of the fiscal year 2013 sequester, we offered the PDC as a "virtual" conference. "Web" attendance doubled actual attendance over previous years, with an approval rating reaching 97 percent, and an overall cost savings to the government in excess of $2.2 million.

Finally, the Department is in the process of acquiring a system of commercial off-the-shelf information technology tools that will revolutionize our tireless fight to reach our objective of zero mishaps—the only ethically acceptable goal if we are to keep faith with our magnificent Sailors and Marines. The Risk Management Information initiative comprises a streamlined mishap reporting system, data base consolidation, state-of-the-art analytical innovations, and sophisticated data collection and distribution capabilities that will allow us to ascend above explaining mishaps after the fact and begin predicting and preventing them before they occur.

MANAGING OUR FOOTPRINT

Overview It has long been a basic tenet that the Department of Defense should own or remove from public domain only the minimum amount of land necessary to meet national security objectives. The Department is grateful for the Congressional land withdrawals during 2013 and 2014. These withdrawals allow the Department to continue vital testing and training in California at China Lake, Twentynine Palms, and the Chocolate Mountains Range. The fiscal year 2016 budget request includes funds to modernize and expand the Townsend Bombing Range in Georgia. This project will allow pilots based on the East Coast to train using precision guided

munitions without having to travel to the Bob Stump Training Complex in Arizona and California.

Base Realignment and Closure (BRAC) The Department of the Navy fully supports the Administration's request to authorize a single round of BRAC in 2017. The BRAC process continues to offer the best opportunity to objectively assess and evaluate opportunities to properly align our domestic infrastructure with our evolving force structure and laydown. Under previous BRAC efforts, the Navy has been able to realize approximately $4.4 billion in annual recurring savings.

We appreciate the support of the Congress in providing additional fiscal year 2015 funds for environmental cleanup at BRAC properties. For fiscal year 2016, the Department has programmed $157 million to continue cleanup efforts, caretaker operations, and property disposal. By the end of fiscal year 2014, we disposed of 93 percent of our excess property identified in previous BRAC rounds through a variety of conveyance mechanisms with approximately 12,710 acres remaining. Of the original 131 installations with excess property, the Navy only has 17 installations remaining with property requiring disposal. Here are several examples of what we were able to achieve last year:

In the San Francisco Bay Area, the Department completed the transfer of 624 acres at Naval Station Alameda to the Department of Veterans Affairs under a no-cost transfer that will ultimately support an outpatient clinic, a National Cemetery, and office space. The Department also completed radiological surveys of over 700 residential housing units at Naval Station Treasure Island, most of which are under lease to the City of San Francisco. Additionally, the Department and the Treasure Island Development Authority signed a Development Conveyance that will allow initial property transfers to begin in fiscal year 2015.

We reduced our overall number of BRAC installations by four last year completing final disposals at Naval Support Activity New Orleans, LA, Naval Air Station Cecil Field, FL, and Navy/Marine Corps Reserve Centers in Akron, OH, and Reading, PA.

The balance of the property at the remaining installations will be disposed as we complete our environmental remediation efforts, which we project will cost $1.1 billion (fiscal year 2016 and beyond) with nearly 50 percent of the costs attributed to long-term operations and monitoring of remedies already in place. The major program cost drivers are low-level radiological waste and munitions cleanup.

Although cleanup and disposal challenges from prior BRAC rounds remain, we continue to work with regulatory agencies and communities to tackle complex environmental issues and provide creative solutions to support redevelopment priorities, such as Economic Development Conveyances with revenue sharing.

Compatible Land Use The Department of the Navy has an aggressive program to promote compatible use of land adjacent to our installations and ranges, with particular focus on limiting incompatible activities that affect the Navy and Marine Corps' ability to operate and train, and protecting important natural habitats and species. This includes the Air Installation Compatible Use Zones Studies and Range Air Compatible Use Studies that are provided by Installations to nearby or adjacent communities to encourage development compatible with installation and range operations in their comprehensive development plans. A key element of the program is Encroachment Partnering, which involves cost-sharing partnerships with States, local governments, and conservation organizations to acquire interests in real property adjacent and proximate to our installations and ranges.

The Department is grateful to Congress for providing funds for the DOD Readiness and Environmental Protection Integration (REPI) Program. Since 2005, DON has acquired restrictive easements on approximately 73 thousand acres around Navy and Marine Corps installations. We are poised to purchase restrictive easements over additional lands using funds appropriated this year for the REPI program and are developing projects for future funding.

PROTECTING OUR ENVIRONMENT

Overview The Department is committed to environmental compliance, stewardship and responsible fiscal management that support mission readiness and sustainability, investing over $1 billion across all appropriations to achieve our statutory and stewardship goals. The funding request for fiscal year 2016 is about 1.7 percent more than enacted in fiscal year 2015, as shown in Figure 2:

Category	FY 2015 ($M)	PB 2016 ($M)	Delta ($M)	Delta (%)
Conservation	89	86	-3	-3.4%
Pollution Prevention	30	29	-1	-3.3%
Compliance	504	485	-19	-3.8%
Technology	29	37	8	27.6%
Active Base Cleanup (ER,N)	277	292	15	5.4%
BRAC Environmental	127	145	18	14.2%
TOTAL	**1,056**	**1,074**	18	1.7%

Figure 2: DON Environmental Funding by Program

The Department continues to be a Federal leader in environmental management by focusing our resources on achieving specific environmental goals, implementing efficiencies in our cleanup programs and regulatory processes, proactively managing emerging environmental issues, and integrating sound policies and lifecycle cost considerations into weapon systems acquisition to achieve cleaner, safer, more energy-efficient and affordable warfighting capabilities.

Partnering for Protection In fiscal year 2016 we will focus on environmental planning for at-sea training in the Pacific Northwest and the Gulf of Alaska, and on Combined Joint Military Training in the Marianas Islands. The Department has been partnering with the National Marine Fisheries Service (NMFS) over the past two years to improve the regulatory process and reduce the cost of obtaining authorizations for at-sea testing and training. We are exploring mutually agreeable recommendations with NMFS which could reduce the time and cost of preparing environmental planning documentation and securing permits, while ensuring the continued protection of marine mammals.

We are also leading Federal efforts in the Pacific islands to standardize and implement biosecurity plans for military actions. The importance of effective biosecurity is demonstrated by the recent infestation of the Coconut Rhinoceros Beetle in Hawai'i. The Department, in cooperation with U.S. Department of Agriculture and State of Hawai'i, has taken important steps to help eradicate this destructive insect that was initially discovered at the International Airport and quickly spread to Joint Base Pearl Harbor-Hickam. The Department is also partnering with the State of North Carolina and non-governmental organizations on recovery of the Red Cockaded Woodpecker and expanding training capabilities at Marine Corps Base Camp Lejeune, and with the Bureau of Ocean Energy Management on sharing marine mammal science on the east coast. Working together we can save money and achieve better results.

FUELING COMBAT CAPABILITIES

Overview The Department of the Navy's Energy Program has two central goals: (1) enhancing Navy and Marine Corps combat capabilities, and (2) advancing energy security afloat and ashore. Partnering with other government agencies, academia and the private sector, we strive to meet these goals with the same spirit of innovation that has marked our history—new ideas delivering new capabilities in the face of new threats.

Enhancing Combat Capabilities Our naval forces offer us the capability to provide presence—presence to deter potential conflicts, to keep conflicts from escalating when they do happen, and to take the fight to our adversaries when necessary. Presence means being in the right place, not just at the right time, but all the time; and energy is key to achieving that objective. Using energy more efficiently allows us to go where we're needed, when we're needed, stay there longer, and deliver more firepower when necessary.

Improving our efficiency and diversifying our energy sources also saves lives. During the height of operations in Afghanistan, we were losing one Marine, killed or wounded, for every 50 convoys transporting fuel into theater. That is far too high a price to pay. Reducing demand at the tip of the spear through energy efficiency and new technologies takes fuel trucks off the road.

Improving Energy Security and Resilience We need to make smart investments to ensure our shore installations stay up and running because installations, like our shipyards, are central to our forward operations. That means maintaining and upgrading our utility infrastructure and getting smarter about how we're using electricity. It means managing our electricity demand to reduce stress on the electric

grid and decrease outages. It means investing in technologies like advanced storage, fuel cells, and solar panels so we increase our resilience in the face of natural events or future threats like cyber attacks that affect the electric grid.

In 2014, the Department executed an agreement through our Renewable Energy Program Office to buy renewable energy produced from a 17 megawatt solar array located across three Navy and Marine Corps installations in Hawai'i. That agreement includes the ability for us to draw power from the solar panels even when the grid goes down. Not only does this project enhance our energy security, it will save us money on our electric bills, too. We also awarded a $13 million Energy Savings Performance Contract for Webster Field, an outlying annex of Naval Air Station Patuxent River in southern Maryland. The contract will provide for ground source heat pumps, lighting retrofits, and various other energy conservation measures that are projected to virtually eliminate the need for shore fossil fuel, reducing energy consumption by 38 percent in the first year of performance.

More recently, we entered into a lease with Duke Energy for just over 80 acres on Camp Lejeune for development of 17 megawatts of renewable electric power for the North Carolina grid to meet renewable portfolio standards. Electricity will be made available to meet the base's contingency energy requirements under the agreement.

Strategic Investments to Fuel the Future As we look to the future, we have to make smart investments that preserve operational flexibility. The private sector, including major airlines like United and Cathay Pacific, is diversifying its fuel supply through the use of alternative fuels. Our program to test and certify emerging alternative fuels is critical for us to keep pace with those developments and maintain interoperability with the private sector.

Under a Presidential Directive, the Department of the Navy has also worked with the Departments of Energy and Agriculture to promote the growth of a domestic biofuel industry. In September 2014, the Department of Defense, under the authority provided by the Defense Production Act (DPA), provided funds to three companies supporting the construction and commissioning of biofuel refineries to produce cost competitive, drop-in biofuels. The total of $210 million in government commitments to those companies is expected to be matched by nearly $700 million in private investment. The three refineries are planned to have a combined annual production capacity of more than 100 million gallons of advanced drop-in alternative fuel.

It is important to point out that neither Defense Logistics Agency (DLA) Energy (through which the Navy buys operational fuels) nor the Navy is under any obligation to purchase alternative fuels from any company—including the three that received DPA awards. In fact, Section 316 of the fiscal year 2015 NDAA requires that drop-in alternative fuels be cost competitive with traditional fuels (unless waived by the Secretary of Defense). That requirement is consistent with DOD and DON policy.

CONCLUSION

Our Nation's Navy-Marine Corps team operates globally, having the ability to project power, effect deterrence, and provide humanitarian aid whenever and wherever needed to protect the interests of the United States. The Department's fiscal year 2016 request supports critical elements of the 2014 Defense Quadrennial Review by making needed investments in our infrastructure and people; preserving access to training ranges, afloat and ashore, and promoting energy resiliency and security.

Thank you for the opportunity to testify before you today, I look forward to working with you to sustain the war fighting readiness and quality of life for the United States Navy and Marine Corps, the most formidable expeditionary fighting force in the world.

Senator AYOTTE. Secretary Ballentine?

STATEMENT OF HON. MIRANDA A. A. BALLENTINE, ASSISTANT SECRETARY OF THE AIR FORCE, INSTALLATIONS, ENVIRONMENT AND ENERGY

Ms. BALLENTINE. Chairwoman Ayotte, Ranking Member Kaine, and esteemed members of the subcommittee, I am honored to testify before you today.

First, thank you for your support in 2014 and 2015, in giving the Air Force much-needed relief from untenable sequestration levels.

In my first 143 days on the job, but who's counting, I have learned that the Air Force installations are simply too big, too old, and too expensive to operate. There are really only two ways to make installations more affordable and more viable. You can spend more money, or you can make them cost less. Today, I am asking the Senate to help us do both.

On the spend-more side of the equation, the Air Force's President's Budget 2016 $1.6 billion MILCON request and $3.2 billion facilities sustainment, restoration, and modernization request would allow us to begin to chip away at the backlog of infrastructure projects that have contributed to the degradation of combat readiness.

BCA-level funding of facilities budgets could cut hundreds of millions of dollars from facilities projects and would force the Air Force to make hundreds of no-win decisions between all-important infrastructure projects, and could have sober impacts to mission readiness.

On the cost-less side of the equation, the Air Force is accelerating every tool in the toolkit, including enhanced-use leases, energy service performance contracts, power purchase agreements, and community partnerships.

Additionally, the Air Force has completed an updated parametric infrastructure capacity analysis using real property data in both current and future force structure plans. We replicated the approach used in 1998 and 2004, as approved by both the Government Accountability Office (GAO) and Congress. The Air Force currently has about 30 percent excess infrastructure capacity.

Thus, the Air Force strongly supports the Office of the Secretary of Defense's (OSD) request that Congress allow us to comprehensively, transparently align infrastructure to operational needs through a BRAC authorization.

Nothing about BRAC is easy, and congressional leaders have shared three very specific concerns that I believe can be best summarized as communities, dollars, and mission. So let me address very briefly, from the Air Force perspective, and, of course, we can talk further in the question section of the hearing.

So first, communities, I have heard concerns that base closures are simply too economically difficult for affected communities. Air Force communities are some of our greatest partners and supporters. Only BRAC authority provides communities an avenue to engage in the process, as well as access to economic support, if they are affected by BRAC. A non-BRAC hollowing of bases does not.

Second, dollars, Congress rightly wants to ensure that the savings of BRAC justify the costs. The 2005 BRAC round cost the Air Force $3.7 billion and saves the Air Force $1 billion every single year. We completed it on time and under budget.

In the business world, where I come from, that is a good deal.

Third, mission, some have expressed concerns that today's force structure may be too small and, therefore, question the wisdom of rightsizing infrastructure to current force structure. Let me assure you that infrastructure decisions are driven by military value and then shaped by budgetary realities.

Like in prior BRAC rounds, the military requirements in the analysis will be set by operational planners. The BRAC process will be used to ensure that we have the right infrastructure in the right places to support the right force structure to meet the mission.

Taken together, improved MILCON and the facilities sustainment, restoration, and modernization (FSRM) budgets, plus BRAC, and the range of other tools and programs I mentioned make me optimistic that we can restore Air Force installations to the place they need to be.

Chairwoman Ayotte, Ranking Member Kaine, and esteemed members of the committee, thank you again for the opportunity to represent America's airmen today, and I ask for your full support of the Air Force's fiscal year 2016 requests, and look forward to your questions.

[The prepared statement of Ms. Ballentine follows:]

PREPARED STATEMENT BY MS. MIRANDA A. A. BALLENTINE

INTRODUCTION

The Air Force's fiscal year 2016 President's Budget (PB) sets us on the path to fully meet the Quadrennial Defense Review through strategy-based long-term resourcing decisions. This budget submission is rooted in necessity and is based upon our long-term strategy and vision to provide ready installations, resilient environmental infrastructure, and reliable energy, directly supporting the Secretary and Chief of Staff of the Air Force's three priorities of balancing today's readiness with tomorrow's modernization, taking care of our people, and making every dollar count to help ensure we can maintain and field a credible and affordable future force.

The Air Force's fiscal year 2016 PB sets us on a path to provide the Air Force America deserves. However, even at the fiscal year 2016 PB level, the Air Force remains stressed to meet the defense strategy. If sequestration funding levels return in fiscal year 2016, the Air Force will not be able to meet the defense strategy, nor sustain its asymmetric advantage over potential peer competitors. Additionally, these levels will cause continued degradation of infrastructure and installation support. The AF would expect a reduction in Military Construction funding resulting in reduced support to COCOMs, reduced funding to upgrade the nuclear enterprise and support new weapons systems beddown, and elimination of permanent party dormitories from the fiscal year 2016 budget request. Additionally, the AF would expect similar reductions in fiscal year 2016 facility sustainment, restoration and modernization funding, forcing AF priority on day to day facility maintenance at the expense of much needed facility repairs.

Our unequalled security, economic, and political advantages, depends on investment in an Air Force that is able to easily succeed against any competitor, in any environment. In order to ensure a trained and ready force, along with the facilities and support to maintain the capabilities required to engage in a full range of contingencies and threats, at home and abroad, the Air Force needs to make smart investments in its installations through military construction (MILCON) and facility sustainment, and maintain strong environmental and energy focused programs.

INSTALLATIONS

Ready installations are an integral part of ensuring a ready Air Force. The Air Force views its installations as foundational platforms comprised of both built and natural infrastructure which: (1) serve as the backbone for Air Force enduring core missions—it delivers air, space and cyberspace capabilities from our installations; (2) send a strategic message to both allies and adversaries—they signal commitment to our friends, and intent to our foes; (3) foster partnership-building by stationing our Airmen side-by-side with our Coalition partners; and (4) enable worldwide accessibility when our international partners need our assistance, and when necessary to repel aggression. Taken together, these strategic imperatives require us to provide efficiently operated, sustainable installations to enable the Air Force to support the Quadrennial Defense Review.

In its fiscal year 2015 President's Budget request, the Air Force attempted to strike the delicate balance between a ready force for today with a modern force for tomorrow while also recovering from the impacts of sequestration and adjusting to

budget reductions. To help achieve that balance, the Air Force elected to accept risk in installation support, MILCON, and facilities sustainment in fiscal year 2015. However, in its fiscal year 2016 request, the Air Force begins to ameliorate the impacts of that risk by increasing funding for installations in all three of the areas noted above.

In total, the Air Force's fiscal year 2016 PB request is $1.9 billion more than our fiscal year 2015 President's Budget request and contains $4.8 billion for MILCON, facility sustainment, restoration and modernization, as well as another $331 million for Military Family Housing operations and maintenance and $160.5 million for Military Family Housing Construction. For sustainment, it requests $2.4 billion; for restoration and modernization, $850 million; and for military construction, it requests $1.59[1] billion. At these levels, the Air Force funds Facilities Sustainment to 80 percent of the OSD modeled requirement. The increase in MILCON begins to revitalize infrastructure recapitalization while maintaining support to Combatant Commander (COCOM) requirements, weapon system beddowns, the nuclear enterprise, and provides equitable distribution of $ 203.7 million to the Reserve components.

READINESS

The Air Force fiscal year 2016 PB request seeks to balance readiness for today's fights, while also modernizing our infrastructure for the future. The Air Force's fiscal year 2016 budget proposes investments in infrastructure to support the Quadrennial Defense Review and Combatant Commanders' stated readiness needs in the following areas: nuclear defense operations (NDO); space; cyberspace; intelligence, surveillance and reconnaissance (ISR); and the Asia-Pacific theater.

Our fiscal year 2016 PB supports Nuclear Enterprise priorities and includes three projects, totaling $144 million. With this budget submission, the Air Force intends to provide a new state-of-the-art Weapon Storage Facility at FE Warren AFB which consolidates 22 aging facilities (some of which have been in service since the 1960s), achieving a 19 percent reduction in facility footprint while addressing security and operational inefficiencies through recapitalization. The 2016 program also includes investment to revitalize the Malmstrom AFB, Montana, Tactical Response Force Alert Facilities as well as the Whiteman AFB, Missouri, Consolidated Stealth Operations and Nuclear Alert Facility. Together, these projects will consolidate scattered installation functions, provide adequately sized and configured operating platforms, as well as reduce critical response times to generate alert sorties.

As previously mentioned, "Making every dollar count" is one of the Secretary and Chief of Staff of the Air Force's priorities. Consistent with this, the Air Force focused on fiscal year 2016 space, cyberspace, and ISR investments. These target areas account for two space, two cyber, and four ISR projects in the proposed fiscal year 2016 PB, totaling $172 million. The Air Force continues its multi-year efforts to construct the U.S. Cyber Command Joint Operations Center at Fort Meade, Maryland; strengthen its space posture through information and communication facilities; and enhance ISR readiness with remotely piloted aircraft facilities, intelligence targeting facilities, as well as digital ground stations.

Consistent with Quadrennial Defense Review, the Asia-Pacific Theater remains a focus area for the Air Force where it will make an $85 million investment in fiscal year 2016 to ensure our ability to project power into areas which may challenge our access and freedom to operate, and continue efforts to enhance resiliency. Guam remains one of the most vital and accessible locations in the western Pacific. For the past nine years, Joint Region Marianas-Andersen AFB has accommodated a continuous presence of our Nation's premier air assets, and will continue to serve as the strategic and operational center for military operations in support of a potential spectrum of crises in the Pacific.

To further support Pacific Command's strategy, the Air Force is committed to hardening critical structures, mitigating asset vulnerabilities, increasing redundancy, fielding improved airfield damage repair kits and upgrading degraded infrastructure as part of the Asia-Pacific Resiliency program. In 2016, the Air Force plans to construct a hardened Wing Installation Control Center to sustain Guam's remote operations, ensure resiliency with the Dispersed Maintenance Spares and Storage Facility, and continue our efforts to upgrade Guam's South Ramp Utilities, supporting a Continuous Bomber Presence, Tanker Task Force, Theater Security Packages, and Global Hawk beddown. The Air Force also wraps up its development of the Pacific Regional Training Center (PRTC) by constructing a permanent road to support facilities located at Northwest Field. This Regional Training Center will

[1] $1.59B is the Total Force funding request including Active, Guard and Reserve

enable mandatory contingency training and enhance the operational capability to establish, operate, sustain, and recover a 'bare base' at forward-deployed locations, and foster opportunities for partnership building in this vitally important area of the world.

This year's Presidential budget request also includes $252 million for additional COCOM requirements extending beyond NDO, space, cyberspace, ISR, and the Asia-Pacific theater. The Air Force continues with phase two of the U.S. European Command Joint Intelligence Analysis Center Consolidation at RAF Croughton, United Kingdom while supporting six other COCOMs. Our total fiscal year 2016 COCOM support makes up 21 percent of the Air Force's MILCON program.

MODERNIZATION

Additionally, the fiscal year 2016 PB request includes infrastructure investments to support the Air Force's modernization programs, including the beddown of the F–35A, KC–46A, and the Presidential Aircraft Recapitalization efforts. The Air Force's ability to fully operationalize these new aircraft depends not just on acquisition of the planes themselves, but also on the construction of the planes' accompanying hangars, training facilities, airfields and fuel infrastructures funded within this fiscal year 2016 budget.

This year's President's Budget request includes $54.5 million for the beddown of the KC–46A at four locations. This consists of $10.4 million at Altus AFB, Oklahoma, the Formal Training Unit (FTU); $4.3 million at McConnell AFB, Kansas, the first Main Operating Base (MOB 1); $2.8 million at Pease International Tradeport Air National Guard Base (ANGB), New Hampshire, the second Main Operating Base (MOB 2); and $37 million at Tinker AFB, Oklahoma, for KC–46A depot maintenance.

This request also includes $198.3 million for the beddown of the F–35A at five locations, consisting of $69 million at Nellis AFB, Nevada; $56.7 million at Luke AFB, Arizona; $26.9 million at Hill AFB, Utah; $37 million at Eielson AFB, Alaska; and $8.7 million at Eglin AFB, Florida.

In preparation for the Presidential Aircraft Recapitalization acquisition, the Air Force's 2016 budget request also accounts for the planning and design requirements essential to this future beddown. In total, our fiscal year 2016 modernization program is a balanced approach ensuring critical infrastructure requirements meet mission needs and operational timelines.

PEOPLE

During periods of fiscal turmoil, we must never lose sight of our Airmen and their families. Airmen are the source of Air Force airpower. Regardless of the location, the mission, or the weapon system, our Airmen provide the knowledge, skill, and determination to fly, fight and win. There is no better way for us to demonstrate our commitment to service members and their families than by providing quality housing on our installations. We are proud to report that as of September 2013, the Air Force has privatized its military family housing (MFH) at each of its stateside installations, including Alaska and Hawaii. To date, the Air Force has awarded 32 projects at 63 bases for 53,240 end-state homes.

The Air Force continues to manage approximately 18,000 government-owned family housing units at overseas installations. Our $331 million fiscal year 2016 Military Family Housing Operations and Maintenance (O&M) sustainment funds request allows us to sustain adequate units, and our $152 million fiscal year 2016 request for MFH MILCON funds allows us to upgrade and modernize older homes to meet the housing requirements of our Airmen, their families and the Joint service members the Air Force supports overseas.

Similarly, our focused investment strategy for dormitories enables the Air Force to remain on track to meet the DOD goal of 90 percent adequate permanent party dorm rooms for unaccompanied Airmen by 2017. The fiscal year 2016 President's Budget MILCON request includes four dormitories at Offutt AFB, Nebraska; Ellsworth AFB, South Dakota; Altus AFB, Oklahoma; and Joint Base San Antonio, Texas. With your support, we will continue to ensure wise and strategic investment in these quality of life areas to provide modern housing and dormitory communities. More importantly, your continued support will take care of our most valued asset, our Airmen and their families.

EUROPEAN INFRASTRUCTURE CONSOLIDATION (EIC)

The United States remains committed to NATO and our presence in Europe. The Air Force has invested heavily in its European infrastructure in the last several years in order to ensure it is ready and able to defend U.S. interests and meet its

commitment to our Allies now and in the future. At the same time, in the context of a challenging fiscal environment, the Department of Defense recently sought greater infrastructure efficiencies in Europe and to ensure it was focusing resources where they can have the greatest effect.

Two years ago, the Secretary of Defense directed a European Infrastructure capacity analysis to provide the basis for reducing long-term expenses through footprint consolidations, while retaining current and projected force structure. Under OSD direction, the Air Force used previously established Base Realignment and Closure (BRAC) processes to analyze the infrastructure capacity of 128 total sites, including six Main Operating Bases and six Forward Operating Sites in Europe.

In January 2015, the Secretary of the Defense approved the results of the European Infrastructure Consolidation (EIC) process. This process produced eight consolidation opportunities. These opportunities will eliminate excess infrastructure capacity, consolidate missions, and produce savings without reducing force structure. In the United Kingdom, the Air Force will divest of RAF Mildenhall, and will consolidate intelligence and support activities from RAF Alconbury and RAF Molesworth to RAF Croughton. The Air Force also reaffirmed previous decisions to streamline operations at Moron Air Base, Spain, and Lajes Field, Portugal, and returned four small unused facilities back to their respective host nations.

The Air Force European Infrastructure Consolidation opportunities will require approximately $1.1 billion (fiscal year 2016—fiscal year 2021) to implement, but will enable the Air Force to save $315 million a year, while still maintaining our readiness and responsiveness capabilities in Europe. Most of the implementation costs will be funded through previously programmed European Infrastructure Consolidation funding.

The EIC ensures Air Force installations in Europe are right-sized and in the right location. Our capability in Europe, along with our ability to meet commitments to Allies and partners, is not diminished by these actions. The Air Force is maintaining sufficient infrastructure in Europe to support six Combatant Commands, the North Atlantic Treaty Organization, and U.S. strategic allies through permanently stationed forces, additional rotational forces, and contingency requirements. The EIC adjustments will allow the Air Force to address emerging concerns in Europe and elsewhere, by focusing resources on critical operational support infrastructure.

We have consulted closely with our allies on our specific plans and the broader security picture. These consolidations, force realignments, and new deployments were validated through the EIC and other processes and approved by the Secretary of Defense, in full coordination with the U.S. State Department, and after discussions with the host nations.

CLOSURES AND REALIGNMENTS

Building on the success of the European Infrastructure Consolidation process, the Air Force strongly supports DOD's requests for an fiscal year 2017 BRAC round in the United States.

In fiscal year 2015 budget discussions, Congress requested that the Services update their analyses of CONUS infrastructure capacity based upon current infrastructure data and current force structure projections.

The Air Force has completed a high-level capacity analysis, comparing current infrastructure capacity to projected force structure and mission requirements. The results of the analysis indicate the Air Force has approximately 30 percent excess infrastructure capacity.[2] This excess capacity results from decreases in Air Force personnel and force structure outpacing reductions in infrastructure. Since our last round of BRAC in 2005, the Air Force has 50,000 fewer personnel and 500 fewer aircraft in its planned force structure.

Since the last congressionally directed round of BRAC in 2005, the Air Force has worked diligently to identify new opportunities and initiatives to enable it to maximize the impact of every dollar. We have demolished excess infrastructure, recapitalized our family housing through privatization, unlocked the fiscal potential of under-utilized resources through leasing and partnerships, and reduced our energy costs. All of which have paid dividends. But these efforts are not enough to allow us to continue to fund infrastructure we do not need and pale in comparison to the savings that can be achieved with BRAC authorities.

Despite our best efforts and innovative programs, the Air Force continues to spend money maintaining excess infrastructure that would be better spent recapital-

[2] The 30 percent excess infrastructure capacity estimate was calculated using the same approved methodology that has been employed to measure excess infrastructure prior to previous rounds of BRAC.

izing and sustaining our weapons systems, training to improve readiness, and investing in the quality of life needs of its Airmen. The Air Force continues to face hard choices between modernization and operational combat capability, and sustaining installation platforms used to conduct its missions. The Air Force recognizes that it achieve its greatest savings when fully divested of unneeded infrastructure, and therefore it strongly supports DOD's requests for another round of BRAC; specifically an efficiency BRAC focused on reducing the Air Force's 30 percent excess infrastructure capacity and ultimately reducing the demand on resources.

ENVIRONMENTAL

Within its environmental programs, the Air Force continues to prioritize resources to, 1) ensure a resilient environmental infrastructure to support its mission and its communities; 2) comply with legal obligations; and 3) continuously improve. The fiscal year 2016 PB seeks a total of $862 million for environmental programs. This is $57 million less than last year due to sustained progress in cleaning up contaminated sites and efficiencies gained through centralized program management. By centrally managing its environmental programs the Air Force can continue to strive for compliance with all applicable laws, while applying every precious dollar to its highest priorities first, increasing flexibility to select standardized solutions, when appropriate, to complex environmental issues. Further, its environmental programs are designed to provide environmental stewardship to ensure the availability of air, land and water necessary to provide ready installations and ensure military readiness.

ENVIRONMENTAL RESTORATION

The Air Force fiscal year 2016 PB request seeks $425 million in Environmental Restoration funding for cleanup of both current installations and those closed during previous BRAC rounds. The Air Force established its restoration program in 1984 to clean-up former hazardous waste disposal sites on these installations. The Air Force's focus has been on completing investigations and getting remedial actions in place, to reduce unacceptable risk to human health and the environment in a prioritized manner consistent with environmental law. Ultimately, the Air Force seeks to make real property available for mission use at its non-BRAC installations, or for transfer and reuse at its BRAC installations. We believe this balanced approach continues to simultaneously serve our mission needs, our statutory requirements, and our stakeholders' interests.

With more than 8,100 restoration sites at its non-BRAC installations, and more than 5,200 sites at our BRAC installations, the Air Force has made progress over time in managing this complex program area. In addition to regulatory and mission requirements, the DOD has committed to restoration program execution goals to help ensure an acceptable pace is maintained in program execution. While Air Force BRAC restoration sites are on-track to meet the next DOD milestone to have response complete at 90 percent of the Installation Restoration Program (IRP) sites by the end of fiscal year 2018, its non-BRAC restoration sites are currently projected to fall 5 percent short of this goal, but are expected to meet DOD milestones by fiscal year 2020.

Since recognizing in early 2011 the need to improve its process in order to close the gap toward meeting this goal, the Air Force has implemented policy and formulated a contracting strategy specifically to improve its performance. Since a large component of its cleanup program relies on expertise acquired under contracts, this policy emphasized performance-based contracts that reward increased use of innovative technologies and cleanup strategies that consider the total life cycle cost of getting remedies in place and sites cleaned up. At Kirtland AFB, New Mexico, utilizing performance base contracting, we are continuing our efforts to remediate the cleanup of the fuel spill at the bulk fuels facility. Although this effort will encompass several years, we developed our clean-up strategy in concert with state and local officials, and are already seeing positive results.

The Air Force's policy and performance-based contracting strategy, aligned with federal environmental laws and regulation has generated substantial improvements, but work still remains in order to meet DOD goals for non-BRAC installation cleanup. With this approach, the Air Force is finding better solutions and cleaning up sites faster with lower projected lifecycle costs. The Air Force expects performance and progress to accelerate over the next year, while continuing to meet federal, state and other stakeholder requirements.

ENVIRONMENTAL QUALITY

The Air Force's fiscal year 2016 PB request seeks $437 million in Environmental Quality funding for environmental compliance, environmental conservation, pollution prevention, and environmental technology investments. With this request, the Air Force provides a resilient environmental infrastructure and continues to strive for in compliance with environmental laws in order to remain good stewards of the environment. The Air Force has instituted a standardized and centralized requirements development process that prioritizes its environmental quality program in a manner that minimizes risk to Airmen, the mission and the natural infrastructure. This balanced approach ensures the Air Force has ready installations with the continued availability of land, air, and water resources at its installations and ranges so it can train and operate today and into the future.

The environmental compliance program focuses on regulatory compliance for our air, water, and land assets. Examples of compliance efforts include: more detailed air quality assessments when analyzing environmental impacts from Air Force activities; protecting its groundwater by improving management of its underground and aboveground storage tanks; and minimizing waste through source reduction. At overseas installations, the Air Force takes prompt action to remediate environmental contamination when there are substantial impacts to human health, or when such remediation is mandatory arising from a binding international agreement to which the United States is a party.

The Air Force remains committed to a robust environmental conservation program in fiscal year 2016. Prior appropriations allowed the Air Force to invest in conservation activities on its training ranges, providing direct support to mission readiness. The conservation program in fiscal year 2016 builds on the efforts of past years to continue habitat and species management for 115 threatened and endangered species across 45 Air Force installations. This year's budget request also provides for continued cooperation with other agencies, like the U.S. Fish and Wildlife Service, to provide effective natural resources management and to manage risk from wildland fires through coordinated planning and incident response and the application of prescribed fire techniques. The Air Force has also published formal guidance to the field on improving and sustaining tribal relations which supports the unique trust relationship the U.S. Government has with tribes and emphasizes aspects of the Air Force's mission that may affect tribes.

The Air Force remains committed as good environmental stewards complying with legal requirements, reducing risk to our natural infrastructure, and honing its environmental management practices to ensure the sustainable management of the resources it needs to fly, fight, and win now and into the future.

ENERGY SECURITY

Reliable energy is a common thread that runs through each of the five core missions of the Air Force and serves as a cornerstone to ensure the Air Force can provide the Nation with Global Vigilance, Global Reach, and Global Power. To meet its energy needs, the Air Force is leveraging sound business practices and making prudent investments in energy conservation and alternative sources of energy to enable its warfighters and improve energy surety. These investments are crucial to ensure the Air Force has the energy where and when it is needed to conduct the military missions that protect core national interests.

Energy security means, "having assured access to reliable supplies of energy and the ability to protect and deliver sufficient energy to meet mission essential requirements." To enhance energy's contribution to mission assurance, the Air Force is focused on four priorities:

1) Improve resiliency to ensure the Air Force has the ability to recover from energy interruptions and sustain the mission,
2) Reduce demand through operational and logistical efficiencies and new technologies, without losing mission capabilities,
3) Assure supply by diversifying the types of energy and securing the quantities necessary to perform its missions, and
4) Foster an energy aware culture by increasing the Airmen's understanding of energy and its impact to the mission.

There are risks from depending solely upon traditional energy supplies, as global access and costs are impacted by demand growth, natural disasters, accidents, terrorism, and political instability. In addition to fossil petroleum fuels, Air Force installations are heavily dependent on the commercial grid. These dependencies expose core mission support functions to external threats and can jeopardize effectiveness. To address those dependencies, the Air Force is mitigating risks by identifying

alternate sources of energy where appropriate, building in redundancies where direct mission support requires it, and identifying where and for how long it needs to ensure it has the ability to operate. This requires an energy security posture that is robust, resilient, and ready. In short, energy security enables the warfighters, expands operational effectiveness, and enhances national security.

BUDGET IMPACT

The Air Force is the largest single consumer of energy in the federal government. As energy costs increase and budgets decrease, energy places greater pressure on the Air Force budget. In fiscal year 2014, the Air Force spent almost $9 billion on fuel and electricity, with over 85 percent of those costs dedicated to aviation fuel. That $9 billion represented over 8 percent of the total Air Force budget, and it could have been an even larger amount. As a result of the energy efficiencies the Air Force has put in place in its aviation and facilities programs, the Air Force avoided over $2.5 billion in energy costs last year.

As part of its institutional effort to utilize energy to sustain an assured energy advantage, the Air Force is requesting over $416 million for targeted operational energy initiatives in fiscal year 2016. This includes $26 million for energy improvements to the legacy fleet and $212 million for materiel acquisition and energy research, development, test and evaluation (RDT&E) opportunities. The Air Force does not specifically budget for facility energy projects; it funds facility energy projects using facility sustainment, restoration, and modernization funding based on Air Force priorities.

The Air Force recognizes the value of the financial resources made available for investments. To ensure it is making the best use of taxpayer dollars, the Air Force corporate structure requires strong evaluations based on sound business case analyses, with a particular focus on return on investment and payback period. Every action taken by the Air Force to improve its energy security and efficiency is well researched and executed to provide the greatest impacts in support of the Air Force mission.

ENERGY RESILIENCY AND CONTINUITY

The first priority is mission success, and this includes what is best from an energy perspective to make sure we have energy when and where we need it to achieve the Air Force mission. Energy security is key to mission assurance. In order to reach and maintain energy security the Air Force must be energy resilient, and the Air Force has taken the first step by analyzing the energy requirements of its weapon systems and identifying the risks related to energy use. Resiliency occurs by expanding energy supply through improved efficiencies and reduced demand, diversifying the energy sources the Air Force can use, and mitigating energy security risks from disruptions. As the Air Force looks to improve efficiency, it understands that every megawatt of power it avoids using on its bases is one megawatt that it does not need to replace in a disruption.

Energy security is more than "efficiency;" it translates to productivity and mission effectiveness. Using energy as a strategic advantage allows the Air Force to fly farther, stay on station longer, transport more cargo, and accomplish its mission more effectively. The Air Force is continually looking to increase mission effectiveness through increased productivity and efficiency.

EFFICIENCY AND DEMAND REDUCTION

The Air Force is focused on reducing its energy footprint across all operations. Since 2003, the Air Force has reduced both its total facility energy and its facility energy intensity—the amount of energy used per square foot in a facility—by over 22 percent. At this time, the Air Force is on track to reduce its facility energy intensity by 37.5 percent by 2020 from 2003 baseline data, meeting the goals outlined by Congress and the President.

While the Air Force has made considerable progress to reduce its energy consumption and increase its energy diversity, there is still more to do. The Air Force is pursuing Energy Savings Performance Contracts (ESPC) and Utility Energy Service Contracts (UESC) to fund energy conservation projects. Since fiscal year 2012, the Air Force has awarded approximately $107 million in ESPCs and UESCs. In 2015 the Air Force expects to award up to $232 million in such contracts.

The Air Force's aviation fleet is composed of nearly 5,000 aircraft that consume over two billion gallons of jet fuel every year. At 85 percent, aviation fuel represents the largest share of the Air Force's energy bill. To address this, the Air Force has a goal to improve the aviation energy efficiency, which it defines as productivity per gallon, of its fleet by 10 percent by 2020. The Air Force faces a challenge, as many

of the material solutions require significant upfront investments with long-term paybacks. However, making flying operations more productive is not just about material solutions, but also implementing changes is how the Air Force flies. For example, last year, the 97th Air Mobility Wing at Altus Air Force Base, Oklahoma, instituted five scheduling and airspace utilization initiatives that contributed to increased training efficiency. These changes produced $64 million in savings and a 5 percent reduction in Average Mission Duration, without reducing the number of missions flown or student training accomplished time. These innovations, improvements, and plans happen because the Air Force is fostering an energy-aware culture within the Air Force that empowers Airmen to take a smart approach to energy to better complete their mission.

ASSURANCE OF SUPPLY

The Air Force is looking to improve its energy security and diversify its energy supply through the increased use of renewable energy. In fiscal year 2014, almost six percent of the electrical energy used by the Air Force was produced from renewable sources, and the amount of renewable energy used by the Air Force continues to increase every year. Moving forward, the Air Force's goal is to develop 1,000 megawatts of renewable energy capacity on its installations by 2025 by capitalizing on underutilized land to develop those projects. By the end of fiscal year 2014, the Air Force had 287 renewable energy projects on 97 sites, either installed, in operation, or under construction across a wide variety of renewable energy sources, including wind, solar, geothermal, and waste-to-energy projects. These projects, which are typically owned and operated by private industry, have increased energy production on Air Force installations by over 50 percent from 2013 to 2014.

This year, the Air Force is planning projects that are expected to provide over 73 megawatts of capacity, with another 100 megawatts planned for fiscal year 2016. A prime example is the development and construction of the Air Force's largest solar project, a 19.0 megawatt (MW) array at Nellis AFB, NV. Combined with the existing 14.2 MW solar photovoltaic (PV) array, renewable energy will account for 38 percent of energy usage at Nellis. This comes only a short time after the Air Force unveiled a 16.4 MW solar PV array at Davis-Monthan AFB, AZ. The Davis-Monthan array, which was developed through a public private partnership, will provide approximately 35 percent of the base's electricity requirements and is expected to reduce base utility costs by about $500,000 annually.

The Air Force is also committed to diversifying the types of energy and securing the quantities necessary to perform its missions, both for near-term benefits and long-term energy security. The ability to use alternative fuels in its aircraft provides the Air Force with both increased flexibility and capability concerning the types of fuels available for use. The entire Air Force fleet has been certified to use two alternative aviation fuel blends—one of these is generated from traditional sources of energy and one generated from biobased materials. The Air Force chose these fuels based on an evaluation of market conditions and discussions with commercial partners. Should another alternative fuel process become viable in the future, the Air Force will evaluate how to proceed at that time.

CONCLUSION

The Air Force made hard strategic choices during formulation of this budget request. The Air Force attempted to strike the delicate balance between a ready force for today with a modern force for tomorrow while also recovering from the impacts of sequestration and adjusting to budget reductions. Our fiscal year 2016 PB request begins the recovery of installation and infrastructure investments necessary to meet the defense strategy. The return of sequestration level funding will halt this recovery. We also must continue the dialogue on right-sizing our installations footprint for a smaller, more capable force that sets the proper course for enabling the Defense Strategy while addressing our most pressing national security issue—our fiscal environment.

In spite of fiscal challenges, we remain committed to our Service members and their families. The privatization of housing at our stateside installations and continued investment in Government Housing at overseas locations provide our families with modern homes that improve their quality of life now and into the future. We also maintain our responsibility to provide dormitory campuses that support the needs of our unaccompanied Service members.

Finally, we continue to carefully scrutinize every dollar we spend. Our commitment to continued efficiencies, a properly sized force structure, and right-sized installations will enable us to ensure maximum returns on the Nation's investment

in her Airmen, who provide our trademark, highly valued airpower capabilities for the Joint team.

Senator AYOTTE. Thank you, Secretary Ballentine.

I want to thank all of you. I would just start, as I mentioned in my opening statement, Secretary McGinn, I wanted to follow up, which I had raised in the full Armed Services Committee yesterday, about the reprogramming requests for the shipyard, on the P–266 structural shops consolidation, which we believe actually can save some money because it is, unfortunately, falling apart at the moment.

Mr. MCGINN. Madam Chairman, I noted the exchange that you had yesterday in the hearing with Admiral Greenert and his taking the question for the record. We will be working with Admiral Greenert and his staff to provide you the details.

Let me assure you, though, that we recognize the tremendous value of Portsmouth, especially in the great work they are doing keeping our attack submarines out there and ready, and coming out of the yard on budget or under budget, and faster than planned. That is absolutely essential.

As far as that particular project, we recognize that it will in fact, in the long run, save money and it will provide a much better platform, if you will, to continue the great work that is done at Portsmouth.

We are in the process of doing a reprogramming request, which will be coming to the Congress to make sure that the dollars lineup with the requirements for the actual military construction project.

Additionally, I had a good telephone call with Captain Bill Carroll up at Portsmouth yesterday. I wanted to find out from him on the ground exactly what other either MILCON projects or other things are going on. They have a really nice, as you know, energy savings record.

Senator AYOTTE. Yes. They are saving a tremendous amount of energy and money by what they have been trying to do.

Mr. MCGINN. They are. We want to work with them to do that even more through energy savings performance contracts, a steam decentralization project, and to make sure that they have the right kind of platform to take care of those great boats.

Senator AYOTTE. Great, and thank you.

Since we are on the topic of Portsmouth, I do have two other areas that are being delayed, and that is P–285. That is a situation where we have barracks there for our sailors who have a hot-water distribution system that is beyond repair and doesn't meet safety standards, and a fire suppression system that isn't fully operational. So you can imagine, in terms of safety, why we are a little worried about that.

Mr. MCGINN. Sure.

Senator AYOTTE. So that one has been delayed, and it has been delayed from 2015 to 2018. So that is one, if I can get a follow-up on, I would appreciate.

Mr. MCGINN. Right.

[The information referred to follows:]

Fiscal constraints and competing priorities have caused the Department to defer some Military Construction projects in our 2016 budget request, including P285 to replace Building 191 at Portsmouth Naval Shipyard. Thank you for bringing to our

attention your concerns with the quality of Building 191 as living quarters for our junior Sailors. Navy leadership is aware of the historical issues with this facility, and problems have been addressed by shipyard leadership as they have been discovered and reported. As a matter of practice, the shipyard assigns Sailors to other, more modern, living quarters on base whenever possible.

The Navy is committed to providing our Sailors with the highest quality living conditions possible. To that end, on June 5, the Navy vacated Building 191 and all Sailors are now housed in more modern barracks on base. If shipyard loading requires more unaccompanied housing that other Portsmouth barracks can provide, we may berth Sailors out in town.

We will continue to carefully evaluate P285 as part of our annual budget process. Thank you for your continued support of our people and the quality of work and life at Portsmouth Naval Shipyard.

Senator AYOTTE. Then the other one would be in terms of the P–309, which is a portal crane. This is one where the crane that is used has some problems and capacity restrictions, which limit efficiencies in drydocking. In fact, there is an estimate that we lost 6 days a year of operational availability for this crane. That one has been delayed from 2016 to 2018 or 2019.

So those two, if you can let me know why they have been delayed? Obviously, the longer we delay these things, we miss money savings. I understand the fiscal challenges we are facing, but—

Mr. MCGINN. Right. I will be sure to get back to you on those in detail.

[The information referred to follows:]

The Naval Shipyards are essential to meet operational requirements, and we are committed to sustaining, recapitalizing and modernizing shipyard infrastructure. In fact, we have invested more than $240 million to repair and modernize the infrastructure at Portsmouth Naval Shipyard since 2012.

But fiscal constraints and competing priorities have caused the Department to defer some Military Construction projects in our 2016 budget request, including P309 to improve portal crane capability at Portsmouth Naval Shipyard. The Navy has been able to accomplish some repairs to the wharf infrastructure in the interim using the Navy's restoration and modernization program.

We will continue to carefully evaluate and prioritize proposed military construction projects with all other competing requirements in future budget submissions as we balance risk across the Department. It is our goal to provide the greatest warfighting readiness and capability with the limited resources available.

Senator AYOTTE. Excellent. Appreciate it.

I wanted to follow up, I know there has been a lot of discussion among all of you on this issue of BRAC. Let me just make clear up front, I continue to be opposed to BRAC. But I do want to understand where we are, in terms of the language that the department has submitted to us on BRAC. It is identical, essentially, to the 2005 language. So you can understand why Congress says that wasn't exactly what we thought in terms of a BRAC round focused on cost.

But just so that we all understand, for the committee, what kind of infrastructure does the department think needs to be reduced?

By service area, I know, Secretary Ballentine, you talked about the Air Force. Can you give us more specificity, in terms of whether we are talking about ranges, warehouses, barracks, industrial facilities? Because this, obviously, I think, is important for us to have a better understanding of what types of facilities you are thinking about.

I also would like to understand which services are you seeking a BRAC round for.

For example, as far as I understand, Secretary McGinn, the Navy doesn't have excess capacity right now.

Mr. MCGINN. I wouldn't go so far as to say we don't have excess capacity. We would use a BRAC round as what I would call a stress test, to make sure that we have the right balance between our force structure and our base infrastructure. The advantage of it is that it is very disciplined. It is data-driven, analytical. We would use the results prudently.

One of the reasons that our need for BRAC is less compelling is because we did so much since the very first one in 1991. We closed 56 major installations, completely closed them down, over 250 smaller installations or facilities.

So our balance is fairly good right now. But we would not want to avoid a BRAC. We would use it to our advantage.

Senator AYOTTE. I think you have already testified about what the Air Force excess capacity is, 20 percent.

Ms. BALLENTINE. Thirty percent excess infrastructure capacity at this time. I would be happy to go through in more detail specifically what we looked at.

The parametric-level capacity analysis doesn't allow us to really get to the fine-grained detail that a full comprehensive capacity analysis that we would do through the BRAC structure would allow us to do.

But in the parametric capacity analysis, we look at nine specific types of infrastructure, which I would be happy to list for you now, or provide you for the record.

Senator AYOTTE. I think it would be helpful, just because I don't want to hold up my colleagues here, but I think it is important for the committee that we understand what you are requesting of us.

I, certainly, think that we need some specificity. I understand that is the purpose of undertaking this kind of round, but just a sense of what kind of excess capacity you think for the service areas.

So if that could be provided to the committee, I think it would be very helpful.

Ms. BALLENTINE. Absolutely.

[The information referred to follows:]

Ms. BALLENTINE. The Air Force headquarters-level parametric capacity analysis considered nine broad categories comparing simple ratios relating capacity to force structure and determined the Air Force has approximately 30 percent excess infrastructure capacity. The categories include:

- Reserves Parking Apron
- Air National Guard Parking Apron
- Education & Training Parking Apron
- Small Aircraft Parking Apron
- Large Aircraft Parking Apron
- Education & Training Classroom Space
- Depot Labor
- Space Operations
- Product Centers, Laboratories and Test & Evaluation Facilities.

Ms. HAMMACK. Only a comprehensive BRAC analysis can determine the exact nature or location of potential excess. For the Army we know we have excess infrastructure. The Army did an internal review of real property in 2014 and found an average of 18 percent excess with a range of between 12 percent and 28 percent by building type. This was at an active component force structure of 490,000 Soldiers. As the Army's force structure is reduced further below 490,000, Army excess capacity will grow.

Significant savings are only achieved when lower military value installations are closed and remaining missions are consolidated into excess capacity at higher military value installations. Most installation costs are Base Operations Support (BOS)—salaries, service contracts, and utilities. These expenses do not decrease in a 1:1 ratio when a building is demolished or the installation population is reduced by 10, 20, or even 40 percent. This is why BRAC is crucial to reducing the total cost of excess capacity.

[Prepared question submitted to Mr. McGinn by Senator Ayotte:]

Question: What kind of infrastructure does the department think needs to be reduced?

Answer: The Department of Navy would use the BRAC authorization process to ensure our infrastructure is optimally aligned to support the force structure and the associated mission capability requirements. Although we have not analyzed our overall excess capacity in detail since BRAC 2005, we believe the best way to fairly and accurately evaluate excess capacity within the Department of Navy is to conduct a functional analysis following the BRAC process using certified data that collects detailed information from each base across a broad array of metrics and compares the information against required force structure capabilities and the infrastructure requirements for new weapons system platforms.

Senator AYOTTE. Let me just note again, my going-in position is that I am opposed to BRAC, but I would like this information. You have spent a lot of time testifying about it. I think that all of us should have the opportunity to have more details on what kind of facilities you think are excess, what it is by branch and represented, and what kind of cost-savings you think can be achieved from it.

Thank you.

[The information referred to follows:]

Only a comprehensive BRAC analysis can determine the exact nature or location of potential excess. For DOD as a whole we know we have excess infrastructure. Our 2004 parametric study found 24 percent excess while BRAC 05 only produced a 3.4 percent reduction in plant replacement. More recently the Army and Air Force's internal parametric reviews have found 18 and 30 percent excess respectively.

Senator KAINE. Thank you to the witnesses.

A number of topics, on the sequestration point, you have all testified to the challenges that would result if the budget caps were imposed as-is. I think the statistic I thought was an interesting one is an improvement this year so that we meet 81 percent of the requirements necessary to keep our facilities in good working order, which is better than last year. But that is at the President's proposed 2016 budget level.

So if we take $35 billion out of the DOD budget, because of the budget caps, then you are not at 81 percent. I don't know exactly the portion of that you would absorb, but you would be back down into the 65 percent or less. That imposes risks on the men and women who are working and serving in these facilities.

Am I basically following your testimony?

Mr. CONGER. That is pretty much it. We don't have a specific BCA-level budget that we have the developed. But the BCA caps are not dissimilar from last year's budget request. So it is probably instructive as to the puts and takes, the trade-offs that we had to consider.

Senator KAINE. I want to focus on some of the climate issues. Mr. Conger, I alluded to them in my opening.

You were a panelist at a bipartisan symposium that I called this summer with three other Members of Congress, Congressman

Scott, Congressman Wittman, Congressman Rigell, two Democrats, two Republicans. We had bipartisan mayors.

We held a hearing on sea level rise affecting our military installations in Hampton Roads. We held it on a Wednesday morning in August, the worst possible time to get a good crowd. We had 500 people who showed up who were very concerned about this issue. You were good enough to be a panelist, to help us think this through.

Hampton Roads has embraced sort of an all-of-government approach where we have the installations, main DOD, the Pentagon, but also municipal governments, local planning councils, elected officials, businesses, the Chambers of Commerce. What are the virtues of that kind of all-of-government approach to looking at resilience planning for military installations?

Mr. CONGER. So in order to answer that question, let me ask sort of give you the 10,000-foot level and swoop in.

We look at climate change as a risk, a risk to be considered along with other risks as we contemplate. We can't just look at it—climate doesn't recognize the borders of the installation. There are things that will happen inside the installation that we have to incorporate this risk into, placing MILCON projects, developing natural resource plans, et cetera.

But there are some things that happen outside the fence line. What about utilities provided by the local community that we are going to count on? The fact that many of our servicemembers and their families live off-base? How does that affect our ability to operate if there is a flood or other event?

So it is absolutely necessary to, A, work with other Federal agencies, the Department of Transportation, the Federal Emergency Managment Agency (FEMA), et cetera, as we think about the long-term planning for a particular area. But it is also important to deal with local municipalities. We do this anyway.

Climate change aside, all the people here at this table, all of the folks inside the services who work at the base level, work with their local municipalities on any number of issues. Long-term planning in a climate-affected environment, whether you're worried about drought or you're worried about sea level rise or frequent flooding, you have to have those conversations with the planners from the municipalities.

Senator KAINE. There is a tool that Virginia has found particularly helpful, REPI, which I think stands for readiness and environmental protection initiative.

Mr. CONGER. REPI.

Senator KAINE. REPI, which pairs DOD funds with private funds from the Nature Conservancy or other organizations to help deal with encroachment-type issues.

What are some of the examples of the ways that installations have used REPI funds to help them protect the integrity of operations on the installations?

Mr. CONGER. Sure. REPI tends to be focused on the partial levels. Is there an increase in buffers that we need close to a base? Are there conservation areas that the local natural resources advocates are interested in spending money on, as well as the Defense

Department needing that land to be preserved as buffer, holding off development near an installation?

That serves our interest, because we are being selfish about this. It serves the natural resources constituencies, the non-governmental organizations' (NGOs') interests. So we essentially partner. We share the cost.

So we get a half-price buffer project, and they get a half-price conservation project. So it is more bang for the buck, as it were.

Senator KAINE. Secretary McGinn, in my opening statement, I just referred to what I thought I remembered about a pretty amazing drop in purchase costs. Secretary of the Navy Mabus, I hear him talking about the Green Fleet, the big Green Fleet trying to find alternative energy, much like nuclear was an alternative to diesel and petroleum, to look at green biodiesel.

My understanding is, and it is hard to compare all contracts, apples to apples, I know. But in 2012, when we did green biodiesel purchases, we were paying up to $12 a gallon. We are now involved in purchase contracts that are in the $3.40 a gallon range because of innovation that has driven down the cost of biodiesel.

Am I getting that right, essentially, on the order of magnitude?

Mr. MCGINN. You are, Senator. In fact, it is even lower than $3.50. It is the result of a demand signal that is pretty strong, clearly, one from the Department of Navy, but also one from the civilian aviation industry as well.

We view the diversification of our transportation fuel portfolio as really critical to our future national security. It is not something that may make a difference next year or even the year after that, but if you look 5, 10, or 15 years down, there is a tremendous imbalance between availability of supply and demand in the world's transportation and energy market.

So we think that in addition to being much more energy efficient, and you cited bulbous bows and coatings and other means by which we are trying to squeeze as much fight out of every unit of fuel we can, that we have a diversification of supply.

The industry is responding by scaling up and getting those economies of scale that are driving the prices down. We are working very closely with the Defense Logistics Agency on solicitations for mixes of petroleum and biofuel blends. But we are not going to pay a premium. We aren't going to buy anything that isn't cost-competitive.

Senator KAINE. Great. Thank you for that.

Thank you, Madam Chair.

Senator AYOTTE. Senator Rounds?

Senator ROUNDS. Thank you, Madam Chair.

I was the Governor of South Dakota during the 2005 BRAC round. Ellsworth Air Force Base began on the BRAC list.

The challenge that we faced was literally trying to provide accurate data, and making sure that the data that we could provide would be considered by the BRAC commission.

Ultimately, it was, and we were successful in getting the Ellsworth Air Force Base off the closure list.

But in doing so, we found that there were issues within BRAC that we thought didn't adequately allow for consideration of critical

needs long term for our country. That was the basis upon which we challenged the placing of Ellsworth in the first place.

With that in mind, I would just like to go through a couple real quick questions on this. Honestly, the first thing, and I agree with you, Madam Chair. I come with a dislike for the BRAC process to begin with, so this is going to be a case of convincing me that it is the right thing to do.

The first thing I look at is you provide an estimate upfront of $2 billion per year savings with the implementation with a $6 billion cost, which clearly would suggest that there is a BRAC list, which has already been developed and ready to go. Or if not, how can you come up with those numbers upfront as a fair estimate?

Second of all, and this would be to Mr. Conger, we understand the negatives of excess capacity in scoring installations in a future BRAC. But can you tell us some of the most positive qualities you would be looking for in an installation's infrastructure, in terms of military value and readiness?

Mr. CONGER. Okay, let me take your first question first.

Senator ROUNDS. Sure.

Mr. CONGER. Where did the numbers come from? It is a reasonable question, and we don't have any sort of a list already in the hopper. What we did was we looked at previous BRAC rounds, in particular the ones from the 1990s. We looked at the efficiency recommendations from the 2005 round, the ones that were designed to save money. We said all right, if we were to reduce 5 percent of our infrastructure, which is not an unreasonable number considering the numbers that we have heard today, the 18 percent, the 30 percent, the 24 percent figure that we had in 2004, and we only reduced 3.4 percent in that the BRAC round.

So given that 5 percent projection, and the behavior and the spend pattern of previous rounds, we estimated what we would end up with, what that 5 percent reduction would yield us. That was where we got the $2 billion in recurring savings. It is also where we got the $6 billion of input costs.

Senator ROUNDS. A SWAG?

Mr. CONGER. An estimate based on previous performance.

Senator ROUNDS. So in the 2005 round, I presume that those who were there at that time and the actual closures that occurred, and this was the first round in a number of years, was that the low-hanging fruit?

Mr. CONGER. I am not sure that I would characterize low-hanging or not low-hanging. We obviously went through a long process, at that time. Since you were the governor at the time, you know how painful that can be, and we respect that. It is painful at the base level.

We ask for certified data to answer a huge number of questions. We don't assume the data that is in databases is correct. We collect it all and get it certified at the beginning of the round.

There is an assessment that is done where you find the excess capacity, where you assess military value, and you try to make sure that the bases that you recommend closing are the ones with the lowest military value. Those numbers change over time.

Senator ROUNDS. So let's slide back in again. Tell us some of the most positive qualities that you would be looking for in an installation's infrastructure, in terms of military value and readiness.

Mr. CONGER. So those questions are defined by each of the services going into the round. They are not OSD-dictated. So each of the services will have a different set of priorities, a different set of questions that they ask.

Frankly, recently we went through, I will call it a Euro BRAC round, and used the BRAC process. We practiced the BRAC process and developed those kinds of questions.

I would defer to my colleagues to talk to the priorities, how they value military value in that. That is probably going to be the most instructive.

Senator ROUNDS. That is fair. I would then ask Secretary Ballentine, for bases with flying missions, will an installation's proximity to a quality aerial training range be one of those positive features that you will be looking for, not only in terms of the BRAC analysis but when evaluating beddowns for new missions, particularly when considering savings in fuel costs?

Ms. BALLENTINE. So all of those details would be developed by the operators and then taken into account by the installations folks. I would say that we are incredibly grateful to the South Dakota congressional delegation (codel) for the great partnership that we have in developing the Powder River Training Complete (PRTC) training range, which is going to be an excellent national resource for us.

But precisely how the military value will be assessed will be developed by the operators as we go through the process.

Senator ROUNDS. Okay.

Secretary Ballentine, once again, in 2005, the BRAC, during that process, the Air Force deviated on criteria, which was used to evaluate a base, from the three previous BRACs. A point system was used in 2005 to determine the ability of a base to receive other missions, versus whether the military value of a base warranted its retention.

As a future BRAC would deal less with transformation and more with closure, has the Air Force determined the criteria that it would use for the next BRAC round? I am hearing you say no.

Ms. BALLENTINE. No, not at this time.

Senator ROUNDS. Thank you.

Ms. BALLENTINE. You're welcome.

Senator AYOTTE. Senator Heinrich?

Senator HEINRICH. Thank you, Madam Chair.

Assistant Secretary Ballentine, as you know, and we talked a little bit about this just before the hearing, Kirtland Air Force Base in Albuquerque, NM, has been mired with a fuel spill that now literally dates back decades.

For too long, the cleanup of the spill has been fraught with delays and very little discernible progress. The result of these missteps has been that there has been a crisis of trust between the community and Kirtland Air Force Base.

But frankly, under your leadership and that of Ms. Kathleen Ferguson, Mr. Mark Correll, and Dr. Adria Bodour, things are now moving in the right direction, and that trust is being restored.

We are now seeing all the stakeholders work together in moving forward to meet some very aggressive deadlines in the coming months. I want to say I can't thank you enough for this progress. But this progress would not be possible without funding and leadership.

Therefore, I ask, does the Air Force remain committed to the funding necessary to ensure cleanup and commit to keeping the Air Force Civil Engineers Center's project leader Dr. Adria Bodour, who has done a remarkable job at the helm? So I would just ask, I guess my question is, will the Air Force continue to provide the funding necessary to ensure that this cleanup gets to completion? Can you ensure that the strong leadership that we are now seeing will remain in place?

Ms. BALLENTINE. Sir, first of all, I thank you for your appreciation, and will be sure to pass it on to my team.

Senator HEINRICH. Please.

Ms. BALLENTINE. I, personally, can take very little credit. They had started this process well before I arrived. But I assure you that I will continue the focus. We will continue the funding. We are really excited about the robust interim measures we have put in place. I agree with you 100 percent that Dr. Bodour is doing a fabulous job. I will see you in June, when we cut the ribbon on that first extraction well.

Senator HEINRICH. I look forward to it. This is an issue that has drug on far too long. Having been frustrated in the past, I just really want to see the current progress and what has become a very positive working relationship be the norm moving forward. So thank you.

I was also very pleased to see $12.8 million in the budget request for some much-needed MILCON at Kirtland Air Force Base regarding our space facilities.

Kirtland Air Force is home to the Air Force research labs, space vehicles directorate, operationally the space and the space test program. Some of our Nation's most advanced space research and development (R&D) occurs there at Kirtland.

But in the past, one of the challenges is that that work is performed in 11 substandard, inadequate, obsolete facilities that are literally spread over miles and miles of what is a very large Air Force installation.

Can you talk a little bit about what value this new facility would bring to the Air Force's overall space programs?

Ms. BALLENTINE. Yes, sir. You have hit the nail on the head, that nuclear, space, and cyber are key priorities for Secretary James and Chief Welsh. We just simply cannot have a 21st-century space platform when we are operating out of 1960s vintage buildings. So we are quite excited about the $12-plus million MILCON project at Kirtland, which will allow us to test and develop space components and bring us to a 21st-century space program.

Senator HEINRICH. Great. Thank you.

With that, I want to also take a moment and thank Assistant Secretary Conger and Assistant Secretary Hammack for all of your work, your time, your engagement, trying to deal with some of the challenges revolving around New Mexico's electrical transmission needs. I would say that your efforts ensured that we can pursue

energy independence, the jobs that come with it, but also while protecting the truly unique testing and training assets at White Sands Missile Range.

With that, I would just segue into this issue that we have been talking about regarding a potential BRAC round. I come with my own doubts about that process. I guess what I want to understand is, when you say excess infrastructure, how do we judge that? Can you give us some sort of concrete examples of what would be excess infrastructure in the current environment?

I don't mean a specific location, so much as something that we wouldn't use. How would you judge what is excess?

Also, finally, going back to Ms. Ballentine, would the proximity for things like ground to infinity airspace to an Air Force installation or uniqueness of testing facilities be part of that decision-making?

Mr. CONGER. Let me try and hit the first two parts of your question first, and then pass to Miranda.

We measure excess in a couple different ways. When we do these sort of big picture capacity analyses, we are looking at different types of infrastructure, planes per apron space, ships per pier space, et cetera, in trying to see whether our bases are more empty than they once were and whether we think there is trade space to do a more comprehensive analysis.

When we do the capacity analysis within the actual BRAC round, it is based on much more granular data. We go out to each base and ask all these detailed questions. The best way to look at how that is going to work is to look at our European analysis that we just did, where we searched out excess at each of those installations in Europe. In so doing, we were able to identify different scenarios of where we might be able to fit missions that are at one location in another.

Those are the scenarios that we analyze in more detail, once we have identified what they are based on the excess and the actual military value of those installations.

When we analyze those scenarios, we look at the business case, but we also look at the operational impacts. We want to find a scenario where we are simply being able to do the same thing for less money. We don't want to reduce our operational capability.

Now I will pass to Miranda for the specific question you asked her.

Ms. BALLENTINE. I think Secretary Conger described the parametric-level capacity analysis well. So at the Air Force, again, we use nine broad categories. So you can imagine what we do, looking at a simple ratio of a particular type of capacity. So say small aircraft parking aprons to force structure of small aircraft, and apply a ratio based on 1989 levels, using the same process we have used in the prior parametric capacity analyses.

Now we would be able to get into much finer-grained detail when we do a comprehensive analysis.

30 percent excess infrastructure capacity does not mean 30 percent excess bases. It doesn't even mean 30 percent excess infrastructure. It just means capacity of the infrastructure. So how much of that we would actually consolidate, close, move, we wouldn't be able to identify until we go through that comprehen-

sive analysis, identifying what those operational needs and priorities are.

Senator HEINRICH. I want to thank you, Madam Chair.

Obviously, all of us are somewhat skeptical about BRAC. I think we should be equally skeptical about seeing our bases hollowed out, and that kind of reinforces for all of us why we need to fix the sequestration mess that we find ourselves in. Thank you.

Senator AYOTTE. Senator Ernst?

Senator ERNST. Thank you, Madam Chair.

Thank you to our guests today for your time and testimony. I do appreciate this.

This is a difficult issue. Any time we face BRAC, there is a lot of trepidation in our communities that go through this, not only with BRAC but also with the changing needs of the military. We have had a mission transformation within the Iowa Air Guard. Just recently, actually, this last weekend, I did have the honor of attending an activation ceremony.

We had a fighter wing that has now become focused on intelligence, surveillance, and reconnaissance (ISR). Their mission has changed. We don't have the fighter jets any longer. But we do have a much more technologically-based mission.

So, Ms. Ballentine, if you would, please, the MILCON budget request for our Air National Guard notes the improvement of the Air Operations Group beddown site at the Des Moines International Airport. The justification data report that had been submitted to Congress last year, according to that, the building where this unit will be housed did not have the required communication, security systems, or backup and standby power required to support the new ISR mission.

I am pleased to see that it has been included in the budget. It is being allocated and that this beddown sight will support a national defense mission in my home State.

So what I would like to ask is, does this MILCON budget request provide enough for this group to be mission-ready in Des Moines? How critical is this group site to the Air Force and to our National security?

Ms. BALLENTINE. Thanks, ma'am.

I can tell you that ISR is in demand like never before. When the Secretary and Chief go out and ask our combatant commanders what they need, what they hear is ISR, ISR, ISR. This is a community that is under pressure in terms of the number of airmen we have doing the job, and the Secretary and Chief are really spending a lot of time to get this community healthy to meet the demand.

I am going to have to get back to you on all the specific details that you asked about those particular projects. I will say that we work very hard to make sure that we have total force equity in our MILCON budgets and make sure that the Guard and Reserve have their fair share of MILCON and FSRM as we go through the year.

So I will get back to you on the specific details that you asked about. But, of course, we would be sure to be trying to fund projects to the extent that they are necessary to meet the mission.

[The information referred to follows:]

Des Moines Air Guard Station has been selected as a beddown site for an Cyber Protection Squadron (CPT) to conduct cyber operations. In fiscal year 2014 the in-

stallation lost its 24–PAA F–16 mission and began conversion to an Cyber Protection Squadron as well as a Remotely Piloted Aircraft (RPA) Mission Control Element (MCE), and an Intelligence Targeting Group. The installation is configured to support fighter aircraft and requires significant work to convert the installation to the security and operational support needed for the new missions. A design study has identified building 430 as the most suitable location for these new missions. Facility conversion for RPA/MCE and Intelligence Targeting Group are being executed in a project authorized and appropriated in fiscal year 2015.

This fiscal year 2016 project requests authority and funding necessary to provide the facilities necessary to enable the CPT to reach full operational capability.

This group represents part of a constellation of ANG Cyber Operations units which are part of the National Guard Bureau's contributions to the nationwide Cyber Mission Force construct managed by United States Cyber Command. Cyber security is a critical tenet of United States national security.

Senator ERNST. Okay. Thank you very much. I appreciate that.

Ms. BALLENTINE. You're welcome.

Senator ERNST. Definitely an exciting transformation, again, a lot of trepidation with these airmen as they transition from their known unit into something that is totally new, much more technologically advanced. But in the course of their training over the past year, they are seeing long-term sustainability with this type of mission and unit. We are proud to have it located in Iowa. Thank you.

I will look forward to having the responses back.

I would like to hop back to Mr. Conger, if you could assist me with this one.

Something that Senator Heinrich had mentioned earlier with the environmental spills that occur out there. It is my understanding that there are POL spills, petroleum, oils, and lubricant spills, that occur. Whether they are large or small or other types of environmental accidents, when they occur caused by U.S. troops in certain European nations, then the U.S. Government pays a very, very hefty penalty in those situations.

If you are familiar with that, could you please explain that process? Maybe how much the government has expended in cleaning up some of these spells and the fines associated with that?

Mr. CONGER. So in general, our cleanup activities in foreign nations are governed by specific Status of Forces Agreements (SOFAs). I am not familiar with the fines you are referring to. I am under the impression that, generally, we don't conduct cleanup activities that don't have a direct threat to human health and the environment on the bases that we reside in overseas.

But recognizing that I am not fully apprised to the answer this question, why don't I take it for the record, and get you a more formal answer.

Senator ERNST. I would, certainly, appreciate that.

[The information referred to follows:]

It is DOD policy to plan, prevent, control, and report spills of hazardous substances and POL. It is also DOD policy to provide for a prompt, coordinated response to contain and remediate spills when they occur.

The U.S. Government does not pay fines and penalties to any European nation for spills. DOD does pay claims for environmental damage to the property of host nation landowners under Article VIII of the North Atlantic Treaty Organization (NATO) Status of Forces Agreement (SOFA). The NATO claims process is a long-established process in which the U.S. pays a share of each approved claim and the host nation pays a smaller share (e.g., 75 percent/25 percent). The nations covered by the NATO SOFA (such as Germany) are generally excluded from filing such claims on their own behalf because of inter-governmental waiver provisions contained in the agreement. However, this exclusion does not usually cover local municipalities and local water authorities. Our primary expenditure for environmental

claims is for pollution that migrates from our installations to adjacent property or water sources.

- Army has spent $1.8M on POL spill claims in Europe during 2012–14.
- Navy has not paid any claims for environmental damage since 2013.
- Air Force has spent $1.9M in Europe for spill response since 2009.

I would like to go back, also, Ms. Hammack, very briefly, I am running out of time.

Energy and sustainability, you have done a lot of hard work in this area, and I do appreciate that. Your part in establishing the Army's NetZero program, which seeks to minimize energy use on Army installations and offsets any remaining use with renewable energy, can you just please give us a very quick update on where you stand with that project?

Ms. HAMMACK. Thank you very much, Senator Ernst.

It has been a very successful program, and so we have expanded it to all Army installations because we found it is a cost-effective means of allocating limited resources to ensure that we don't put renewable energy on an inefficient building. We want to be able to look at efficiency first.

We are using a lot of energy savings performance contracts, leveraging private-sector money, not taxpayer money, so that when the energy savings are achieved, we pay the contractor back out of the energy savings. Sometimes we will be able to put renewable energy in there.

The intention is to get all of our installations more resilient so that they are using less energy. They are able to make more out of renewable energy. So that we are able to standby and serve this Nation, the State, in case of a natural disaster or otherwise.

So the NetZero program is working great, both on energy and water efficiency projects, too.

Senator ERNST. That is fantastic. I commend you on that.

Thank you so much, Madam Chair.

Senator AYOTTE. Thank you.

I have some follow-up questions, and wanted to ask, we have submitted to you, Secretary McGinn—there are all kinds of questions for you to follow up. It is great.

Mr. MCGINN. My staff will be very pleased.

Senator AYOTTE. I know they will be.

A number of questions about security personnel at our shipyards. In fact, I was meeting with some of the management at our shipyard today in Portsmouth.

One of their concerns is that it is taking them too long to hire security personnel, and that by the time they train the personnel, given where they are in the classification system, they are training them and then losing them fairly quickly. So I think this is probably not just an issue at Portsmouth but maybe an issue elsewhere, at all of our facilities.

So we are, obviously, in light of the tragedy that we experienced on September 16 of 2013 at the Washington Navy Yard, all of us want to make sure that we have proper security at our military installations. So I wanted to follow up on that. If you have any comments on that or if that is one you want to take for the record? I saw Secretary Hammack shaking her head as well.

Mr. MCGINN. We recognize that we need to do a better job at recruiting, training, and retaining our security personnel, civilian personnel. We are doing a review with the commander of Naval Installations Command, which the headquarters is located in the Navy Yard, taking a look at the attrition, if you will, of the security personnel.

I will be happy to share with you the results of that review, as we go forward. But we recognize that we have to create an attractive career-enhancing pathway for folks in that critical area of discipline. We will make sure we do that, make sure that the pay and compensation and training opportunities are commensurate with responsibilities.

Senator AYOTTE. Excellent. Thank you.

Mr. Conger, I know Senator Ernst asked you and I think Senator Heinrich as well, about environmental cleanups. I think, unfortunately, all of our States have some of those.

Let me just applaud the Department's efforts and impressive progress. In New Hampshire, 83 percent of our sites have been cleaned up, including Pease, Manchester, Rochester, New Boston, Concord, Langdon, and on Mount Washington. We really treasure our beautiful environment in New Hampshire, as we do across the country.

I understand that there are 32 remaining sites in New Hampshire. Obviously, we want to get them all cleaned up. If you can give me an update, this is one you can take for the record, give me a project date of completion of what you estimate in terms of when we might get to these other unfinished projects. I would appreciate it.

Mr. CONGER. You bet. We have that information. We will be able to get it to you.

Senator AYOTTE. Fantastic. Thank you.

[The information referred to follows:]

The table below identifies the remaining 32 cleanup sites in New Hampshire. This information is based on the end of fiscal year 2014 Knowledge Based Corporate Reporting System (KBCRS) data submitted by the Military Components.

DOD component	Installation name	Site name	Current phase	Project response complete date (FY)
Air Force	New Boston	Former WWTP (Bldg 130 & 121).	Study	2017
Air Force	Pease AFB	Burn Area-1	Cleanup	2016
Air Force	Pease AFB	Burn Area-2	Cleanup	2015
Air Force	Pease AFB	FDTA-2	Cleanup	2019
Air Force	Pease AFB	PFC-FDTA-2	Study	2044
Air Force	Pease AFB	LFTS	Cleanup	2017
Air Force	Pease AFB	Bldg 222	Cleanup	2015
Air Force	Pease AFB	Bldg 227	Cleanup	2018
Air Force	Pease AFB	Bldg 234	Cleanup	2018
Air Force	Pease AFB	BFSA	Cleanup	2016
Air Force	Pease AFB	Bldg 119	Cleanup	2017
Air Force	Pease AFB	Bldg 120	Cleanup	2015
Air Force	Pease AFB	OJESTS	Cleanup	2017
Air Force	Pease AFB	Communications Bldg #22 Solvent release.	Cleanup	2018
Air Force	Pease AFB	Plume 13/14	Cleanup	2017
Air Force	Pease AFB	Plume 41	Cleanup	2015
Air Force	Pease AFB	Pumphouse 2	Cleanup	2016
Air Force	Pease AFB	Motor Pool (site 72)	Cleanup	2015

DOD component	Installation name	Site name	Current phase	Project response complete date (FY)
Air Force	Pease AFB	Bldg 136 Self Help Fac (Site 81).	Cleanup	2016
Air Force	Pease AFB	Flightline refueling System (FLRS) plumes.	Cleanup	2020
Air Force	Pease AFB	Bldg 113	Cleanup	2020
Air Force	Pease AFB	Bldg 226	Cleanup	2015
Air Force	Pease ANG NH	Former OWS at Bldg 157	Study	2021
Air Force	Pease ANG NH	OWS (1) Removal pending at Bldg 260.	Study	2021
Air Force	Pease ANG NH	OWS (2) Removal pending at Bldg 260.	Study	2021
Air Force	Pease ANG NH	Former drum storage area at Bldg 253.	Study	2015
Air Force	Pease ANG NH	Former USTs at Bldg 145	Study	2020
Air Force	Pease ANG NH	Former USTs/pump island/ OWS/former lubrication bay.	Study	2020
Army	Cold Regions Research And Engineering Lab.	Former TCE And Fuel Oil USTs.	Study	2051
Army	Cold Regions Research And Engineering Lab.	Research Ice Well	Study	2051
Army	Cold Regions Research And Engineering Lab.	Open Storage Area	Study	2051
FUDS	Grenier Mil AF	Former Grenier Landfill PRP	Cleanup	2016

Secretary McGinn, I wanted to ask you about a project in California. This is one that was a $44 million water project that is going to provide water from Camp Pendleton to the community of Fallbrook, California. One of the issues that I would like some clarification on is that it appears that the benefits to the Department of Navy, it is just not clear to me how much benefit the Department of Navy gets.

The authority that was granted to the Secretary of the Interior for the construction only allows Navy to reimburse costs of the project that the Secretary and Secretary of Navy determine reflects the extent to which the Department of Navy benefits from the project.

So what portion of the water from the project will be used by the Department of Navy, versus how much will the State of California or the City of Fallbrook and the Department of Interior be investing?

Mr. MCGINN. It has a very detailed background that goes to water rights and usage, making sure that we are looking at future demand and doing that in as a water-conserving way as we possibly can.

Senator AYOTTE. You can appreciate where we don't want to build municipal water projects, but we want to help the Navy.

Mr. MCGINN. Exactly. Out great marines and sailors at Pendleton need that.

We will provide you a briefing on that project as well and provide you the rationale and the numbers, and what exactly our costs are, what our expected benefits are.

Senator AYOTTE. Excellent.

I, certainly, appreciate, this has been one of the ongoing issues that has been from Congress to Congress, the issue of Guam.

Secretary McGinn, the Department is requesting an additional $20 million through the Office of Economic Adjustment to add to the already provided $106 million to upgrade the civilian water and wastewater infrastructure on Guam, so lest California think that I am picking on them.

The Department does not provide the same level of support for other local community infrastructure where we have forces, as I understand it.

So how much is the Government of Guam investing in its infrastructure? What will be the marines use of the water and wastewater, versus the residents of Guam, because obviously, our focus is on our marines as well? One of the issues, I think, actually, to include in this is the element of housing. As I understand it, there are some additional questions on housing and how much that is going to cost.

So could you help us understand what the analysis is to determine the number of accompanied versus unaccompanied personnel stationed on Guam? This has been a continuous issue, I know, from Congress to Congress.

Mr. MCGINN. I think we are in a pretty good position compared to past years.

First of all, the footprint of marines on this relocation to Guam is much lower. It will be a total of about 5,000 marines, and about two-thirds of them will be unit-deployed marines, so we will have Permanent Change of Station marines with about 1,300 dependants that will be relying on the infrastructure for support there.

Since last year, we have worked closely with our colleagues in the Air Force to locate the family housing at Anderson. That provides benefit to us. It provides benefit to the Air Force personnel who are based there.

We are also looking very, very hard at what is driving housing costs there. Obviously, it is a remote location, parts, labor, et cetera, market conditions.

I would, on the first part of your question, like to defer to Mr. Conger. He has done a great job in leading the effort by the Department on this economic adjustment business. So I recommend John provide some insight.

Mr. CONGER. Sure. Briefly, the outside-the-fence initiatives—water and wastewater as the preponderance of the effort—are driven by requirements to mitigate the impact that we are going to have on the island by introducing additional personnel and the stress on their utility system.

The challenge is getting the Environmental Impact Statement (EIS) approved through the intraagency, and there are certain things that the island of Guam had not been in compliance with. So as a consequence, we are stressing an already stressed system.

That said, I think that what Secretary McGinn alluded to earlier, in the sense that we have significantly reduced our footprint, therefore, we have significantly reduced our impact.

Because we are going from a situation where we have gone from 9,000 marines and roughly the same number of dependents to 5,000 marines and about 1,300 dependents, the impact is much smaller. The housing area is much smaller. The cantonment area is much smaller. The impacts are much smaller.

We are finishing up the Supplemental Environmental Impact Statement (SEIS) now, but in conjunction, the Economic Adjustment Committee, which is an interagency group, is analyzing those impacts that are identified in the Supplemental Environmental Impact Statement, and repricing everything.

We have gone from, in 2010, where we had a $1.3 billion program that was required by the EIS, in order to accommodate the much larger plan, to a figure that is closer to $200 million or $300 million. The down-scoping has been dramatic.

We will have final numbers to the committee this late spring, early summer. Obviously, any one of those outside-the-fence projects that is required will have to get individual approval here.

So we recognize that. We are going to get you the information. But I think it is a good-news story, the requirement dropping significantly. But it is all about the impacts that we are having, by the influx of marines.

Senator AYOTTE. Thank you.

Senator Kaine?

Senator KAINE. Thank you, Madam Chairwoman.

Two other items of inquiry. In response to one of my questions, but also to one of my other colleagues, I heard a little bit from the Navy side and from the Army side about operational energy investments, power purchase contracts, energy conservation. But I haven't heard from my Air Force witness.

I know the Secretary Ballentine came out of the private sector at Walmart, where your company was one of the real innovators in energy savings on the private sector side. Could you talk a little bit about what the Air Force is doing in this area to reduce energy usage, promote efficiency, and, ultimately, reduce costs?

Ms. BALLENTINE. Yes, thanks for the opportunity.

So like our sister services, energy assurance is critical to mission assurance at the Air Force. Energy really is the backbone for all parts of our mission. It launches every sortie, propels every space launch, and powers every bit of our base infrastructure. So energy is absolutely critical to what we do.

As we look to build energy resilience in the face of potential supply disruptions, as we look to build diversity of our energy supply, and as we look to reduce energy demand, we have to do all of that in the face of this constrained budget environment that we have all been talking about today.

So while in the past, the Air Force has invested more of our own money in energy reduction programs, we really are shifting our strategy pretty dramatically to accelerate the use of the energy savings performance contracts.

On the renewable energy side, we have about 300 renewable energy projects at about 100 different locations, all of which meet or beat utility prices today. We just completed our largest solar installation to date, 16.4 MW at Davis-Monthan Air Force Base in Arizona.

That project is pretty exciting. During peak sunlight, it is producing over 100 percent of the base's power. On average, day and night, it is about 35 percent of the base's power, and saves that base $500,000 a year.

So those are exactly the kind of projects that we are looking at, bringing those electrons closer to home, saving money, building in some flexibility and resilience.

Senator KAINE. Great. Thank you very much.

Mr. Conger, back to the BRAC question. I think we have all expressed our concerns about BRAC, but we also understand that excess capacity has a cost. If you have to pay for that cost, it may come out of something else that could challenge you.

So I want to ask you to really educate me about non-BRAC means for dealing with excess physical capacity. You used the example in your opening statement, and I think alluded to it once or twice, about the European study that was done, that you viewed as like a test BRAC.

DOD did that, reached some conclusions about savings, and has been able to implement and has a pretty good fix on what savings would be.

Is there any bar in law right now, if Secretary Carter says to all the service chiefs, I want you to tell me what your excess capacity is, and in your best military judgment, tell me what reductions you would make in your infrastructure in order to eliminate that excess capacity.

I recognize that BRAC sets up a procedure that leads to an up or down vote, et cetera. But there is nothing in law that I know, but I could be wrong about this, that would bar the DOD from doing that kind of study about domestic installations and even forwarding recommendations to Congress that would be part of our debate, just like when you forward recommendations to us about personnel practices, end-force strength, or weapons systems.

Am I right about that, that if the DOD wanted to forward recommendations not as part of a BRAC, but just based on best military judgment, the DOD would be able to do that?

Mr. CONGER. So the answer is, "yes, but." Yes, of course, the Secretary of Defense can ask for that study, and, of course, we will do what he tells us to do.

But the quandary you are putting yourself in is when you contemplate a future possibility of BRAC, where you adhere to the principle of treating all bases equally, you have just set up a dynamic where we can't do that because we have pointed out, "Now I have a secret list," as Senator Rounds was alluding to earlier.

We don't want to have that secret list, because it obviously makes people nervous.

There are examples, specific examples in the past several years where there have been proposals that have come up here for consideration, and have ultimately been unsuccessful: the reductions at Eielson Air Force Base, the closure at Pittsburgh that didn't end up happening.

There are things that have been proposed and ultimately rejected. It is not a recipe for a successful enterprise to go up and do onesie-twosie types of things, because they generally don't succeed.

You are personally familiar with what happened with the Joint Forces Command, but that was not a base closure, right? The location for most of those individuals was technically part of Norfolk Naval Station. So, as a consequence, you weren't closing a base,

you were reducing one. So, therefore, it didn't come under the same restrictions.

There are restrictions as far as what we can and cannot propose.

Senator KAINE. But I use that one as kind of a good example of how I think the process could work right. There was the proposal to close that joint operation. Now, it wasn't a full base closure because it was assigned under the umbrella of another. But that was huge and, in the area, extremely unpopular. It wasn't subject to the BRAC requirements.

Everybody pulled together after that proposal was made and tried to make a case to the Pentagon, look, if you completely close this, you are actually going to be doing the wrong thing because you are going to need to re-create it somewhere else. The Pentagon at the time considered the advocacy by the congressional delegation. I wasn't part of it at the time, but I was governor.

They considered the advocacy and concluded, you know what, you are right. We ought to close a lot of it, but there are aspects of it that should be maintained. Everybody walked away thinking, well, we didn't get everything we wanted, but we made our case, and a good decision was made.

That was not a BRAC but it was sort of an iterative process where the DOD made a proposal, and folks said we don't like it, we think we you ought to look at it in a different way. In that dialogue, a synthesis was reached that was neither the thesis or antithesis. But now we have moved on and it seems to be working.

I get your point. The DOD makes everybody nervous, if they think the DOD has the secret list or if the DOD is compiling the secret list. But you make everybody nervous when you do a BRAC, because as soon as you do a BRAC, every last community in the United States has to hire lobbyists and lawyers. Even if there is no danger that that installation actually is going to be closed or downsized at all, you have to do that. That is the burden that the mayors are in.

You have to, because everybody else is, hire lobbyists and lawyers. There is this massive, collective check written out of public treasuries from States and localities to the lobbyist and lawyer community to make the case.

Then we go through the whole process and there is a recommendation. I always just thought, well, gosh, I trust the military leadership to make the best recommendation they can. You guys are used to making recommendations that we follow 75 percent of them and don't follow 25 percent.

If you do it on personnel and you do it on weapons, and if you do it on everything else, you could do it on installations. Yes, we would battle about it, and I would fight to protect my thing, and somebody else would fight to protect theirs, and you probably would get 75 percent of what you proposed. On the other 25 percent, you might not get it 100 percent, but there would be some iterative discussions like there was on the Joint Forces Command in Norfolk.

So I think we can't sit up here and say we want you to solve it. We have to solve our deficit problem, but we can't cut anything. We would be hypocritical to say that.

But I think those of us who have had experience with BRAC, we found it to be an unwieldy way to come at what is always going to be difficult. But the DOD always has it in its province at least make recommendations to us about excess capacity that we then take into the political realm and put on our shoulders. We are going to be held accountable for decisions, as we ought to be. Our voters want us to be accountable.

So it is messy, but I am not sure it is any messier, and it may ultimately be closer in terms of accountability, than the way the BRAC processes have been done.

That is sort of my critique.

Mr. CONGER. I respect your viewpoint, and I understand where you are coming from.

In the past, before BRAC was invented, there were base closures. They were often criticized for their political nature. If one party was in charge, then the other party would worry that theirs were being targeted for political reasons. This is in apolitical process.

It is an analytical process. It is very number-crunch intensive. The recommendations that come out have all that analysis baked into them.

I would hope that at least there is some faith that it is not just finger in the wind.

Senator KAINE. We have faith in the way you did it, separate and apart from the BRAC. We would know the recommendations the Pentagon would make to us would not be based on this or that party, or this or that committee chair.

Now, we might get into a little bit of that up here, and our voters would kind of understand that, and they would either punish us or reward us. But we would have faith that you would use the right analytical tools separate and apart from a BRAC process.

That is the way you guys would come at it, in my view. I mean, I would have that expectation.

Anyway, I made my point. I hear your critique. This discussion is going to continue. But I didn't leave it just saying, no, you can cut costs everywhere, but we don't want you to cut excess infrastructure costs.

Obviously, we have to figure out a way to save on infrastructure. It is just what is the best way to save on infrastructure.

Senator AYOTTE. I have a few questions that I will just submit for the record.

Senator AYOTTE. But in wrapping this up, I appreciate what Senator Kaine is saying. I mean, let's face it, in some ways, BRAC was created as a copout, so that somehow we wouldn't have to make these decisions. Well, we are making these decisions every day, when it comes to important decisions. That is what we get elected to do.

Where I disagree a little bit, Mr. Conger, I think there is a lot of politics to BRAC, too. So we are never going to remove politics from any of this process, because it is the nature of a democracy and elected officials.

So I appreciate what my ranking member had to say here, because I think, in some ways—I wasn't here when BRAC was created, but it is almost like it was to insulate us from having to make

hard decisions, and that is what we get elected to do on behalf of our constituents.

Mr. MCGINN. Kind of like sequester.

Senator AYOTTE. Exactly.

Mr. MCGINN. The same kind of copout logic.

Senator AYOTTE. Yes, that is a good analogy. Absolutely, Secretary McGinn. A very good analogy.

Well, thank you all for being here today and for what you do for the country. We really appreciate it.

[Whereupon, at 4:01 p.m., the subcommittee adjourned.]

[Questions for the record with answers supplied follow:]

QUESTIONS SUBMITTED BY SENATOR MIKE LEE

BRAC

1. Senator LEE. Mr. Conger, Secretary Hammack, Secretary McGinn, and Secretary Ballentine, the Department of Defense (DOD) has asked for a round of base reconstruction and closure (BRAC) for 2017 to reduce excessive infrastructure and facilities. How does your Service determine when a facility or infrastructure becomes excessive or surplus and what are some of the more general characteristics of the facilities and infrastructure in your services that believe it would be more cost effective to dispense with?

Mr. CONGER. Each of the Military Departments has procedures in place to determine whether an individual asset should be declared excess to its needs, and a screening process for subsequently assessing whether that asset is surplus to the needs of all DOD Components. If a mission has more assets than required, or some of its assets are not sized or configured properly (e.g., the hangar ceiling is not high enough for the aircraft), the extra assets are then assessed for adaptive reuse by other missions or other DOD Components that require space. Assets not required are declared surplus and are disposed of through the General Services Administration.

For DOD as a whole we know we have excess infrastructure. Our 2004 parametric study found 24 percent excess while BRAC 05 only produced a 3.4 percent reduction in plant replacement. More recently the Army and Air Force's internal parametric reviews have found 18 and 30 percent excess respectively.

While the process for disposing of individual assets is generally workable on a single installation, the Department believes that given the large excess, BRAC is the only fair, objective, and proven process for undertaking a comprehensive review of installations and assets to determine how to best reconfigure our infrastructure to reduce this excess.

Ms. HAMMACK. The Army's mission requirements and force structure decisions drive its infrastructure and facility needs. Facilities and infrastructures become excess or surplus when they exceed existing or projected Army requirements due to decreasing force structure or mission changes, or when they cannot be cost-effectively repurposed or converted for other valid Army requirements.

Facilities and infrastructure become more cost effective to dispense with when they can no longer be economically repaired, or the required capability exists at another location where facilities and infrastructure cost less to maintain and functions can be transferred or consolidated to better meet mission requirements.

Most existing excess capacity in the Army is actually under-utilized capacity, not empty buildings. Buildings can accommodate a given level of personnel and functions as designed. When force structure is cut, those buildings have fewer personnel working in them. The population of a building can be reduced by 10 percent, 20 percent, or even 40 percent but facility maintenance and utility costs do not decline in a linear or 1:1 ratio because the cost of maintaining a building is somewhat inelastic to changes in population. The whole building needs a certain level of heat, cooling, and maintenance regardless of whether there are 60 persons or 100 persons in the building. As a result, the cost of underutilized buildings accounts for much of the Army's carrying cost of excess capacity.

The Army has existing tools to dispose of excess buildings or property outside of the BRAC process, but those tools cannot produce the same kinds of substantial recurring savings as a BRAC. The reason is that the same relatively inelastic relationship between population and buildings is also applicable to installations themselves. If an installation's population is reduced by 10, 20, or even 40 percent, the garrison

costs will not decrease in a 1:1 ratio. The garrison still has to provide the same set of installation services (fire/police, housing, child care, garbage removal, IT support, landscaping, etc). These services require a relatively fixed overhead or workforce regardless of whether they are serving 12,000 or 20,000 Soldiers and Families. Only by closing the lowest military value installations, and realigning the remaining required functions into the under-utilized space of our higher military value installations, can we realize substantial savings.

Mr. MCGINN. The Navy determines an asset (facility or infrastructure) to be excess through the identification of facility requirements for the missions on the installation and the comparison of those requirements to the existing assets on the installation. The assets are also assessed to determine how well they support the mission. If a mission has more assets than required, or some of its assets are not sized or configured properly (e.g. the hanger ceiling is not high enough for the aircraft), then these assets are further evaluated for adaptive reuse by other missions on the installation that require space. If adaptive reuse is not feasible, then the asset is declared excess and reported to GSA for potential reuse outside of DOD or a declaration of surplus enabling the service to move forward with disposal.

The assets which are most cost effective to dispose of are typically those in very poor condition generating a high sustainment or restoration cost to repair. Additionally, if these assets are not well utilized due to their condition or configuration and the mission is not highly dependent on them, then relocation of the current functions and disposal of the facility is normally less expensive than repair or restoration.

Ms. BALLENTINE. The Air Force has determined approximately 30 percent excess infrastructure capacity, based on a comparative review of categories such as parking apron as a function of aircraft or total facilities square footage as a function of personnel for specific types of installation. More specific infrastructure and costing analysis would be performed upon authorization of a new round of Base Realignment and Closure (BRAC).

The primary savings generated from a BRAC would come from the complete divestiture of infrastructure, personnel, and support resources for entire installations. Reduction in infrastructure footprint and lowered sustainment costs from a partially closed installation pale in comparison to the savings from a fully closed installation. Closing one base and fully divesting infrastructure at that installation would save considerably more than closing one-third of the infrastructure on three different installations. Therefore the Air Force would seek to consolidate its force structure and reduce infrastructure through base closures as the most cost effective means to achieve infrastructure savings.

2. Senator LEE. Mr. Conger, Secretary Hammack, Secretary McGinn, and Secretary Ballentine, how do you determine that it becomes more cost-efficient to dispense with a facility or infrastructure than to keep in for potential future use?

Mr. CONGER. DOD has several options when dealing with obsolete, inefficient or underutilized support infrastructure, including renovation, conversion, shuttering, divesture and demolition. When determining what option to pursue, the Defense Components consider such factors as the asset's facility condition, configuration, size, location, facility capacity at that location, current mission requirements, funding and funding authority. An engineering analysis is conducted to determine if it is cost effective to repair or replace the asset for a current or new mission. If the Military Service cannot identify a reuse for a particular asset and the underlying land is essential for future military requirements, the Military Department will likely identify the asset for demolition versus declaring it excess or surplus.

Ms. HAMMACK. In general, facilities and infrastructure become more cost effective to dispose when they can no longer be economically repaired, cannot be cost-effectively repurposed or converted for other valid Army requirements, or the required capability exists at another location where facilities and infrastructure cost less to maintain and functions can be transferred or consolidated to better meet mission requirements.

The Army has existing tools to dispose of excess buildings or property outside of the BRAC process, but those tools cannot produce the same kinds of substantial recurring savings as a BRAC. The reason is there is a relatively inelastic relationship between population and buildings, and the cost of running the installations themselves. If an installation's population is reduced by 10, 20, or even 40 percent, or several buildings are demolished by 100,000 or 200,000 square feet, the garrison costs will not decrease in a 1:1 ratio. The garrison still has to provide the same set of installation services (fire/police, housing, child care, garbage removal, IT support, landscaping, etc). These services require a relatively fixed overhead or workforce regardless of whether they are serving 12,000 or 20,000 Soldiers and Families. Only

by closing the lowest military value installations, and realigning the remaining required functions into the under-utilized space of our higher military value installations, can we realize substantial savings.

Mr. MCGINN. The Shore Facilities Planning System (SFPS) is the Navy's tool that enables a five year planning process that analyzes: the facilities needed to perform assigned missions; existing facilities and their condition; existing facility uses; and how to achieve efficient facility utilization, thus minimizing facility footprint. Through the SFPS the analysis of future mission, base loading and asset condition are factored in to develop site specific solutions to successfully acquire, maintain, optimally utilize and/or dispose of shore assets. Longer term facility requirements including infrastructure investment and divestment are addressed during installation master planning efforts consistent with Unified Facilities Criteria # 2–100–01 Installation Master Planning of 15 May 2012.

Ms. BALLENTINE. Through the BRAC process, the Air Force seeks to eliminate infrastructure capacity that exceeds both current and future force structure requirements. The Air Force does not seek to eliminate excess infrastructure capacity that it deems necessary for future use.

Likewise, the Air Force is seeking an "efficiency BRAC" that implements scenarios that will pay for themselves as quickly as possible and continue to provide savings forever.

CONVENTIONAL VS. ALTERNATIVE ENERGY SOURCES

3. Senator LEE. Mr. Conger, Secretary Hammack, Secretary McGinn, and Secretary Ballentine, the cost of petroleum-based energy products have decreased sharply with the drop in oil prices over the past year. Is your Service able to fully take advantage of the lower costs for these conventional fuels while having to maintain statutory and regulatory alternative fuel standards?

Mr. CONGER. Statutory and regulatory alternative fuel standards only apply, if at all, to the Defense Department's non-tactical vehicle (NTV) fleet, the great majority of which is comprised of conventionally fueled vehicles. The DOD is taking advantage of lower fuel costs at refueling stations on or near military installations.

Bulk fuel for operational purposes is not subject to statutory or regulatory requirements mandating the use of alternative fuels. In addition, the Department will make bulk purchases of alternative fuels for operational purposes only if such alternative fuels are cost competitive with conventional fuels and qualified as compatible with DOD's existing equipment and infrastructure.

Ms. HAMMACK. Statutory and regulatory alternative fuel standards only apply, if at all, to the Defense Department's non-tactical fleet (NTV) fleet, the great majority of which is comprised of conventionally fueled vehicles. The DOD is taking advantage of lower fuel costs at refueling stations on or near military installations.

Bulk fuel for operational purposes is not subject to statutory or regulatory requirements mandating the use of alternative fuels. In addition, the Department will make bulk purchases of alternative fuels for operational purposes only if such alternative fuels are cost competitive with conventional fuels and qualified as compatible with DOD's existing equipment and infrastructure.

Specific Army addition: In regards to the Non-Tactical Vehicle Fleet the Army has reduced total consumption of petroleum in the NTV fleet by 38.4 percent since fiscal year 2005. These savings have come through a combination of vehicle downsizing and significant increases in vehicle fuel efficiency.

Mr. MCGINN. Statutory and regulatory alternative fuel standards only apply, if at all, to the Defense Department's non-tactical fleet (NTV) fleet, the great majority of which is comprised of conventionally fueled vehicles. The DOD is taking advantage of lower fuel costs at the pump at refueling stations on or near military installations.

Bulk fuel for operational purposes is not subject to statutory or regulatory requirements mandating the use of alternative fuels. In addition, the Department will make bulk purchases of alternative fuels for operational purposes only if such alternative fuels are cost competitive with conventional fuels and qualified as compatible with DOD's existing equipment and infrastructure.

Ms. BALLENTINE. Statutory and regulatory alternative fuel standards only apply, if at all, to the Defense Department's non-tactical vehicle (NTV) fleet, the great majority of which is comprised of conventionally fueled vehicles. The DOD is taking advantage of lower fuel costs at refueling stations on or near military installations.

Bulk fuel for operational purposes is not subject to statutory or regulatory requirements mandating the use of alternative fuels. In addition, the Department will make bulk purchases of alternative fuels for operational purposes only if such alter-

native fuels are cost competitive with conventional fuels and qualified as compatible with DOD's existing equipment and infrastructure.

4. Senator LEE. Mr. Conger, Secretary Hammack, Secretary McGinn, and Secretary Ballentine, how are you working to take advantage of these lower costs and save funding?

Mr. CONGER. The price for the bulk of DOD fuel purchases is set by The Office of the Secretary of Defense, Comptroller (OUSD (C)) in coordination with the Defense Logistics Agency as a set of Standard Fuel Prices (SFP) for various products worldwide. The SFP provides budgetary stability for the Services and Defense Agencies by absorbing commodity market price volatility through a revolving fund known as the Defense Wide Working Capital Fund (DWWCF). The SFP is not a marketplace price. When prices rise, the increase in costs is absorbed by the DWWCF; when prices fall, the DWWCF replenishes that cash. In each budget cycle, the DWWCF's previous year's operating result and the projected cash balance are taken into consideration and prices are adjusted to return gains or recoup losses.

Recent decreases in petroleum prices worldwide are reflected in a decrease of the SFP for various products for fiscal year 2014.

The Department will continue to monitor the DWWCF cash balances in execution to determine possible fiscal year 2015 adjustments. Such adjustments may include funding for emerging Departmental requirements, in accordance with reprogramming rules established by Congress; increasing or decreasing standard fuel prices to provide resources to the DWWCF or the operating forces; and maintaining an adequate cash corpus to address future market volatility.

Ms. HAMMACK. The price for the bulk of DOD fuel purchases is set by The Office of the Secretary of Defense, Comptroller (OUSD (C)) in coordination with the Defense Logistics Agency as a set of Standard Fuel Prices (SFP) for various products worldwide. The SFP provides budgetary stability for the Services and Defense Agencies by absorbing commodity market price volatility through a revolving fund known as the Defense Wide Working Capital Fund (DWWCF). The SFP is not a marketplace price. When prices rise, the increase in costs is absorbed by the DWWCF; when prices fall, the DWWCF replenishes that cash. In each budget cycle, the DWWCF's previous year's operating result and the projected cash balance are taken into consideration and prices are adjusted to return gains or recoup losses.

Recent decreases in petroleum prices worldwide are reflected in a decrease of the SFP for various products for fiscal year 2014.

The Department will continue to monitor the DWWCF cash balances in execution to determine possible fiscal year 2015 adjustments. Such adjustments may include funding for emerging Departmental requirements, in accordance with reprogramming rules established by Congress; increasing or decreasing standard fuel prices to provide resources to the DWWCF or the operating forces; and maintaining an adequate cash corpus to address future market volatility.

Mr. MCGINN. The fiscal year 2015 standard fuel price (SFP) for the Department of Defense was reduced by $18.48 per barrel effective February 1, 2015, from $155.40 to $136.92, reflecting the reduced market cost experienced to date. The Department continues to monitor the market and may obtain additional adjustments, either through its pricing mechanism or through other means, if the Working Capital Fund (WCF) cash balance rises above the target cash balance range for operations.

The Department's fuel pricing system establishes the SFP, a budget lead-time in advance, to ensure reliable prices wherever and whenever operating forces require aviation, maritime, or other fuels around the world.

The Department will continue to monitor the WCF cash balances in execution to determine possible fiscal year 2015 adjustments. Such adjustments may include funding for emerging Departmental requirements, in accordance with reprogramming rules established by Congress; increasing or decreasing standard fuel prices to provide resources to the WCF or the operating forces; and maintaining an adequate cash corpus to address future market volatility.

Ms. BALLENTINE. The price for the bulk of DOD fuel purchases is set by The Office of the Secretary of Defense, Comptroller (OUSD (C)) in coordination with the Defense Logistics Agency as a set of Standard Fuel Prices (SFP) for various products worldwide. The SFP provides budgetary stability for the Services and Defense Agencies by absorbing commodity market price volatility through a revolving fund known as the Defense Wide Working Capital Fund (DWWCF). The SFP is not a marketplace price. When prices rise, the increase in costs is absorbed by the DWWCF; when prices fall, the DWWCF replenishes that cash. In each budget cycle, the DWWCF's previous year's operating result and the projected cash balance are taken into consideration and prices are adjusted to return gains or recoup losses.

Recent decreases in petroleum prices worldwide are reflected in a decrease of the SFP for various products for fiscal year 2014.

The Department will continue to monitor the DWWCF cash balances in execution to determine possible fiscal year 2015 adjustments. Such adjustments may include funding for emerging Departmental requirements, in accordance with reprogramming rules established by Congress; increasing or decreasing standard fuel prices to provide resources to the DWWCF or the operating forces; and maintaining an adequate cash corpus to address future market volatility.

QUESTIONS SUBMITTED BY SENATOR TIM KAINE

EXCESS CAPACITY

5. Senator KAINE. Mr. Conger and Secretary Hammack, I am concerned that DOD's proposed BRAC authorization language does not include protections against the type of implementation cost growth that we experienced in the 2005 BRAC round—estimated by the Government Accountability Office (GAO) to be 67 percent over budget.

How much excess infrastructure would an additional BRAC round be designed to eliminate? In other words, would it be the intent of DOD to maintain some excess for unforeseen requirements?

Mr. CONGER. In making our $2 billion savings projections for a future BRAC round, the Department conservatively assumed a small reduction of five percent in plant replacement value. This is based on 70 percent of the 1993/1995 efficiency focused rounds. Because BRAC 2005 only eliminated 3.4 percent of the 24 percent aggregate excess capacity identified in the 2004 BRAC Capacity Analysis, significant excess at the aggregate level should remain after a future round. Through execution of prior BRAC rounds, and as verified in a 1999 study, the Department has demonstrated that it will retain within the U.S. installation infrastructure sufficient difficult-to-reconstitute assets to respond to surge, accommodate a significant reconstitution of the force, and support all forces, including those currently based outside the United States. Furthermore, the selection criteria specified in the language, specifically criteria one and three, capture the concept of surge capacity as they are currently drafted. Criterion one requires the Department to consider "current and future" mission capabilities and criterion three assesses the "ability to accommodate contingency, mobilization and future total force requirements."

Ms. HAMMACK. The Army has completed a capacity analysis which indicates that we have about 18 percent excess capacity with an Active Component Army force structure of 490,000. That equates to about 160 million square feet. The Army will assess all excess infrastructure to determine any need for possible retention based on current or projected mission requirements, force structure and stationing decisions, and contingency requirements.

A future round of BRAC would be an efficiency BRAC intended to produce significant recurring savings through the development of BRAC scenarios that provide relatively quick returns on investment. The Army looks forward to discussing BRAC authorization language that ensures expected savings. Generating savings measured in hundreds of millions of dollars per year simply cannot be accomplished by taking a few buildings at each installation and demolishing them, finding another paying tenant to cover its upkeep, or transferring the underlying property to the local community. A considerable portion of the Army's excess capacity is scattered and dispersed across many thousands of buildings at many dozens of CONUS Army installations. The best and proven way to realize substantial savings and also reduce excess infrastructure, is to close lower military value installations, and realign the remaining required functions into the under-utilized space of our higher military value installations.

The goal of a future BRAC round is not to reduce the excess capacity to zero, or even to reduce it by a specific percentage. There will always be some amount of excess capacity. Some excess is retained to accommodate unforeseen future and/or surge requirements. The type of assets the Army typically tries to retain even if mathematically excess, are training ranges, maneuver space, and certain other types of infrastructure that are extremely difficult, expensive, and/or lengthy to reconstitute. Infrastructure that is relatively easy to expand or utilize more heavily, like barracks spaces or administrative buildings, is where the Army tends to be more comfortable divesting.

ALTERNATIVE BASE CLOSURE AUTHORITIES

6. Senator KAINE. Mr. Conger and Secretary Hammack, given the concerns about the 2005 BRAC round, I am interested in learning more about alternative means to reduce excess infrastructure. DOD's fiscal year 2016 budget materials state "The need to reduce unneeded facilities is so critical that, in the absence of authorization of a new round of BRAC, the administration will pursue alternative options to reduce this wasteful spending."

In the absence of a BRAC authorization, what alternative tools are available to DOD to eliminate excess infrastructure?

Mr. CONGER. As far as using other authorities, the Department only has authority to undertake a BRAC round if Congress authorizes it to do so. However, budget cuts require exploring any and all authorities Congress has provided to eliminate wasteful infrastructure. The Department has not yet decided which options we will pursue if Congress does not provide BRAC authority.

Ms. HAMMACK. At present, the Army has about an 18 percent excess capacity at the 490,000 active component force structure level. This equates to about 160 million square feet, or an average carrying cost of about $480 million dollars per year. The Army has existing tools to dispose of excess buildings or property outside of the BRAC process, but those tools cannot produce the kinds of substantial recurring savings from BRAC. The Army assesses its excess infrastructure to determine any need for possible retention based on current or projected mission requirements, force structure and stationing decisions, and contingency requirements. As alternative options to eliminate excess infrastructure, truly unneeded facilities can be reduced through transfer, sale, disposal, demolition, abandoning in place, or setting the facility in an inactive status.

A future round of BRAC would be an efficiency BRAC intended to produce significant recurring savings. Generating savings measured in hundreds of millions of dollars per year simply cannot be accomplished by taking a few buildings at each installation and demolishing them, finding another paying tenant to cover its upkeep, or transferring the underlying property to the local community. A considerable portion of the Army's excess capacity is scattered and dispersed across many thousands of buildings at many dozens of CONUS Army installations. The best and proven way to realize substantial savings and also reduce excess infrastructure, is to close lower military value installations, and realign the remaining required functions into the under-utilized space of our higher military value installations.

The alternatives to BRAC are not as advantageous to local communities. BRAC legislation authorizes the Department to work with communities to develop closed bases productively. Technical, planning, and grant assistance is made available to redevelop excess property. By contrast, under existing authorities, installations that experience deep force structure reductions become ghost towns both on the base and in the community as we are restricted in realignment and closure options.

[Whereupon, at 4:12 p.m., the subcommittee adjourned.]

DEPARTMENT OF DEFENSE AUTHORIZATION FOR APPROPRIATIONS FOR FISCAL YEAR 2016 AND THE FUTURE YEARS DEFENSE PROGRAM

WEDNESDAY, MARCH 25, 2015

U.S. SENATE
SUBCOMMITTEE ON READINESS AND
MANAGEMENT SUPPORT,
COMMITTEE ON ARMED SERVICES
Washington, DC.

THE CURRENT STATE OF READINESS OF U.S. FORCES

The subcommittee met, pursuant to notice, at 2:34 p.m. in room SR–232A, Russell Senate Office Building, Senator Kelly Ayotte (chairman of the subcommittee) presiding.

Committee members present: Senators Ayotte, Rounds, Kaine and Shaheen.

OPENING STATEMENT OF SENATOR KELLY AYOTTE, CHAIRMAN

Senator AYOTTE. I'm going to call this hearing to order.

Very much want to thank our distinguished witnesses who are here before us today who have so admirably served our Nation.

This hearing of the Subcommittee on Readiness and Management Support will be the second hearing of the year to receive testimony on the current readiness of our military forces.

I want to thank my Ranking Member, Senator Kaine, for his continued leadership on defense issues and his eagerness to work together in a bipartisan manner for the sake of our national security.

We are joined this afternoon with a very distinguished panel. We are here with General Daniel Allyn, Vice Chief of Staff of the Army; Admiral Michelle Howard, Vice Chief of Staff of Naval Operations; General John Paxton, Vice Commandant of the Marine Corps; and General Larry Spencer, Vice Chief of Staff for the Air Force.

Again, I don't think we can say enough about what a tremendous group of leaders that we have testifying before this committee today. I cannot think of a more important hearing topic for this committee than the readiness of our Armed Forces.

The preeminent responsibility of the Federal Government is to provide for the common defense. In order to fulfill this foundational responsibility of our Government, Congress has been explicitly charged, in Article 1, Section 8, of the Constitution, with the au-

thority and responsibility to raise and support armies, and provide and maintain the Navy. We have to begin with an objective assessment of our national security interests and the threats that we're facing around the world. We then should determine what defense capabilities and capacities we need in order to protect our interests against likely threats. That is how you develop a defense budget that keeps America safe.

Unfortunately, that's not what we have been seeing with the impact of sequester in Washington. Rather than a reality-based, strategy-based defense budgets, we are seeing that the impact of sequester is deeply disconnected from the many threats that we face around the world right now. In fact, in testimony before the Armed Services Committee earlier this year, the Director of National Intelligence (DNI), James Clapper, I think summed up the current situation very well. He said, "In my 50-plus years in the intelligence business, I don't know of a time that has been more beset by challenges and crises around the world. As these threats have grown in complexity and severity, the defense budget cuts have created a growing and troubling gap between the military we need and the military our national security interests require. The consequences of failing to address this are grave."

It's easy for us in Washington to lose sight of the real-world consequences of our decisions. We all know that the readiness of our forces is something that we don't often see, but we'll know right away if it's not there, given what we ask of our men and women of uniform.

When we send our fellow citizens into harm's way, they rely on us to provide them with the best possible training and equipment so that they can accomplish their missions and return home safely. I think not only do we have a constitutional obligation to do so, we have a moral obligation to do so. I know the witnesses before me appreciate that better than anyone.

That's why I look forward to continuing to work across the aisle with people like my Ranking Member to address the sequestration, because we do need to come up with a bipartisan solution to this in the long term so that we can make the right decisions today by our men and women in uniform and to ensure that we are prepared to face the grave threats that, unfortunately, are unfolding around the world.

Before I go to my Ranking Member, you know, I know that many of my colleagues right now are having a meeting with President Ghani, the President of Afghanistan, who just finished a joint address to the Congress. Having been present for that address, I think that he, the President, first of all, made very clear the gratitude that the leader of Afghanistan has for the sacrifices that our men and women in uniform have made to help ensure the security of Afghanistan. But, what we also heard is what a difference our men and women in uniform have made in Afghanistan, and appreciate the difference we have made throughout the world, and particularly when he talked about the freedom with which he believes women should have in Afghanistan and the fact that, before our presence in Afghanistan, not one girl went to school.

So, I want to bring this up, because we need to understand there is no other leader in the world like the United States of America.

If we do not continue to invest in the best military in the world, then we will not be prepared for the challenges we face, but also the world will be a much worse place and a much more dangerous place without our assistance.

I want to—in that regard, I wanted to mention, since we have the President of Afghanistan here, that there has been a report, unfortunately, that today there were 6 people killed and more than 30 wounded in a suicide bombing in Kabul, right near the presidential palace. So, I think it reminds us that dangers still remain there, and that they remain many places around the world. So, your testimony today is so important.

I would like to turn this over to my Ranking Member.

STATEMENT OF SENATOR TIM KAINE

Senator KAINE. Great. Thank you, Madam Chair.

I echo your comments. It's good to work together on these issues. We have a bipartisan working relationship and, I think, a common understanding of the dangers of sequester.

Could they just give us the budget for 15 minutes, just the two of us, and—we can hammer this out.

Senator AYOTTE. We could do it.

[Laughter.]

Senator AYOTTE. We really could work this out.

Senator KAINE. Let me start with the thank you that Chairman Ayotte was talking about with respect to the speech from the Afghan President this morning. If you were—I wish you were there. I hope you watched it. It should make you feel really proud. You know, it made me feel proud on your behalf, but you should feel proud, and you should feel proud for your folks, because the notion of a country—I'll just pick one statistic—that's gone from a 44-year-old life expectancy to a 61- or 62-year-old life expectancy in 15 years, I mean, it—there's just no precedent in human history for that. I have been doing my back-of-the-envelope calculation. Seventeen years of human life multiplied by 30 million Afghans is 510 million years of human life. That's what the U.S. has enabled them to achieve, because they didn't have a functioning health system, and it was a whole lot of non-governmental organizations (NGOs) who came in and helped set it up, but they couldn't set it up if the security situation didn't enable them to. So, the U.S. and partners, working together with the Afghan people, have created a situation where, violence notwithstanding, challenges notwithstanding, kids are in school, there's a new sense of optimism and hope, people are living longer. As the President said, for the kids that are in school, their parents thank you. For the people who are living longer, their children thank you. He did that in a very poetic way that was really special.

So, look, but it also means that the work doesn't end. You can't stop the investment. We've got to continue the partnership. That partnership demands a military that's ready.

We've had a series of hearings—this is the second one of this subcommittee, but others—where we've talked about sequester. Madam Chair, we had one this morning in the Seapower Subcommittee, where this was the testimony. The Seapower hearing this morning, chaired by Senator Wicker and Ranking Member

Hirono, dealt with the naval and marine aviation platforms. That was the hearing. But, they were talking about the triple whammy of sequester. So, here's the triple whammy of sequester on this kind of component of readiness. Sequester and budget caps slows down the ability to purchase new platforms. So, since we can't purchase the new platforms we need, let's extend the life of existing platforms, let's take planes that were meant to fly 6,000 hours and make them fly 10,000 hours. Well, to do that, you've got to do a lot of maintenance. Since the planes weren't supposed to fly after 6,000 hours, you find a whole lot of challenging maintenance problems with planes that have been in saltwater environments, corrosion because of saltwater, or have been in desert environments, corrosion because of sand—so then there's a whole lot of extra depot and maintenance demand that we didn't necessarily plan for. Oh, by the way, because we furloughed a whole lot of employees and stuff, and great aviation mechanics can get jobs elsewhere, we're down about 10 percent of what we need in the workforce.

So, sequester stopped us on the—slowed us on the new purchases. Sequester is imposing significant extra demands on the maintenance of these aircraft. Sequester is driving away some of our workforce. Yet, we are supposed to, nevertheless, do the mission that the Nation demands. Then you add to it the Chairwoman's comment from DNI Clapper, "This is the most complex strategic set of challenges we see," readiness is not happening in a vacuum. Readiness is happening after our military has been at Operational Tempo (Ops Tempo) for 15 years. That, in and of itself—forget about sequester—that has a readiness challenge to it.

So, you combine 15 years of Ops Tempo and a complex strategic environment and the budgetary challenges of caps and across-the-board cuts and furloughs and then sort of the uncertainty, "Is Congress going to fix it, or not?" and you can see why we have such a huge budgetary challenge that we have to resolve.

Retired General Mattis, at a hearing earlier this year, said, "No foe could wreak such havoc on our security as mindless sequestration is achieving." No foe could wreak such havoc on our security as mindless sequestration is achieving.

If a large-scale conflict were to occur in the near future, Armed Forces would not have enough ready forces to respond to the Combatant Command (COCOM) requirements, we'd likely suffer additional casualties as a result. We've had that testimony.

So, this has been like an alarm bell that's just been ringing, you know, on our table next to us. Your testimony, combined testimony, has been like the alarm bell's been ringing, ringing, ringing, ringing, ringing. There just has to be a moment where we take a step to turn off the alarm and adjust to a better path. In the fiscal year 2014 and 2015 budget, we were able to find a way to reduce the impact of sequester—not eliminate it, cut it in half. It may be pie in the sky to think we could eliminate it. But, we ought to be finding significant sequester relief, whether it's depot maintenance or extra plane hours or the effect on the workforce that furloughs create, in terms of morale for people who have other opportunities. All these are significant.

That's what we'll be hearing about during the testimony today. I look forward to working with my colleagues trying to find, based

on your testimony, and based on your—you know, giving us the stories and the anecdotes we need to convince our colleagues, I look forward to trying to find a better path.

With that, thank you, Madam Chair.

Senator AYOTTE. Thank you, Senator Kaine.

I would like to first call on General Allyn, the Vice Chief of Staff for the Army.

Thank you, General.

STATEMENT OF GENERAL DANIEL B. ALLYN, USA, VICE CHIEF OF STAFF, UNITED STATES ARMY

General ALLYN. Thank you, Chairman Ayotte, Ranking Member Kaine, Senator Rounds, distinguished members of the subcommittee. Thank you for the opportunity to testify on the readiness of your United States Army.

On behalf of our Secretary, The Honorable John McHugh, and our Chief of Staff, General Ray Odierno, I thank you for your support and demonstrated commitment to our soldiers, Army civilians, families, and veterans.

There are over 140,000 soldiers committed around the globe, partnered with our allies, in response to increasing instability across Europe, the Middle East, Africa, and the Pacific, continuing the mission in Afghanistan, and reacting to humanitarian crises. The velocity of instability is increasing, as you have all stated; and now is not the time to drastically reduce our capability or capacity. The Army needs Congress to provide adequate, consistent, and predictable funding.

Today, only 33 percent of our brigades are ready, when our sustained readiness rate should be closer to 70 percent. The fiscal year '15 enacted funding for our Army is $5.1 billion less than what we had in fiscal year 2014 and challenges commanders and leaders across our Army to sustain hard-fought gains in our readiness. We are funded to achieve just enough readiness for immediate consumption, but are unable to generate the readiness required to respond to an unknown contingency.

While the fiscal year 2015 budget constrains training, we remain committed to our Combat Training Center rotations to develop leaders and build unit readiness. We accept risk in home-station training to conserve resources for these Combat Training Center rotations. The result of this approach is that we expect our units to arrive at our Combat Training Centers not fully ready for these complex training scenarios and, therefore, unable to derive the full benefit of this training.

Under the President's Budget in fiscal year 2016 (PB–16), our goal is to increase regular Army brigade combat team readiness closer to 70 percent, allowing us to balance force requirements while maintaining surge capability. But, we need consistent resources to get there.

Sequestration will undermine readiness, ultimately putting soldiers' lives and our mission success at risk, and it will increase significantly the involuntary separation of officer and noncommissioned officer leaders who have steadfastly served their country through the last 13 years of war. Sequestration will also severely impact our ability to maintain our installation readiness and pro-

tect the industrial base, both key components to maintaining a readiness—a ready force. It will cut essential funds from military construction, sustainment, restoration, and modernization on our installations. Sequestration will degrade the industrial base's ability to sustain the life-cycle readiness of warfighting equipment while also maintaining the capability to surge to meet future demands.

To achieve our required readiness level in fiscal year '16, we need Congress to support all the cost-saving measures the Army has proposed. These include compensation reform, a new round of Base Realignment and Closure, and the Aviation Restructure Initiative (ARI). Aviation restructure eliminates 700 aircraft from the Active component and 111 from the Guard and Reserve, but increases our readiness and saves $12 billion. If the Army does not execute ARI, we will incur additional costs buying aircraft and performing maintenance, at the expense of modernizing our systems and maintaining readiness for our heroic aviators.

The Army remains committed to protecting our most important resource: our soldiers, civilians, and families. We build leaders of character and trusted professionals who provide an environment where every member of our great Army is treated with dignity and respect, supported by essential soldier and family programs. We will protect our most vital programs, but sequestration-driven budget cuts affect every facet of our Army.

I thank you again for your steadfast support of the outstanding men and women of the United States Army. I look forward to your questions.

Thank you.

[The prepared statement of General Allyn follows:]

PREPARED STATEMENT BY GENERAL DANIEL ALLYN

INTRODUCTION

Chairman Ayotte, Ranking Member Kaine, distinguished Members of the Subcommittee, thank you for the opportunity to testify on the readiness of your United States Army. On behalf of our Secretary, the Honorable John McHugh, and our Chief of Staff, General Raymond Odierno, I would also like to thank you for your support and demonstrated commitment to our Soldiers, Army Civilians, Families, and Veterans.

We live in a dangerous world and the Leadership of the United States Army is committed to ensuring our Army is ready. The accelerating insecurity and instability across Europe, the Middle East, Africa and the Pacific, coupled with the continued threat to the homeland and our ongoing operations in Afghanistan, remain a significant focus for our Army. The Islamic State in Iraq and the Levant's (ISIL) unforeseen expansion and the rapid disintegration of order in Iraq and Syria have dramatically escalated conflict in the region. In Europe, Russia's intervention in Ukraine violates international law and threatens to undermine the post-World War II security architecture. Across the Asia-Pacific, China's lack of transparency regarding its military modernization efforts raises concerns with the United States and our allies, and the continuing development of North Korea's nuclear and missile programs contributes to instability. The rate of complex-humanitarian requirements and the unpredictable nature of disaster relief missions heighten the level of uncertainty we face around the world, along with constantly evolving threats to the homeland. With the velocity of instability increasing around the world and the threat of terrorism growing rather than receding, now is not the time to drastically reduce capability and capacity that would occur under prolonged sequestration level-funding.

As the Chief of Staff of the Army stated in his testimony, there is a growing divide between the emerging geopolitical realities and the Budget Control Act's (BCA) arbitrary funding mechanism. The Army budget has decreased in nominal terms

every year since 2011. Yet today, the Army is as globally engaged as ever, with more than 140,000 Soldiers deployed, forward stationed, and committed worldwide. We are training alongside our allies and partners to help them develop professional and capable armies. At home, we are supporting civil authorities while defending our critical networks against cyber attacks. Yet prolonged funding at BCA levels prevents us from appropriately balancing readiness, modernization and end strength, and threatens to make the Army a hollow force. Under sequestration-level funding, the Army will be unable to meet its current target for regaining full-spectrum readiness by fiscal year 2023.

Our Nation requires a trained and ready Army prepared to rapidly deploy, fight, sustain itself and win decisively against complex state and non-state threats in diverse, austere environments, rugged terrain and urban megacities. Readiness is measured at both the service and unit level. Service readiness incorporates installations and the critical ability of the Army to provide requisite capabilities in support of the Joint Force in sufficient capacity to execute the missions required by combatant commands. Unit readiness is the combination of personnel, materiel and supplies, equipment and training, that, when properly balanced, enables immediate and effective application of military power.

To ensure readiness now and in the future, the Army needs Congress to provide adequate, consistent and predictable funding. The Army supports the President's Budget as meeting the required funding and needed reforms to fulfill our responsibilities defined in the Defense Strategic Guidance. One critical assumption in the President's Budget request is that Congress will enact critical cost saving measures we have proposed. These include compensation reform, sustainable energy and resource initiatives, a new round of Base Realignments and Closure (BRAC), and the Aviation Restructure Initiative (ARI). We ask Congress to support these initiatives because without the flexibility to manage our budgets to achieve the greatest capability possible, we will be forced to make even steeper reductions to manpower, modernization, and training across the Total Army.

Current State of Readiness

Thirteen years of sustained counterinsurgency-focused operations have degraded the Army's ability to conduct operations across the entire spectrum of war. In fiscal year 2011, the Army began a multi-year transition to rebuild core readiness and build capability to conduct Decisive Action for Unified Land Operations. The speed and scale of the funding reductions mandated under sequestration in fiscal year 2013 curtailed this transition plan by forcing the Army to absorb the majority of the cuts within the operations and training accounts. This resulted in tiered readiness of units as opposed to broad gains across the force.

Last year the Chief of Staff of the Army testified that only two of our Brigade Combat Teams, the Army's basic warfighting unit, were fully ready for decisive action operations. Since then, we have trained 13 BCTs to that standard (other CTC rotations were mission-specific for deploying units) thanks to funding provided in the 2013 Bipartisan Budget Agreement (BBA). However, of those 13 BCTs, we have consumed the readiness of nine to support on-going operations. At prolonged sequestration-level funding, the Army will be unable to train units quickly enough to outpace, or even meet demand.

With the support of Congress, the Army executed $126.2 billion for base budget purposes in fiscal year 2014 to begin rebuilding readiness lost during sequestration in fiscal year 2013. Though known and predictable, the fiscal year 2015-enacted level of $121 billion is $5.1 billion less than fiscal year 2014, and is challenging Commanders across the Army to sustain our hard-earned readiness. To operate under this budget, we are significantly reducing key installation services, individual training events, and modernization to such an extent as to jeopardize future readiness and quality of life. For example, Logistics Readiness Centers were underfunded by $350 million in fiscal year 2015, which covers funding for dining facilities, contract operations at ammo supply points, central issue facilities, maintenance, laundry and dry cleaning operations. In addition to the effect on Soldier quality of life, these cuts force Commanders to divert Soldiers from training to perform logistics tasks.

The President's Budget request for fiscal year 2016 increases readiness funding above fiscal year 2015 levels, which is critical to sustain and improve the readiness of the force. While the reduced fiscal year 2015 budget will reduce overall training, we remain committed to CTC rotations to develop leaders and build unit readiness. fiscal year 2015 plans fund 19 CTC rotations: two for deploying BCTs and 17 decisive action rotations (15 Active Army and two Army National Guard). fiscal year 2016 will continue this level of CTC exercises.

We are improving Training Support Systems to enable more realistic home station training, increase collective training proficiency and enhance operational readiness for contingencies across the globe; however, funding constraints in fiscal year 2015 impede our ability to maximize home station training goals. We accepted risk in home station training to conserve resources for units to continue to conduct training at the CTCs. This resulted in units arriving at the CTCs not yet "fully ready" for these complex training scenarios, and therefore unable to derive the full benefit of the training. Although the Army attempts to mitigate the impacts on training readiness, we must continue to implement the Contingency Force model of fiscal year 2015 in order to maintain readiness for the 24 of 60 BCTs that will receive sufficient funding to conduct training at CTCs and home station. The remaining 36 BCTs will train only to Individual/Crew/Squad resourcing levels. The President's Budget request for fiscal year 2016 allows the Army to increase training readiness to battalion-level across the active Component force and to platoon-level in the Reserves. Lower funding levels will not allow us to achieve this balanced readiness.

Our aim is to provide tough, realistic multi-echelon home-station training using a mix of live, virtual and constructive methods that efficiently and effectively build Soldier, leader and unit competence over time. Training will integrate the unique capabilities of the Light, Medium and Heavy forces, as well as the capabilities of Conventional and Special Operations Forces. Training centers including the Joint Multinational Readiness Center in Germany will increase our interoperability with Allies. Our goal is to achieve a high level of readiness for 70 percent of our Active Component BCTs compared to the current 33 percent, allowing the Army to balance Combatant Command force requirements while maintaining surge capability—but we need consistent resources to get there.

We are also increasing funding for our individual and institutional training. Funding increases focus on leader development, entry-level training and flight training. The unpredictable nature of human conflict requires leaders ready to lead in close combat and to understand the operational and strategic environment, including its socio-economic, cultural and religious underpinnings. Junior leaders will frequently confront ethical dilemmas, with resultant decisions that have strategic impacts. Our leaders must demonstrate the competence and professional values necessary to achieve operational and strategic mission success.

However, sequestration in fiscal year 2016 would mortgage the functional skills and training of individual Soldiers. Sequestration will force the Army to further reduce Specialized Skill Training by over 85,000 seats (65 percent drop) and fund only the most critical courses. This will reduce readiness as Soldiers will lose proficiency on their individual tasks. These reductions include 900 fewer graduate flight school seats, resulting in unfilled and unqualified pilot positions throughout the force. We would continue to emphasize leader development by protecting Professional Military Education, minimizing cuts to about 10 percent.

The Army continues to make progress at integrating the unique capabilities of each of its components to support the needs of the Combatant Commanders. As part of the Army's Total Force Policy, the U.S. Army Forces Command is leading the way by partnering Guard and Reserve divisions and brigades with Active Army peer units. The Army is also piloting a program to assign Guard and Reserve personnel directly to Active Army corps and division headquarters. For example, the Reserve Component rapidly provided support capabilities to Operation United Assistance in Liberia to augment and replace elements of the initial Active Component response. We fight as a Total Army, and each component has a unique role. We must also draw down as a Total Army—Active, Guard, and Reserve—in order to maintain the correct balance between capacity and readiness.

As we transition from combat operations in Afghanistan, our Army is focused on the ability to rapidly deploy forces around the world in order to meet the needs of our Combatant Commanders. To do this, we enhanced prepositioned equipment sets and created activity sets to support operations in Europe, the Pacific and around the world. Activity sets are prepositioned arrays of equipment that enable U.S. regionally-aligned forces and multinational partners in Europe to train and operate. We have also reinvigorated our Emergency Deployment Readiness Exercise program and enhanced the en route mission command capability of our Global Response Force. The President's Budget request provides sufficient capability to respond in each Geographical Combatant Command's area of responsibility.

The Army continues to be a good steward of the resources returning from operations in Afghanistan. In 2014, the Army efficiently synchronized equipment retrograde out of theater. Redeployment and retrograde operations remain on schedule; however, the Army continues to forecast a need for reset funding for three years after redeployment of the last piece of equipment from theater. In addition, we identified almost $2 billion of potential requirement reductions in Contractor Logistics

and Training Support. These and other changes allowed the Army to increase the capability of its prepositioned stocks program without an increase in associated costs.

Finally, during this period of drawdown, the Army is reorganizing, realigning and restructuring forces. The Brigade Combat Team reorganization enhances brigade combat power by adding a third maneuver battalion to 38 BCTs by the end of fiscal year 2015 and reducing the total number of BCTs to 60 (32 Active Army and 28 Army National Guard) in the Total Force. This effort decreases the number of headquarters units and personnel without negatively affecting the number of operational battalions.

Since May 2014, we have been developing a sustainable force generation and readiness model to account for the new, volatile, strategic operating environment and the need to remain regionally-engaged under budgetary and force-sizing realities. The Sustainable Readiness Model (SRM) will provide force generation policies and processes that optimize the readiness of the force and balance the Army's steady state missions, contingency response capability, and available resources. We cannot predict the specific events that will cause the next surge in demand for Army forces, but history suggests it will come sooner than we expect. The SRM will better enable the future smaller force to sustain readiness at optimal levels over time.

One critical assumption in the President's Budget request is that Congress will enact necessary compensation reform and force structure initiatives. We fully support the modest reforms to pay raises, health care and other benefits that have been proposed. Without these reforms, savings assumptions we have included in our planning will not be realized, placing increasing pressure on further end strength reductions and reducing funding needed to sustain readiness.

Future Readiness: The Army Operating Concept

While we are most concerned about the BCT's short-term effects on readiness, we are keenly focused on the long-term readiness of the Total Force to meet future demands. As such, we developed a new Army Operating Concept (AOC), "Win in a Complex World." The AOC provides an intellectual framework for learning and for applying what we learn to future force development under Force 2025 and Beyond. The foundation of the Army Operating Concept is our ability to conduct joint combined arms maneuver. The Army Operating Concept endeavors to build a force capable of operating alongside multiple partners, able to create multiple dilemmas for our adversaries, while giving our Senior Leaders multiple options and synchronizing and integrating effects from multiple domains onto and from land. Recognizing the changing world around us, the Army Operating Concept envisions an Army that is expeditionary, tailorable, scalable and prepared to meet the challenges of the global environment. The Army Operating Concept sets the foundation upon which our leaders can focus our efforts and resources to maintain strategic and operational flexibility to deter and operate in multiple regions simultaneously—in all phases of military operations—to prevent conflict, shape the security environment, and win wars now and in the future.

It is imperative that our Army adapts to the future joint operating environment, one that consists of diverse enemies that employ traditional, irregular and hybrid strategies which threaten U.S. security and vital interests. Through a dedicated "Campaign of Learning" under Force 2025 Maneuvers, we will assess new capabilities, force designs, and doctrine to ensure the readiness of our future force. We are focusing our innovation efforts in this Campaign of Learning to address the 20 Army Warfighting Challenges identified in the Army Operating Concept. The Army Warfighting Challenges are enduring first-order problems, and solving them will improve combat effectiveness. They range from shaping the Security Environment, to countering Weapons of Mass Destruction, to conducting Space and Cyber Operations, to Integrating and Delivering Fires, to Exercising Mission Command. The Army Operating Concept represents a long-term, cost-effective way to enhance readiness, improve interoperability and modernize the force.

Installation Readiness

In order to partially mitigate the severe impacts of sequestration-level funding on training readiness, the Army will be forced to take significant risk with installation readiness. Installation maintenance has been underfunded since 2011 which impacts efficiency and readiness. Sequestration in fiscal year 16 would cut essential funds for military construction, sustainment, restoration and modernization on our posts, camps and stations. The President's fiscal year 2016 budget funds 79 percent of the OSD Facility Sustainment Model requirement. Under sequestration the Army would only be able to fund 62 percent of needed repairs, limiting repairs to those needed for life, health, and safety. Restoration and modernization accounts would

be underfunded as well. Without relief from sequestration 20 percent of the Army's infrastructure will remain in substandard condition and approximately 100,000 maintenance orders will be deferred each month. Recovery from unfilled maintenance requests will take at least 2–3 years if fully funded and ultimately will affect morale, retention, and readiness.

A return to sequestration-level funding will result in a $1 billion decrease to base operations support, requiring installations to eliminate jobs and scale back or cancel service contracts that employ people in local communities. We will have to increase further our reliance on Soldiers to support basic installation functions in order to provide a safe training environment and adequate quality of life. These include access control point manning by MTOE units, manning ammo and fuel handling points, and conducting essential range maintenance. These requirements pull Soldiers away from important training and ultimately detract from readiness. We will also reduce contract funding for a number of quality-of-life services such as custodial services, waste collection, and grounds maintenance.

It is important to highlight the need for another round of Base Realignment and Closure (BRAC). We simply have too much surplus infrastructure and will have even more as we continue to downsize. We are already in the process of separating nearly 152,000 Soldiers from the Total Army by fiscal year 2018, and sequestration would force us to separate another 60,000 by fiscal year 2020—for a total reduction of 212,000. In addition, we have reduced over 50,000 Civilians from these same installations. Without a BRAC and the realized cost savings, the only alternative is to make additional cuts in training, manpower and modernization to make up for shortages in installation funding. We have reduced all that we can from our overseas bases, and are now reducing personnel at U.S. installations. We expect excess facility capacity will be about 18 percent Army-wide by late fiscal year 2015.

Industrial Base

The Industrial Base consists of Government-owned (organic) and commercial industry and is designed to be readily available to manufacture and repair items during both peacetime and national emergencies. The current financial uncertainty of sequestration, combined with the cuts in Army force structure, is driving workload down. Over 4,500 employees within the organic industrial base (OIB) have already lost their jobs due to budget uncertainty and declining workloads since fiscal year 2013, and the Army has deferred $323 million of depot maintenance from fiscal year 2013 into fiscal year 2015. The highly skilled industrial base workforce serves an enduring mission, and provides critical capabilities in support of our National defense today, while also preparing for the threats of tomorrow. Sequestration will result in insufficient resources to complete critical depot maintenance and will continue to degrade the industrial base's ability to sustain the life-cycle readiness of war-fighting equipment while also maintaining the capability to surge to meet the demands of future contingency operations.

Should sequestration-level funding return in fiscal year 2016, furloughs, overtime restrictions and hiring freezes will again negatively impact the OIB productivity, workforce availability and capability. In order to mitigate the loss of critical skill sets and ensure the OIB is ready for the next contingency, the Army requires consistent and predictable funding. We also need to carryover workload to keep production lines functioning between fiscal years.

The Army is taking several actions to reshape the OIB to support the Army of 2025 and beyond, to include assessing OIB capabilities and capacities and effectively aligning them to planned workloads. We are not sustaining aging systems that are planned for divesture within the next five years, and we are continuing reset and sustainment of our modernized platforms. This strategy will enable the Army to sustain and modernize our most capable fleets, while accomplishing our Title 10 requirements to sustain the core depot and critical manufacturing capabilities necessary to fight and win the Nation's wars.

Aviation Restructure Initiative

One of our most important reforms is the Aviation Restructuring Initiative (ARI), which we continued in fiscal year 2015. Our current aviation structure is unaffordable, so the Army's plan will avoid $12 billion in costs and saves an additional $1 billion annually if we fully implement ARI. We simply cannot afford to maintain our current aviation structure and sustain modernization while providing trained and ready aviation units across all three components. Our comprehensive approach through ARI will ultimately allow us to eliminate obsolete airframes, sustain a modernized fleet, and reduce sustainment costs.

Through ARI, we will eliminate nearly 700 aircraft from the active Component, while removing only 111 airframes in the Reserve Component. A byproduct of ARI

is the reduction in the number of Active Duty Combat Aviation Brigades from 13 to 10. ARI eliminates and reorganizes structure, while increasing capabilities in order to minimize risk to meeting operational requirements within the capacity of remaining aviation units across all components. If the Army does not execute ARI, we will incur additional costs associated with buying aircraft and structure at the expense of modernizing current and future aviation systems in the Total Force.

The Army notes the establishment by Congress of a National Commission on the Future of the Army and ARI specifically, and is fully committed to working with the Commission as it fulfills its charter.

Army Cyber

Network dominance and defense is an integral part of our National security, and the Army is focused on providing increased capability to the Joint Force. Investment in cyber capability and readiness is a top priority, and we are working to improve requirements and resourcing processes to ensure that they are agile enough to rapidly translate innovative concepts into realized capabilities. Army readiness includes cyber readiness.

We are aggressively manning, training and equipping cyber mission teams and established a new cyber branch to help recruit, train and retain cyber Soldiers. The Army has grown from zero Cyber teams in fiscal year 2013 to 24 Army Cyber Mission Teams today at Initial Operating Capability (IOC). By the end of fiscal year 2016, we will have 41 Cyber Mission Teams. The Army has established the Cyber Center of Excellence at Fort Gordon, GA, to serve as our focal point to drive change across the Army. This is a Total Force effort—Active, National Guard, and Reserve—and through our Reserve Components we will leverage the professional expertise within the civilian population to build greater capacity, expertise, and flexibility across DOD, Federal, state, and private sector activities. We recently established a full-time Army National Guard Cyber Protection Team (CPT) that is training to conduct network defense. We will create three more Army National Guard CPTs in fiscal year 2016.

We must make prudent investments in our cyber infrastructure, including facilities, networks and equipment to ensure a capable force. Network modernization is critical to the success of Army operations across all domains, and the Army is fully integrated into the build-out of the Joint Information Environment (JIE). JIE efforts will enhance the defensibility of our networks while providing global access for the joint force. However, sequestration-level funding in fiscal year 2016 will reduce network funding by almost $400 million and defer critical scheduled IT infrastructure upgrades at three major installations, reducing the Army's warfighting capability and its ability to protect itself against cyber attacks.

Essential Investments: People and Equipment

Soldiers, Families and Army Civilians

Army Professionalism and the resilience of those who serve—Soldiers, their Families and Army Civilians—are directly linked to the Readiness of our Force. That is why we must develop and sustain a system of capabilities and services that are designed to mitigate the unique challenges of military life, foster life skills, strengthen resilience, and promote a strong and ready Army. As Army leaders, we continue to express our enduring commitment to those who serve, recognizing that attracting and retaining highly-qualified individuals in all three components is critical to readiness. Two of our key efforts, the Army's Ready and Resilient Campaign (R2C) and Soldier for Life, exist to ensure we are taking care of our most precious resource: our people, throughout Army life and beyond.

Ready and Resilient Campaign

We will make every effort to protect our most important Soldier and Family programs, but budget cuts are ultimately affecting every facet of the Army. To ensure we maintain our focus on our most invaluable resource: our people, we continue to develop a Ready and Resilient Army. A Ready and Resilient Army is composed of resilient individuals, adaptive leaders and cohesive teams that are committed to the Army professional ethic and capable of accomplishing a range of operations in environments of uncertainty and persistent danger. We are developing a comprehensive system that empowers Army Commanders and Leaders to improve Leader engagement and early Leader intervention. We are taking a more holistic look at negative behaviors and their correlation in order to better target training, tools and resources with more emphasis placed on resilience and prevention skills to reduce incidents of escalated negative behavioral outcomes.

We continue to provide resilience and performance enhancement training to Soldiers, Families and Army Civilians through Comprehensive Soldier and Family Fit-

ness. To date, we have trained more than 26,000 Master Resilience Trainers Army-wide who are taking these skills back to their formations. We have established an online assessment and self-development platform where Soldiers, their Families and Army Civilians can, in their own time, confidentially take action to improve their overall health and resilience.

We are also emphasizing the importance of sleep, physical activity, and nutrition. The Performance Triad is a comprehensive plan to improve readiness and increase resilience through health initiatives and leadership engagement. Sleep, activity and nutrition are key actions that influence overall health.

Personal Readiness is critical to mission readiness. Those who serve must have the physical, psychological, social, emotional and spiritual preparedness to achieve and sustain optimal performance in supporting the Army mission.

Soldier for Life

Soldier for Life (SFL) is a program that drives a change in mindset. We encourage the SFL mindset through senior leader and installation engagements, and focused training curriculum. We want individuals to understand from their entry day in the Army that they will receive the tools to succeed throughout their service lifecycle—"Once a Soldier, always a Soldier ... a Soldier for Life!" As they return to civilian life, Soldiers will continue to influence young people to join the Army and, along with retired Soldiers, will connect communities across the Nation with its Army.

As we reduce the Army's end strength, we owe it to our Soldiers and their Families to facilitate their transition to civilian life. The Army supports continuum of service initiatives to help in this effort by communicating the benefits of continued service in the Reserve Components. Additionally, the "Soldier for Life" Program connects Army, governmental and community efforts to facilitate the successful reintegration of our Soldiers and Families back into communities across the Nation through networks in employment, education and health. Our pre- and post-retirement services ensure those who served become and remain leaders in their community. For example, we have developed strong relationships with government, non-government and private sector entities to include direct collaboration with the Departments of Veterans Affairs, Labor, and the Chamber of Commerce to bring employment summits to installations worldwide.

SEXUAL HARASSMENT / ASSAULT RESPONSE AND PREVENTION (SHARP) PROGRAM

Trust between Soldiers, between Soldiers and Leaders, between Soldiers, their Families and the Army, and between the Army and the American people is fundamental to readiness. Sexual assault and sexual harassment undermine that trust.

Across the Army, we are committed to maintaining momentum in Army SHARP and making further advances along our five lines of efforts: Prevention, Investigation, Accountability, Advocacy and Assessment. In the last year, our efforts along the Prevention Line of Effort resulted in actions such as consolidating SHARP training under TRADOC and Initial Entry Training and Professional Military Education to increase the quality and accessibility of our prevention tools. Our Investigation Line of Effort showed advances in Special Victim capabilities and Trial Counsel Assistance Programs. The Accountability Line of Effort had successes through our Special Victim Investigation and Prosecution capability and through tools such as Command Climate Surveys and Commander 360 degree assessments. Our Advocacy Line of Effort resulted in initial indicators of progress in establishing SHARP resource centers for over 12 installations. We continue to see interim progress along our Assessment Line of Effort as noted in the 2014 "Department of Defense Report to the President of the United States on Sexual Assault Prevention and Response."

Recent statistics outlined in the 2014 "DOD Report to the President" indicate a decrease in unwanted sexual contact in fiscal year 2014 compared to fiscal year 2012. Within the Army, survey-estimated rates of unwanted sexual contact for the past year decreased significantly for active duty women (4.6 percent), compared to fiscal year 2012 (7.1 percent). In addition, reporting data demonstrates more victims are coming forward to report sexual harassment and sexual assault. In fiscal year 2014, sexual assault reporting in the Army increased by 12 percent over the previous year. We view this as a vote of confidence and a sign of increased trust. Nevertheless, we must continue striving to foster a climate where individuals are not afraid of retaliation or stigma for reporting a crime by ensuring individuals, units, organizations and specifically commanders and leaders understand their responsibilities. Retaliation takes many forms and originates from many sources—leaders, family, friends and, most pervasively, peer to peer. Retaliation in its simplest form is bullying. It enables offenders, threatens survivors, pushes bystanders to shy from action, and breeds a culture of complacency. Retaliation has no place in the Army and we must stamp it out.

The chain of command must be at the center of any effort to combat sexual assault and harassment, and we must ensure leaders remain fully engaged, involved and vigilant. With commanders at the center of our efforts, we will continue to decrease the prevalence of sexual assault through prevention and encourage greater reporting of the crime.

Sexual assault and sexual harassment will be eliminated when every Soldier, Civilian and Family Member stands up and unequivocally acts to stamp it out. Together, we have an obligation to do all we can to safeguard America's sons and daughters, and maintain trust between Soldiers, Civilians, Families and the Nation. Army leaders, at every level of the chain of command, are doing this through prevention, investigation, accountability, advocacy and assessments.

Modernization

It is impossible to discuss readiness without highlighting modernization, as systems and equipment play a key role in future force readiness. Equipment modernization must address emerging threats in an increasingly sophisticated technological environment. The Army must maintain its ability to contend with such diverse threats as cyber attacks, electronic warfare, unmanned systems, chemical and biological agents, and air and missile threats. Decreases to the Army budget over the past several years significantly impacted Army modernization. Since 2011, the Army has ended 20 programs, delayed 125 and restructured 124. Between 2011 and 2015, Research and Development and Acquisition accounts plunged 35 percent from $31 billion to $20 billion. Procurement alone dropped from $21.3 billion to $13.9 billion. We estimate that sequestration-level funding will affect over 80 Army programs. Major impacts include delays in equipping to support expeditionary forces, delays in combat vehicle and aviation modernization, unaffordable increases in sustainment costs to repair older equipment and increases in capability gaps.

The centerpiece of the Army's Modernization Strategy continues to be the Soldier and the squad. The Army will also develop and field a robust, integrated tactical mission command network linking command posts, and extending out to the tactical edge and across platforms. The Army's objective is to rapidly integrate technologies and applications that empower, protect and unburden the Soldier and our formations, thus providing the Soldier with the right equipment, at the right time, to accomplish the assigned mission.

The President's Budget request would provide over $2 billion to begin to address the growing gaps in our modernization accounts. Even with this additional funding, modernization will require several years to recover from the effects of recent budget reductions and regain balance in the Force. As such, the Army emphasizes early affordability reviews, establishing cost caps (funding and procurement objectives), synchronizing multiple processes and divesting older equipment.

End Strength

Readiness includes possessing the capacity to execute the missions required by the Defense Strategic Guidance and the Combatant Commanders. The minimum end strength the Army requires to fully execute the 2012 Defense Strategic Guidance is 980,000 Soldiers—450,000 in the active Army, 335,000 in the Army National Guard and 195,000 in the Army Reserve. All three components will be smaller than pre-2001 force. If prolonged sequestration-level funding occurs, we will need to reduce end strength even further—to 420,000 in the AC by fiscal year 2020, and 315,000 in the National Guard and 185,000 in the Army Reserve, both by fiscal year 2019. At these levels we assess the Army would be unable to fulfill all the elements of the Defense Strategic Guidance.

Although the Army expects to lose combat-seasoned Soldiers and leaders, our focus through these processes will be on retaining those individuals with the greatest potential for future service in the right grades and with the right skills.

Recap: Effects of Sequestration

At force levels driven by affordability under full sequestration, the Army cannot fully implement its role in the defense strategy. Sequestration would require the Army to further reduce our Total Army end strength to at least 920,000 or 60,000 below the 980,000 currently reflected in the President's Budget request and would severely limit the Army's investment to equip Soldiers to meet the warfighting requirements of tomorrow. Under sequestration-level funding readiness will be reduced to a level the Army will be unable to recover from until well past the current target of fiscal year 2023. Only 24 of 60 Brigade Combat Teams will receive sufficient funding to conduct required readiness training. An estimated 85,000 seats will be lost in specialized skills training, and there will be a $1 billion decrease to base operations support, eliminating jobs, contracts, causing barracks and furnishings to further deteriorate. While we will protect funding for the Combat Training Centers

(CTCs), funding for home station training will be severely reduced which will undermine many units' readiness and inhibit those scheduled for a CTC from adequate preparation.

We are expecting a decline in the overall readiness of our forces because of reduced funding in fiscal year 2015, and sequestration in fiscal year 2016 will dissipate the gains we achieved from the Bipartisan Budget Agreement in fiscal year 2014 and leave the Army in a precarious state. Because we cannot draw down end strength in a rapid manner, operations and training funding would absorb the majority of the budget cuts resulting from sequestration, leaving the Army hollow—lacking training and modern equipment and vulnerable if needed in a crisis. Ultimately, sequestration will put Soldiers' lives at risk.

CLOSING

As the velocity of instability increases so does the demand for a ready and modern Army, adequately sized and trained to prevent, shape, and win. We ask Congress to repeal the harmful cuts arbitrarily imposed under sequestration-level funding and provide Soldiers with greater predictability in these uncertain times.

We are committed to working closely with Congress to ensure that we are good stewards of our Nation's resources. There are critical cost-saving measures that allow the Army to further reallocate scarce resources to ensure we remain ready and resilient. These include compensation reform, sustainable energy and resource initiatives, a new round of Base Realignment and Closure (BRAC), and the Aviation Restructure Initiative (ARI). We also ask Congress to support a Total Army solution to end strength reductions. Cuts must come from the Total Force—Active, National Guard, and Reserve—to maintain the balance among all components to best execute the Army's strategic mission. We ask Congress to support these initiatives because without the flexibility to manage our budgets to achieve the greatest capability possible, we will be forced to make even larger reductions to manpower, modernization, and training.

The United States Army plays a foundational role in the Joint Force and is indispensible as we work to reassure our allies, deter our enemies, and when necessary, win our Nation's wars. The strength of the All Volunteer Force is our Soldiers, Civilians and their Families, and we must ensure they always stand Ready. History has taught us that the price of improperly managing the readiness of our force will ultimately fall on the backs of our fighting Soldiers. With your assistance, we will continue to resource the best-trained, best-equipped and best-led fighting force in the world. We thank Congress for their steadfast and generous support of the outstanding men and women of the United States Army, our Army Civilians, Families, and Veterans.

Senator AYOTTE. Thank you, General Allyn.

We're now going to hear testimony from Admiral Michelle Howard, who's the Vice Chief of Staff for Naval Operations.

Thank you, Admiral Howard.

STATEMENT OF ADMIRAL MICHELLE J. HOWARD, USN, VICE CHIEF OF NAVAL OPERATIONS, UNITED STATES NAVY

Admiral HOWARD. Chairwoman Ayotte, Senator Kaine, and Senator Rounds, distinguished members of the committee, thank you for the opportunity to testify today.

It is my honor to represent the Navy's Active and Reserve sailors and civilians, and particularly the 41,000 sailors who are underway and deployed around the world today. They're standing watch right now, and ready to meet today's security challenges. The citizens of this Nation can take great pride in the daily contributions of their sons and daughters who fulfill our Navy's longstanding mandate to be where it matters when it matters.

Recent events exemplify the benefit of forward presence. Last August, the *George Herbert Walker Bush* Carrier Strike Group relocated 750 nautical miles from the Arabian Sea to the Arabian Gulf in less than 30 hours. They executed 20 to 30 combat sorties per day. For 54 days, they were the only coalition strike option to

project power against the Islamic State of Iraq and Syria (ISIS). Then there's the U.S.S. *Truxton*, a destroyer that arrived in the Black Sea within a week after Russia invaded Crimea, to help reassure our allies in the area. Another destroyer, U.S.S. *Sampson*, and littoral combat ship U.S.S. *Fort Worth* were among the first vessels to support the search effort for Air Asia Flight 8501 in the Java Sea. Our forward presence truly allows us to be where it matters when it matters.

Effectively operating forward around the globe requires a high state of readiness of our people and platforms. We are still recovering from a degraded readiness as a result of over a decade of combat operations. Sequestration in 2013 exasperated our circumstances and created maintenance backlogs that have prevented us from getting ships back to the fleet on time and aircraft back on the flight line. Since 2013, many ships have been on deployment for 8 to 10 months or longer, negatively impacting the morale of our people and readiness of our ships.

Our Navy fiscal year 2016 budget is designed to continue our readiness recovery, restoring our required contingency operations capacity by the 2018-to-2020 timeframe, while continuing to provide a sustainable forward presence. It also includes credible and survivable sea-based strategic deterrence. With continued overseas operation funding, our fiscal year 2016 budget meets the requirements of the global force management allocation plan. This includes at least two carrier strike groups and two amphibious ready groups operating forward, fully mission capable and certified for deployment.

Recovery of readiness also requires a commitment to protect the time it takes to properly maintain and modernize our capital-intensive force and to conduct full-spectrum training. Achieving full readiness entails the restoration of shipyard capacity and aviation depots primarily through hiring and workforce development, and PB–16 puts us on a path to address these challenges.

I want to make it clear. The Navy's fiscal year 2016 budget is the minimum funding required to execute the Nation's defense strategy. In other words, if we return to a sequestered budget, we will not be able to execute the defense strategic guidance. Past budget shortfalls have forced us to accept significant risks in two important mission areas. The first mission at risk is "deter and defeat aggression," which means to win a war in one theater while deterring another adversary in a different theater. Assuming risk in this mission leads to loss of credibility and ability to assure our allies of our support. The second mission at risk is "project power despite anti-access aerial-denial challenges." This brings risk in our ability to win a war. Some of our people and platforms will arrive late to the fight and inadequately prepared. They will arrive with insufficient ordnance and without the modern combat systems and sensors and networks required to win. Ultimately, this means more ships and aircraft out of action, more sailors, marines, and merchant marines killed.

As we look to the future, the Navy will continue to be globally deployed to provide a credible and survivable strategic deterrent and to support the mission requirements of the regional combatant commanders. The Navy is fundamentally multi-mission and will

rapidly adjust to meet new challenges that might require U.S. presence and the—and projecting power.

Our Navy will continue to ensure the security of the maritime domain by sustaining its forward presence, warfighting focus, and readiness preparations. Since there is no foreseeable reduction to global maritime requirements, we have focused our fiscal year Navy budget to address the challenges to achieving the necessary readiness to execute our missions. Any funding below this submission requires a revision of the defense strategy. To put it simply, sequestration will gravely damage the national security of this country. Despite these future challenges, we are fortunate to have the highest quality, the most diverse force in my Navy's history. These outstanding men and women who serve our Nation at sea make us the finest navy in the world.

So, on behalf of all our Active and Reserve sailors, our civilians, and their families, I extend our appreciation to this committee for your efforts and continued support to keep our Navy ready to defend this Nation.

Thank you.

[The prepared statement of Admiral Howard follows:]

PREPARED STATEMENT BY ADMIRAL MICHELLE HOWARD

Chairman Ayotte, Senator Kaine, and distinguished members of the Senate Armed Services Subcommittee on Readiness and Management Support, I appreciate the opportunity to testify on the current state of Navy readiness and the resources necessary to provide a ready Navy in the future as described in our Fiscal Year 2016 budget request. As we meet, the Navy and our sister Services have entered a third year of fiscal uncertainty. In addition, new threats to our nation's interests are emerging and old tensions are surfacing. Today, it is my honor to represent all our active and reserve Sailors, particularly the 41,000 Sailors who are underway on ships and submarines or deployed in expeditionary roles overseas today. They are standing the watch and are ready to meet today's security challenges. American citizens can take great pride in the daily contributions of their sons and daughters who serve in Navy units around the world. We are *where* it matters, *when* it matters, ensuring the security that underpins the global economy and responding to crises.

Last August, the *George H.W. Bush* carrier strike group, already forward present in the North Arabian Sea quickly relocated to the North Arabian Gulf. Flying 20–30 combat sorties per day, this Navy-Marine Corps strike fighter team was the only coalition strike option to project power against the Islamic State of Iraq and the Levant (ISIL) from the skies over Iraq and Syria for 54 days. Similarly, USS *Truxton* (DDG–103) arrived in the Black Sea to establish U.S. presence and to reassure allies a week after Russia invaded Crimea. In the Java Sea, USS *Fort Worth* (LCS–3), a littoral combat ship, and USS *Sampson* (DDG–102), a destroyer, were among the first to support the Indonesian-led search effort for Air Asia Flight 8501. This forward presence is possible because Navy planning and budget decisions continue to be guided by the three tenets the Chief of Naval Operations (CNO) established when he first took office: *Warfighting First*, *Operate Forward*, and *Be Ready*. Each of these tenets helps drive a strong focus on readiness—both now and in the future.

Actions of Congress helped stabilize readiness by supporting increases over sequestered funding levels through the Bipartisan Budget Act of 2013, and the subsequent authorization and appropriations acts for fiscal year 2014 and this year. Nonetheless, we have not yet recovered from the readiness impact of over a decade of combat operations, exacerbated by the imposition of a lengthy Continuing Resolution and followed by budget sequestration in fiscal year 2013, just as we were beginning to reset the force. These circumstances created maintenance backlogs that have prevented us from getting ships back to the Fleet on time and aircraft back on the flight line. We continue our efforts to rebuild the workforce in our public depots—both shipyards and aviation readiness centers—and reduce the number of lost operational days, but it will take years to dig out of a readiness hole.

The fiscal year 2016 Navy budget submission is designed to continue our readiness recovery, restoring our required contingency operations capacity by 2018–2020 while continuing to provide a sustainable forward presence. PB–16 is the minimum

funding required to execute the nation's Defense Strategy, though we still carry risks in two important mission areas, notably when confronted with a technologically advanced adversary or when forced to deny the objective of an opportunistic aggressor in a second region while already engaged in a major contingency. As the CNO stated in his recent testimony to the full committee, risk in our ability to Deter and Defeat Aggression and Project Power Despite Anti-Access/Area Denial (A2/AD) Challenges mean "longer timelines to win, more ships and aircraft out of action in battle, more Sailors, Marines, and Merchant Mariners killed, and less credibility to deter adversaries and assure allies in the future." That level of risk arises from capacity and readiness challenges as well as slower delivery of critical capabilities to the Fleet, particularly in air and missile defense and overall ordnance capacity.

My testimony today will focus on the current readiness of the Navy, and our plan, supported by our fiscal year 2016 budget submission, to meet the challenges to delivering future readiness. If we return to a sequestered budget in fiscal year 2016, we will not be able to execute the Defense Strategy as it is conveyed in the 2014 Quadrennial Defense Review and a revision will be required.

Current Navy Operations and Readiness

Employing a combination of Forward Deployed Naval Force ships homeported overseas and rotationally deploying units from CONUS, our Navy sustains a global presence of about 100 ships and submarines. Their combat power and other capabilities include the contributions of embarked Carrier Air Wings or other aviation units, Marine Expeditionary Units or elements of a Special Purpose Marine Air/Ground Task Force, Coast Guard detachments, and Special Operations units, among others. These capabilities are further enhanced by land-based or expeditionary Navy forces in theater. With additional ships training in home waters, approximately half the battle force is underway or deployed on any given day.

Every hour of every day around the globe we are executing missions. The sun never sets on the U.S. Navy. Ballistic Missile Submarines sustain the most survivable leg of our nation's nuclear triad. Carrier Strike Groups (CSGs), Amphibious Ready Groups (ARGs) and attack submarines (SSNs) conduct named operations in support of the Combatant Commanders (COCOMs) or exercise with other nations to build the partnerships essential to the stability of the global system. Ballistic Missile Defense-capable Cruisers and Destroyers protect U.S. and allied sea and shore-based assets. Our units operate with other nations through exercises or through executing theater security cooperation plans; activities essential to the stability of the global system. As an example, last month, USS *Fort Worth* (LCS–3) practiced the Code for Unplanned Encounters at Sea (CUES) with the Chinese Navy, enhancing the professional maritime relationship between the U.S. Seventh Fleet and the People's Liberation Army-Navy [PLA(N)]. Our crews and platforms are trained and certified to execute their core capabilities across the spectrum of military operations and are ready to be re-tasked as required to meet the next challenge. This was the case in August 2014 when the *George HW Bush* CSG relocated from the Arabian Sea to the North Arabian Gulf and was on station, ready for combat operations, in less than 30 hours. The Navy is fundamentally multi-mission and rapidly adjusts to meet new challenges that might require U.S. presence and power projection forces.

Navy will continue to sustain the readiness of our deployed forces under our fiscal year 2016 budget submission, but it will require several years to fully recover the capability to rapidly respond to COCOM requirements for a major contingency. In addition to our forces that are globally deployed today, combined requirements include: three extra CSGs and three ARGs to deploy within 30 days to respond to a major crisis. However, on average, we have only been able to keep one CSG and one ARG in this readiness posture, 1/3 of the requirement. Assuming the best case of an on-time, sufficient, and stable budget with no major contingencies, we should be able to recover from accumulated backlogs by 2018 for CSGs and 2020 for ARGs—five plus years after the first round of sequestration.

Recovery of readiness also requires a commitment to protect the time required to properly maintain and modernize our capital-intensive force and to conduct full-spectrum training. Our updated force generation model—the Optimized Fleet Response Plan (OFRP)—is designed to meet this commitment as well as better align all elements that support readiness development. Achieving full readiness entails the restoration of required capacity to our public shipyards and aviation depots–primarily through hiring and workforce development. In addition to aviation depots backlogs, we must also overcome the challenges of extending the service life of our legacy F/A–18 Hornet aircraft to 10,000 hours. Underlying our plan is the need to operate the battle force at a sustainable level over the long term. With this plan

we recover our material readiness, keep faith with our Sailors and their Families by providing more predictability in the operations schedule, and control the pace of deployments.

Meeting Our Readiness Challenges

The Navy fiscal year 2016 budget request continues to fully support the readiness of our deployed forces. The budget request sustains our credible and survivable sea-based strategic deterrent and with continued overseas contingency operations (OCO) funding meets the adjudicated requirements of the fiscal year 2016 Global Force Management Allocation Plan (GFMAP). This includes at least two CSGs and two ARGs, operating forward, fully mission-capable and certified for deployment. We continue to employ innovative approaches, including the use of new platforms like the Joint High Speed Vessel and the Mobile Landing Platform, to ensure the Navy/Marine Corps team continues to meet the security requirements of our nation, while providing the opportunity to reset and sustain the material condition of the force. Greater use of capable auxiliaries helps relieve pressure on our overstretched amphibious fleet.

Generating the Force

Navy readiness is at its lowest point in many years. Budget reductions forced cuts to afloat and ashore operations, generated ship and aircraft maintenance backlogs, and compelled us to extend unit deployments. Since 2013, many ships have been on deployment for 8–10 months or longer, exacting a cost on the resiliency of our people, sustainability of our equipment, and service life of our ships.

Navy has managed force generation using the Fleet Response Plan (FRP) since it was adopted in 2003 and fully implemented in 2007. This cyclic process was designed to support readiness by synchronizing periodic deep maintenance and modernization with the Fleet training required to achieve GFMAP forward presence objectives and provide contingency response capacity. However, the continued employment of our contingency response units to generate increased presence over the past decade has not only increased maintenance requirements, it has also limited their availability to complete required maintenance and training. As with previous testimony of the last few years, this practice is unsustainable.

In 2013 and 2014, for example, Naval forces provided six percent and five percent more forward presence, respectively, than allocated due to emergent operations and unanticipated contingencies. This unbudgeted employment amounted to greater than 2,200 days in theater over that approved on the global force management plan in 2013 and greater than 1,800 days in theater over in 2014. We should operate the Fleet at sustainable presence levels in order for the Navy to meet requirements, while still maintaining material readiness, giving ships time to modernize, and allowing them to reach their expected service lives.

This year, Navy began implementation of the Optimized Fleet Response Plan (OFRP) to address these challenges. Designed to stabilize maintenance schedules and provide sufficient time to maintain and train the force while continuing to meet operational commitments, OFRP aligns supporting processes and resources to improve overall readiness. Furthermore, it provides a more stable and predictable schedule for our Sailors and their Families. We will continue OFRP implementation across the FYDP.

Ship Operations

The baseline Ship Operations request for fiscal year 2016 provides an average of 45 underway steaming days per quarter for deployed ships and 20 days non-deployed, and would support the highest priority presence requirements of the Combatant Commanders to include global presence for two CSGs, two ARGs and an acceptable number of deployed submarines. With OCO, ship operations are funded at 58 steaming days deployed/24 days non-deployed. The requested funding will meet the full adjudicated fiscal year 2016 GFMAP ship presence requirement, support higher operational tempo for deployed forces and provide full operating funding for individual ship level maintenance and training.

Air Operations (Flying Hour Program)

The Flying Hour Program (FHP) funds operations, intermediate and unit-level maintenance, and training for ten Navy carrier air wings, three Marine Corps air wings, Fleet Air Support aircraft, training squadrons, Reserve forces and various enabling activities. The fiscal year 2016 baseline program provides funding to build required levels of readiness for deployment and sustain the readiness of units that are deployed. Navy and Marine Corps aviation forces are intended to achieve an average T–2.5/T–2.0 USN/USMC training readiness requirement with the exception of non-deployed F/A–18 (A–D) squadrons. Because of shortfalls in available aircraft

due to depot throughput issues, these squadrons are funded at the maximum executable level while non-deployed, resulting in an overall readiness average of T–2.8/2.4. All squadrons deploy meeting theT–2.0 readiness requirement and OCO provides for additional deployed operating tempo above baseline funding.

Spares

The replenishment of existing, "off the shelf" spares used in ship and aircraft maintenance is funded through the Ship Operations and Flying Hour Programs. With OCO, those programs are fully funded in PB16. The provision of initial and outfitting spares for new platforms, systems and modifications is funded through the spares accounts. Traditionally, these accounts have been funded below the requirement due to limited funding or past execution issues. Due to the ultimate impact on readiness, PB16 sustains executable funding levels to reduce cross-decking and cannibalization of parts driven by large backlogs. This is complemented by Navy-wide efforts to improve execution of these accounts, which have shown considerable success in aviation spares over the last two years, and continues to be a focus area.

Readiness Investments Required to Sustain the Force—Ship and Aircraft Maintenance

The Navy maintenance budget requests are built upon proven sustainment models. They are focused on continuing our ongoing investment to improve material readiness of our surface combatants, and support the integration of new capabilities into naval aviation.

The fiscal year 2016 baseline budget request funds 80 percent of the ship maintenance requirement across the force, addressing both depot and intermediate level maintenance for carriers, submarines and surface ships. OCO funding provides the remaining 20 percent of the full baseline requirement to continue reduction of the backlog of life-cycle maintenance in our surface ships after years of high operational tempo and deferred maintenance. This year, the additional OCO for maintenance reset ($557M) includes funding for aircraft carriers (CVNs) as well to address increased wear and tear outside of the propulsion plant as a result of high operational demands. Since much of this work can only be accomplished in drydock, maintenance reset must continue across the FYDP.

To address the increased workload in our public shipyards and improve on-time delivery of ships and submarines back to the Fleet, the fiscal year 2016 budget grows the shipyard workforce, reaching a high of 33,500 personnel in fiscal year 2017, with additional investment in workforce training and development. One attack submarine (SSN) availability is moved to the private sector in fiscal year 2016 with plans for two additional SSN availabilities in the private sector in fiscal year 2017 to mitigate total workload. The fiscal year 2016 budget includes $89.5M in MILCON projects and $142M in restoration and modernization projects for Naval Shipyards in fiscal year 2016, for a total capital investment of 8.7 percent in these important facilities.

The Fleet Readiness Centers (FRCs), Navy's aviation depots, have been challenged to recover full productivity after hiring freezes, furlough, and overtime restrictions in fiscal year 2013. They face a growing workload, particularly for the additional service life extension of our legacy

F/A–18 Hornets. FRCs are aggressively hiring with a goal of reaching full capacity by the end of this year. The hiring of additional engineering support to address new repairs required to reach 10,000 hours of service life, reallocation of some of the workforce, and contracting for private sector support have all been undertaken to complete existing work-in-process at the FRCs, particularly for legacy Hornets. Field teams have been increased to improve flight line maintenance and understanding of the material condition of airframes coming to the depots. As new repairs and parts are identified and approved, kits are developed to ensure long-lead parts are readily available.

As a result of these challenges, the Aviation Depot Maintenance program is funded to an executable level of 77 percent in baseline, 83 percent with OCO for new work to be inducted in fiscal year 2016. This funding level supports a total of 564 airframes and 1,834 engines/engine modules to be repaired.

Navy Expeditionary Combat Forces

Navy expeditionary combat forces support ongoing combat operations and enduring Combatant Commander requirements by deploying maritime security, construction, explosive ordnance disposal, logistics and intelligence units to execute missions across the full spectrum of naval, joint and combined operations. In fiscal year 2016, baseline funding is improved significantly over prior years, providing 80 percent of the enduring requirement, with OCO supporting an additional 15 percent of the requirement.

Readiness Investments Required to Sustain the Force—Shore Infrastructure

The Navy's shore infrastructure, both in the United States and overseas, provides essential support to our Fleet. In addition to supporting operational and combat readiness, it is also a critical element in the quality of life and quality of work for our Sailors, Navy Civilians, and their Families. As we have done for several years, we continue to take risk in the long-term viability of our shore infrastructure to sustain Fleet readiness under the current funding level. However, in fiscal year 2016 our facilities sustainment is improved to 84 percent of the OSD Facilities Sustainment Model versus 70 percent this year. When restoring and modernizing our infrastructure, we intend to prioritize life/safety issues and efficiency improvements to existing infrastructure and focus on repairing only the key components of our mission critical facilities. Lessor critical projects will remain deferred. Overall, the Department of the Navy will exceed the mandated capital investment of 6 percent across all shipyards and depots described in 10 USC 2476 with a 7.4 percent total investment in fiscal year 2016. With the support provided by the Congress, Navy is on track to exceed the minimum investment in fiscal year 2015 as well.

Looking Ahead

As we look to the future, the Navy will continue to be globally deployed to provide a credible and survivable strategic deterrent and to support the mission requirements of the regional Combatant Commanders. Global operations continue to assume an increasingly maritime focus, and our Navy will sustain its forward presence, warfighting focus, and readiness preparations to continue operating *where* it matters, *when* it matters. We see no future reduction of these requirements and we have focused the fiscal year 2016 Navy budget submission to address the challenges to achieving the necessary readiness to execute our missions. Any funding below this submission requires a revision of America's defense strategy. Sequestration would outright damage the national security of this country.

In closing, we should recall that our Sailors are the most important element of the future readiness of the Navy. Fortunately, they are the highest quality, most diverse force in our history and continue to make us the finest Navy in the world. As the CNO says, "They are our asymmetric advantage." On behalf of all our Sailors (active and reserve), Civilians and their Families let me reiterate our appreciation for the continued support of the members of the committee.

Senator AYOTTE. Thank you, Admiral Howard.

I would like to now receive testimony from General Paxton, the Assistant Commandant of the United States Marine Corps.

Thank you, General Paxton.

STATEMENT OF GENERAL JOHN M. PAXTON, JR., USMC, ASSISTANT COMMANDANT, UNITED STATES MARINE CORPS

General PAXTON. Thank you, Chairman Ayotte, Ranking Member Kaine, Senator Rounds, and distinguished members of the Readiness Subcommittee. I appreciate the opportunity to appear before you today and to report on the readiness of your United States Marine Corps.

Today, as always, your Marine Corps is committed to remaining our Nation's ready force, a force that's truly capable of responding to a crisis anywhere around the globe at a moment's notice. I know that this committee and the American people have high expectations of your marines. You expect your marines to operate forward, to stay engaged with our partners, to deter potential adversaries, and to respond to crises. When we fight, you expect us to always win. You expect a lot of your marines. You should.

As we gather today, more than 31,000 marines are forward deployed and engaged, doing just what you expect and we expect them to be doing. Our role as the Nation's ready force continues to inform how we man, train, and equip the Marine Corps. It also prioritizes the allocation of resources which we receive from Con-

gress. I can assure you that your forward-deployed marines are well trained, well led, and well equipped.

In fact, our readiness was proven last year, as your Marine Corps supported recent evacuations of United States citizens in South Sudan and then Libya and then Yemen. Those ready forces are also currently engaged in the Middle East, conducting strikes against Syria and Iraq, training Iraqi army units, and protecting our Embassy in Baghdad. They also routinely deploy and exercise across the Asia-Pacific region, where over 21,000 are west of the International Dateline.

These events demonstrate the reality and the necessity of maintaining a combat-ready force that's capable of handling today's crisis today. Such an investment is essential to maintaining our Nation's security and the prosperity for the future.

We will work hard with you in order to maintain the readiness of our forward-deployed forces. While we do that, we have not sufficiently invested in our home-station readiness and in our next-to-deploy forces. We have also underfunded or delayed the full funding for our modernization, for our infrastructure sustainment, and some of our quality-of-life programs. As a result, approximately half of our non-deployed units are suffering personnel, equipment, or training shortfalls. Ultimately, this has created an imbalance in our institutional readiness. At the foundation of our readiness, we emphasize that all marines and all marine units are physically and mentally ready, are fully equipped, and have sufficient time to train with quality small-unit leaders at the helm. They are, thus, ready to move out whenever they're called.

As we continue to face the possibility of full implementation of the Budget Control Act (BCA), our future capacity for crisis response, as well as our capacity for major contingency response, is likely to be significantly reduced. Quite simply, if our home-station units are not ready due to a lack of training, a lack of equipment or manning, it could mean a delayed response to resolve a contingency or to execute an operational plan, both of which would create unacceptable risk for our national defense strategy as well as risk to the limits of mission accomplishment or the physical risk to the force, itself.

The readiness challenge we already see today provide context for our messages this morning. Your United States Marine Corps can, indeed, meet the requirements of the defense strategic guidance with the President's Budget, but, unfortunately, there is no margin. As our chairman stated, even under PB–16, we are already at the ragged lower edge for readiness.

I thank each of you for your faithfulness to our Nation, for your support of the Department and all four of our services.

I request that my written testimony be accepted for the record.

I thank you for the opportunity to appear before you this afternoon, and I look forward to your questions.

Thank you.

[The prepared statement of General Paxton follows:]

PREPARED STATEMENT BY GENERAL JOHN PAXTON

General Paxton was promoted to General and assumed the duties of Assistant Commandant of the Marine Corps on December 15, 2012. A native of Pennsylvania,

he graduated from Cornell University with a Bachelor and Master of Science in Civil Engineering and was commissioned through Officer Candidate School in 1974.

General Paxton's assignments in the operating forces include Rifle and Weapons Platoon Commander and Company Executive Officer, Co. B, 1st Battalion, 3d Marines; Training Officer, 4th Marine Regiment; Executive Officer, Co. G, 2d Battalion, 4th Marines; Company Commander, Co. L and Operations Officer, 3d Battalion, 5th Marines; GCE Operations Officer, II MEF, and Assistant Chief of Staff, G–3, 1st Marine Division. He commanded the 1st Battalion, gth Marines in support of operations in Bosnia and Somalia and later the 1st Marine Regiment.

Other assignments include Company Commander, Co. B, Marine Barracks Washington and Commanding Officer of Marine Corps Recruiting Station New York. He served as a Plans Division Officer, Plans, Policies and Operations, HQMC; the Executive Assistant to the Undersecretary of the Navy; and Amphibious Operations Officer/Crisis Action Team Executive Officer, Combined Forces Command, Republic of Korea.

As a general officer, he has served as the Director, Programs Division,Programs and Resources, HQMC; the Commanding General of Marine Corps Recruit Depot San Diego/Western Recruiting Region; Commanding General,1st Marine Division; Chief of Staff, Multi-National Forces—Iraq; Director for Operations, J–3, The Joint Staff; and Commanding General, II Marine Expeditionary Force and Commander Marine Forces Africa. Most recently he served as the Commander, Marine Corps Forces Command; Commanding General, Fleet Marine Force Atlantic; and Commander, Marine Forces Europe.

General Paxton is a graduate of the U.S. Army Infantry Officer Advanced Course and Marine Corps Command and Staff College. He has also served as a Commandant's Fellow at the Brookings Institute as well as at the Council on Foreign Relations.

Introduction

Chairman Ayotte, Ranking Member Kaine, and distinguished members of the Senate Armed Services Subcommittee on Readiness: I appreciate the opportunity to testify on the current state of readiness in your Marine Corps and on our Fiscal Year 2016 budget request. We greatly appreciate the continued support of Congress and of this subcommittee in ensuring our ability to remain the Nation's ready force.

Since 1775 the Marine Corps, has been our nation's Crisis Response force. This was mandated by our 82nd Congress. Continuing to fulfill this role remains our top priority. Balanced air-ground-logistics forces that are forward-deployed, forward-engaged, and postured to shape events, manage instability, project influence, and immediately respond to crises around the globe are what we provide. Marine forces remain expeditionary and are partnered with the Navy, coming from the sea, operating ashore, and providing the time and decision space necessary for our National Command Authority. Ultimately, our role as America's 9–1–1 force informs how we man, train, and equip our force both for today and into the future.

This past year has demonstrated that the Marine Corps must be ready to respond, fight, and win more than just the last war. In 2014 the performance of your Marine Corps underscored the fact that responsiveness and versatility are in high demand today and that fact can be expected in the future.

YOUR MARINES—OPERATIONALLY RESPONSIVE

OEF—Afghanistan

In 2014, Marine Expeditionary Brigade-Afghanistan (MEB–A) concluded six years of sustained Marine Air-Ground Task Force (MAGTF) operations in Afghanistan. Operations there focused on ensuring the success of the Afghanistan presidential elections in the summer of 2014 and transitioning security responsibilities to the Afghanistan National Defense Security Forces (ANDSF). With Marines serving in an advisory capacity, the ANSF in Helmand Province held control of all district centers.

Regional Command (SW) also turned over operational responsibilities to the

International Security Assistance Force Joint Command (IJC). Today, a residual Marine presence of several hundred continues to support the Resolute Support Mission (NATO)/OPERATION FREEDOM'S SENTINEL (US) in Afghanistan.

Special Purpose Marine Air Ground Task Force—Crisis Response (SPMAGTF–CR) Operations

While not as independent, flexible and responsive as our Marine Expeditionary Units (MEU) embarked and underway aboard Amphibious Ready Groups (ARG), two SPMAGTF–CRs are filling crisis response critical capability gaps for the combatant commanders in AFRICOM and CENTCOM. This past year SPMAGTF–CR units assigned to AFRICOM positioned forward in Moron, Spain and Signonella,

Italy safeguarded the lives of our diplomatic personnel and conducted military-assisted departures from the U.S. Embassy in South Sudan in January and our Embassy in Libya in July 14.

The Marine Corps SPMAGTF–CR unit assigned to CENTCOM (SPMAGTF–CR–CC) became fully operational on 1 November 2014 and deployed to the CENTCOM AOR. Since that time, SPMAGTF–CR–CC conducted embassy reinforcement, Theater Security Cooperation (TSC) exercises, and provided critical aviation and ground capabilities in the fight against ISIL. Most recently, Marines from SPMAGTF–CR–CC supported the evacuation of our Embassy in Sana'a, Yemen in February of this year.

Current Operations

Today, there are over 31,000 Marines forward deployed, conducting a full range of theater security and crisis response missions. Marines are currently conducting security cooperation activities in 29 countries around the globe. Over 22,000 Marines are west of the international dateline in the Pacific building partnership capacity, strengthening alliances, deterring aggression, and preparing for any contingency. Your Marines serving today in the operating forces are either deployed, getting ready to deploy, or have recently returned from deployment. Our operational tempo since September 11, 2001 has been high and remains high today. We expect this trend to continue.

INSTITUTIONAL BALANCE

The Marine Corps is committed to remaining the Nation's ready force, a force truly capable of responding to a crisis anywhere around the globe at a moment's notice. Thus, the American people and this Congress have rightly come to expect the Marine Corps to do what must be done in "any clime and place" and under any conditions. As our 36th Commandant recently published in his Commandant's Planning Guidance (CPG), "you expect us to respond quickly and win always."

This obligation requires the Marine Corps to maintain a high state of combat readiness at all times. Readiness is the critical measure of our Marine Corps' capacity to respond with required capability and leadership. We look at readiness through the lens of our five institutional pillars of readiness—**high quality people, unit readiness, capacity to meet the combatant commanders' requirements, infrastructure sustainment, and equipment modernization**. These pillars represent the operational and foundational components of readiness across the Marine Corps. We know we are ready when leaders confirm that their units are well trained, well led at all levels, and can respond quickly to the unforeseen. This capability helps to minimize operational risk and provides our national leaders the time and space to make reasoned decisions.

While we will always ensure that our forward deployed Marines and Sailors are properly manned, trained, and equipped, we must seek a balanced investment across the pillars to simultaneously ensure current as well as future (i.e. next to deploy) readiness. At the foundation of this readiness, we emphasize that all Marines and all Marine units (i.e. from home station) are physically and mentally ready, are fully equipped, and have sufficient time with quality small unit leaders in place to move and train whenever called upon.

We also fully appreciate that our readiness and institutional balance today, and the ability to maintain it in the future, are directly related to today's fiscal realities. During these fiscally constrained times, we must remain focused on the allocation of resources to ensure the holistic readiness of the institution (i.e. training, education, infrastructure and modernization), making every dollar count when and where it is needed most.

As the Marine Corps looks to achieve balance across the five pillars of readiness after thirteen years of uninterrupted war, our efforts have been frustrated by two clearly tenuous variables. First, the continued high operational tempo of, and high demand for, Marine forces, and second, the continued budget uncertainty surrounding annual appropriations (i.e. sequestration and impacts). Both of these variables have been keenly and repeatedly felt throughout the Marine Corps all this year as we have protected near-term readiness at the expense of our long-term modernization and of our infrastructure investments. This reality has forced the Marine Corps' to make the hard choice to underfund, reduce or delay funding, which threatens our future readiness and responsiveness.

As America's 9–1–1 force, your Corps is required to maintain an institutional capability, an operational balance, and an expeditionary mindset that facilitates our ability to deploy ready forces tonight. However, as we continue to face the possibility of sequestration-level funding for FY 2016, we may well be forced into adopting some short term or limited scope and scale variations for future unexpected deploy-

ments over the next few years. This means quite simply, that we will see increased risk in timely response to crises, in properly training and equipping our Marines to respond, and in their overall readiness to respond. By responding later with less and being less trained we may eventually expect to see an increase in casualties.

Readiness and the Capacity to Respond

With the support of Congress, the Marine Corps is committed to remaining ready and continuing the tradition of innovation, adaptation, and winning our Nation's battles. The challenges of the future operating environment will demand that our Nation maintain a force-in-readiness that is capable of true global response. America's responsibility as a world leader requires an approach to the current and future strategic landscape that leverages the forward presence of our military forces in support of our diplomatic and economic elements of power.

As stated in the 2012 President's Defense Strategic Guidance, "The United States will continue to lead global efforts with capable allies and partners to assure access to and use of the global commons, both by strengthening international norms of responsible behavior and by maintaining relevant and interoperable military capabilities." High-yield, relatively low-investment Marine Corps capabilities (ready and responsive air-ground-logistics forces) uniquely support this strategic approach.

CURRENT READINESS

Maintaining the readiness of our forward deployed forces during a period of high operational tempo while amidst fiscal uncertainty; as well as fiscal decline, comes with ever increasing operational and programmatic risk. Today, approximately half of the Marine Corps' home-station units are at an unacceptable level ofreadiness in their ability to execute wartime missions, respond to unexpected crises, and surge for major contingencies. Furthermore, the ability of non-deployed units to conduct full spectrum operations continues to degrade as home-station personnel and equipment are sourced to protect and project the readiness of deployed and next-to-deploy units. As the Nation's first responders, the Marine Corps' home-stationed units are expected to be at or near the same high state of readiness as our deployed units, since these non-deployed units will provide the capacity to respond with the capability required (leadership and training) in the event of unexpected crises and or major contingencies.

Despite this challenge and imbalance, the Marine Corps continues to provide units ready and responsive to meet core and assigned missions in support of all directed current operational, crisis, and contingency requirements. However, we continue to assume long-term risk particularly in supporting major contingencies in order to fund unit readiness in the near term. Consequently, the Marine Corps' future capacity for crisis response and major contingency response is likely to be significantly reduced. Quite simply, if those units are not ready due to a lack of training, equipment or manning, it could mean a delayed response to resolve a contingency or to execute an operational plan, both of which create unacceptable risk for our national defense strategy as well as risk to mission accomplishment and to the whole-of-force itself. The following sections elaborate on some specific readiness challenges the Corps is facing today.

CURRENT CHALLENGES TO READINESS AND THE CAPACITV TO RESPOND

As the Nation's first responders, we firmly believe that the Marine Corps as a service, and in its entirety, is expected to be always in a high state of readiness. Today however, there are numerous challenges that have created a readiness imbalance, affecting our capacity to respond to future challenges with the required capability and leadership. For example, our home station unit's ability to train is challenged. Time is the essential component required to fix worn equipment and to train units to standard. A lower end-strength and unwavering and high unit deployment to dwell (D2D) ratios exacerbate time at home stations to prepare, train, and maintain. This, coupled with temporary shortages of personnel and equipment at the unit level, validate operational requirements that exceed resource availability, and a growing paucity of amphibious platforms on which to train, all contribute to degraded full-spectrum capabilities across the entire Service. As an example, a D2D ratio of 1:2 means your Marines are deploying for 7 months and home for 14 months before deploying again. During that 14-month "dwell," units are affected by personnel changes and gaps (duty station rotations, schooling, and maintenance), ship availability shortfalls and growing maintenance requirements, equipment reset requirements (service life extensions and upgrades), degraded supply storages, training schedule challenges (older ranges and equipment, and weather) and more. These collective challenges factor into every unit's compressed and stressing task to re-

main constantly ready. In some case, the D2D ratio is even lower than 1:2 (MV–22 squadrons, Combat Engineer units, and F/A–18 squadrons), placing considerable stress on high demand, low density units and equipment. Also concerning is the inability to assess the long-term health of the force at lower D2D ratios and the impact on overall force retention. Quite simply, despite OIF and OEF being "over," the unstable world and "New Normal" is causing your Corps to continue to "run hot." As referenced earlier, just over half of Marine Corps home-stationed units are at unacceptable levels of readiness. For example, Marine Aviation contains some of our most stressed units. As operational commitments remain relatively steady, the overall number of Marine aircraft available for tasking and or training has decreased since 2003. At that time Marine Aviation contained 58 active component squadrons and 12 reserve component squadrons for a total of 70 squadrons.

The Marine Corps has 55 active component squadrons today, three of which (2 VMM, and lVMFA) are in transition. Of the 52 remaining squadrons, 33 percent are deployed and 17 percent are in pre-deployment workups to deploy. Our minimum readiness goal to deploy is T–2.0, which is simply the cut line between a squadron trained to accomplish its core mission and a squadron that is not. To attain a T–2.0 rating, a squadron must be qualified to perform at least 70 percent of its Mission Essential Tasks (METs) (i.e. tasks required to accomplish the multiple missions that are or may be assigned to a unit). Currently, our deployed squadrons and detachments remain well trained and properly resourced, averaging T–2.17. Next-to-deploy units are often unable to achieve the minimum goal of T–2.0 until just prior to deployment. Non-deployed squadrons experience significant and unhealthy resource challenges, which manifest in training and readiness degradation, averaging T–2.96.

The Marine Corps is actively and deliberately applying resources to maintain the readiness of deployed and next-to-deploy units. Our focus is to continue to meet all current requirements, while addressing the personnel, equipment, and training challenges across the remainder of the force. We are in the midst of a comprehensive review of our manning and readiness reporting systems and will develop a detailed plan to enhance our overall readiness during 2015.

We are also committed to meet the growing expeditionary requirements of our combatant commanders (COCOMs). To meet COCOM requirements, the Marine Corps will be required to sustain a D2D ratio in the active component force of 1:2 vice a more stable, and time proven, D2D ratio of 1:3. The Marine Corps also has some high demand/low density units that maintain a current D2D ratio of less than 1:2, such as the (VMGR/KC–130) community. These communities are closely monitored for training, maintenance, and deployment readiness as well as deployment frequency. The Marine Corps will continue to provide ready forces to meet COCOM demands, but we are carefully assessing the impact of reduced D2D ratios on our training and quality of life across all units and occupational fields. What we do know is that the optimal size of your Marine Corps to meet the requirements of the Defense Strategic Guidance is 186,800 Marines. This optimal size gives the Marine Corps the capacity we need to meet current operational requirements demand with a D2D ratio closer to 1:3 which supports time for home station units to train and maintain. We continue to validate and support this assessment. Today, due to fiscal realities, the Marine Corps is adjusting its active duty end-strength to reach 182,000 Marines by 2017. As we continue to downsize, we must emphasize the enduring national mission requirement to provide forces that can always meet today's crisis response demands.

Another significant readiness challenge is the growing gap in the numbers of small unit leaders with the right grade, experience, technical skills and leadership qualifications associated with their billets. Specifically, our current inventory of Non-Commissioned Officers (NCOs) and Staff Non-Commissioned Officers (SNCOs) is not meeting our force structure requirements. The technical, tactical, and leadership demands on our NCOs and SNCOs has grown during 13 years of OIF and OEF. These Marine combat leaders have proven their mettle. We remain committed to fully and properly training them and their successors for the rigors of an unstable world with disaggregated operations against an asymmetric enemy in a distant and hostile environment. This dynamic directly affects our current and future training, maintenance, and discipline. We must train and retain adequate numbers of SNCOs and NCOs to preclude degraded crisis response readiness and ensure combat effectiveness. The Marine Corps' PB16 military budget funds a fiscal year 2016 end-strength of 184,000 in our base budget and supports right-sizing our NCO ranks to provide our Marines the small unit leadership they deserve and which our Corps and nation need.

NAVAL EXPEDITIONARY FORCE

We share a rich heritage and maintain a strong partnership with the United States Navy. Sea-based and forward deployed naval forces provide the day-to-day engagement, crisis response, and assured access for the joint force in a contingency. The availability of amphibious shipping is paramount to both our readiness and to our overall ability to respond. The Marine Corps' requirement for amphibious warships to respond, for war plans, and for contingencies remains at 38 platforms. The Navy's inventory today is 31 total amphibious warships. When accounting for steady-state demands and for essential maintenance requirements we are seeing that far fewer platforms are readily available for employment. Simply put we have a serious inventory problem and a growing availability challenge.

This is why the Marine Corps fully supports the Secretary of the Navy and Chief of Naval Operations' (CNO) efforts to increase the inventory and availability of amphibious platforms and surface connectors that facilitate our key concepts of operational maneuver from the sea (OMFTS) and ship-to-objective maneuver (STOM). The President's budget supports key investments in LPD–28, LX(R), and ship-to-shore connectors (SSC), and demonstrates our commitment to global maritime presence and to our Nation's mandate to sustain an amphibious capability that can respond to, deter, deny, and defeat threats on a global scale. We appreciate Congress providing a substantial portion of funding to procure a 12th LPD, and respectfully request that this committee continue to support full funding of that amphibious ship. The enhanced mission profiles of these new, improved and much needed platforms create operational flexibility, extended geographical reach, and surge capabilities for all our COCOMs.

Naval investments in alternative seabasing platforms expand access and reduce dependence on land bases, supporting national global strategic objectives and providing operational flexibility in an uncertain world. The naval seabasing investments in the Mobile Landing Platform (MLP), the Large Medium-Speed Roll-on/Roll-off (LMSR) strategic sealift ship, and the (T–AKE) Dry Cargo and Ammunition Ship as part of the Maritime Prepositioning Ship Squadrons (MPS), coupled with the Joint High Speed Vessel (JHSV), Afloat Forward Staging Base (AFSB) and ship-to-shore connectors provide additional lift, speed, and maneuver capability to augment, yet not necessarily replace or substitute for proven Navy and Marine Corps amphibious combat capabilities. Although never a substitute for amphibious warships, particularly in a contested environment, these alternative platforms will continually complement amphibious ships and can enhance national readiness and ability to answer COCOM non-combat demands.

While the President's Budget moves us in the right direction, it will take many years and a sustained effort to address the serious risk in the current inventory and availability of amphibious ships. The Marine Corps will continue to work closely with the Navy and Congress to implement the 30 year ship building plan and to address the current amphibious availability and readiness challenges.

Building the Force of the Future

As challenging as it has been to prepare Marines for the current fight, our force must adapt to the ever-changing character and conduct of warfare to remain ready, relevant, and responsive. Innovation and adaptability will be required to build the force of the future. For the last 14 years, the Marine Corps has applied a small but key percentage of our resources to providing Marines what tey need for today's fight. While individual Marines are our critical weapons system, we must outfit him with modem, reliable and useful gear and equipment. Because readiness remains our first priority in meeting our national security responsibility, our focus on an unrelenting demand for forces coupled with a declining budget has forced the Marine Corps to make difficult choices and to reduce investment in modernization in order to maintain current and near term readiness. We are consciously, by necessity, delaying needed modernization.

MODERNIZATION EFFORTS

Our declining budget has forced the Marine Corps to make difficult choices at the expense of modernization to maintain current and near term readiness. In the current fiscal environment, the Marine Corps is investing only in essential modernization, focusing on those areas that underpin our core competencies. Today, we have placed much emphasis on new or replacement programs such as our Amphibious Combat Vehicle (ACV), a Joint Light Tactical Vehicle (JLTV), our CH–53K Heavy Lift Replacement, and the critical fifth generation F–35 Joint Strike Fighter (JSF). At the same time, our modernization resources are also necessarily focused on im-

proving capabilities and extending the life of current systems in order to fill gaps that can be exploited by today's threats.

In order to balance modernization across the capabilities of the MAGTF and ensure a ready and responsive force of the future, our two top priorities remain the ACV, to include science and technology efforts toward high-water speed capabilities, and the JSF, both of which provide the technology required to dominate our adversaries in the future. Additionally, our investments in Network On-the-Move (NOTM), Ground/Air Task Oriented Radar (G/ATOR), and other additional aviation platforms such as the MV–22, CH–53K, and UH–lY/AH–l Z programs are vital to the overall combat effectiveness and readiness of our future MAGTFs. We are also focused on and investing heavily in extending the service life and improving the interim capabilities of our legacy systems due to the time required to recapitalize needed capabilities while ensuring a smooth transition to future requirements.

For example, the need for recapitalization of our 42-year old AAV is critical and the nation cannot afford to gap this capability. Rising annual maintenance costs for the AAV and other legacy systems compete for resources against modernization efforts that seek to replace them with modem combat capabilities (i.e. ACV). This required allocation of precious resources works against our other investment and recapitalization efforts. Additionally, for our legacy aircraft platforms, the focus is on modernization to make them relevant in tomorrow's fight while simultaneously providing a bridge to rearrange our aviation recapitalization efforts. Rapid procurement of these new systems is critical to solving both our serious current and future readiness problems.

If we do not modernize, we will actually move backwards. Our adversaries continue to develop new capabilities exploiting any technology gaps associated with specific domains and functions. By under-resourcing equipment modernization we will ultimately fall behind. Increasing threats, the proliferation of A2/AD weapon systems, and the aging of key material capabilities present an unacceptable risk to forcible entry operations and our overall combat effectiveness if modernization continues to be diminished or halted.

Modernization and innovation are more than just procurement programs. We will re-energize our MAGTF experimentation and test new tactics, techniques, procedures, equipment and concepts that will allow us to meet every challenge. We are maintaining our commitment to Science and Technology, and we continue to look for opportunities to expand our efforts in this critical area.

CONCEPT DEVELOPMENT AND EXPERIMENTATION

The current and future operating environment will remain volatile, unpredictable, and complex. To continue to deliver order from the chaos, we anticipate no lessening in the demand for Marine capabilities ranging from Amphibious Ready Groups with enhanced Marine Expeditionary Units (ARG/MEUs) and Special Purpose MAGTFs for crisis response as well as for more Marine Security Guards at our embassies and consulates (MCESG). Trends point to greater security challenges to our vital national interests almost everywhere. Therefore, as our Nation meets these future challenges, it will rely heavily on the Marine Corps to remain the ready, relevant, and responsive force of first resort. While there will be a degree of consistency in our missions, there is likely to be inconsistency in the operating environment, and we must be willing to experiment, take risk, and implement change to overcome challenges in those varied operating environments (threat, access, communications, etc.). As was the case prior to World War II, the quality and focus of our concept development, our expansion of science and technology, the :frequency and significance of our exercises, and our constant experimentation efforts will remain critical to our overall readiness, relevance, and indeed our mission success. The end state of our efforts to link concepts and doctrine to exercises and experimentation will be to develop and nurture the intellectual energy and creativity of individual Marines and of units. This will enable the Marine Corps to continue to be a leader in both tactical and operational innovation.

A year ago we published *Expeditionary Force 21 (EF–21)*, our Marine Corps capstone concept. *EF–21* establishes our vision and goals for the next 10 years and provides guidance for the design and development of the future force that will fight and win in the future environment. *Expeditionary Force 21* will also inform decisions regarding how we will adjust our organizational structure to exploit the value of regionally focused forces and provide the basis for future Navy and Marine Corps capability development to meet the challenges of the 21st Century. Developed in close coordination with the recent update of our maritime strategy (i.e. *Cooperative Strategy 21 (CS21)), Expeditionary Force 21* describes how the Marine Corps will be postured, organized, trained, and equipped to fulfill the responsibilities and missions

required around the world. This comprises four essential lines of effort: refining our organization, adjusting our forward posture, increasing our naval integration, and enhancing littoral maneuver capability.

ALL VOLUNTEER FORCE

Our Marines and civilians are the foundation of who we are and of all that we do. We succeed because of our focus on recruiting, training, and retaining quality people. People are the primary means through which the Marine Corps remains ready and responsive in guaranteeing the defense of our great Nation. The resources we dedicate to recruiting, retaining, and developing high quality people directly contribute to the success of our institution. Thus, our commitment to attract, train, and deploy with the best quality Marines must always remain at the forefront.

Today, the Marine Corps does not have the proper level of personnel stability or cohesion in our non-deployed units. Having to move Marines between units to meet manning goals for approaching often accelerated or extended deployment cycles creates personnel turbulence, inhibits cohesion, and is not visible in our current readiness assessment tools. This personnel turbulence affects our combat readiness and our ability to optimally train, retain, and take care of Marines. Moving forward, we will improve cohesion by increasing our individual and unit preparedness across the force as well as emphasizing consistency of leadership and personnel stability across that same force.

Conclusion

On behalf of the Marines and Sailors and their families, all of whom provide this Nation with its versatile and reliable force-in readiness, I thank Congress and this subcommittee for your continued interest in and recognition of our operational and fiscal challenges and our key contributions to national security. We are proud of our reputation for frugality and remaining one of the best values for the defense dollar. In these times of budget austerity, the Nation continues to hold high expectations of her Marine Corps, and our stewardship of taxpayer dollars. The Marine Corps will continue to answer the Nation's call to arms, meet the needs of the Combatant Commanders and others who depend upon our service, and operate forward as a strategically mobile force optimized for forward-presence and crisis response. Your continued support is requested to provide a balance across all five of our readiness pillars, so we can maintain our institutional readiness and our ability to remain responsive . . . as your predecessors wisely charged more than 60 years ago, "to be the most ready when the nation is least ready."

Senator AYOTTE. Thank you, General Paxton.

We'll now receive testimony from General Spencer, who is the Vice Chief of Staff for the United States Air Force.

Thank you, General Spencer.

STATEMENT OF GENERAL LARRY O. SPENCER, USAF, VICE CHIEF OF STAFF, UNITED STATES AIR FORCE

General SPENCER. Thank you, Madam Chair, Ranking Member Kaine, and Senator Rounds, and distinguished members of the subcommittee. Thank you for your continued support of America's airmen and their families, and for the opportunity to share the Air Force's current readiness posture.

The United States Air Force is the most globally engaged air force on the planet, and our airmen are defending the Nation through a wide spectrum of activities, from dropping bombs and flying space assets to delivering humanitarian relief and protecting the homeland. We remain the best air force in the world. But, recent budget cuts, coupled with 24 years of combat operations, has taken its toll.

Our airmen, your airmen, have always been, and will always be, the cornerstone of the Air Force. Combatant commanders tell us that our airmen continue to perform exceptionally well across the globe. However, we are the smallest and oldest air force we have ever been, while demand for air power continues to grow. This is

not a complaint. We're happy that what we bring to the table is recognized as indispensable when it comes to meeting the Nation's objectives. But, I am concerned. In fact, I'm more concerned than I—today than I was when I testified last year.

We have tankers that are, on average, 52 years old; bombers that are over 50 years old; and fourth-generation fighters that are, on average, 25 years old. In 1991, if we had used the B–17 bomber to strike targets in Baghdad during the first Gulf War, it would have been younger than the B–52, the KC–135, and the U–2 are today. We have to modernize to maintain our technological advantage, and this is something that we've set aside, the last few years. Our potential adversaries have been watching us and now know what it takes to create the best air force in the world. They are investing in technologies and doing everything they can to reduce our current airpower advantage.

Because we have the smallest and oldest air force in history, we need all of our airmen to be proficient in every aspect of their mission. Unfortunately, our high operations tempo has caused our airmen to only be proficient in the jobs they perform when they deploy. We simply do not have the time and the resources to train airmen across the full range of Air Force missions. I'm confident that, with your help, we can reverse this trend and regain our readiness. But, we will have to make some difficult choices to balance capacity, capability, and readiness, all of which have already been cut to the bone.

Our fiscal year 2016 President's Budget submission aims to balance critical operational training and modernization commitments, but, even at this level, it will take years to recover lost readiness. We have already delayed major modernization efforts, cut manpower, and reduced training dollars.

One final point. The capability gap that separates us from other air forces is narrowing. That gap will close even faster under BCA levels of funding. When sequestration first hit in 2013, we saw the domino effect it had on our pilots, maintainers, weapons loaders, air traffic controllers, and our fighters and bomber squadrons. Readiness levels of those central to combat operations plummeted. In short, we were not fully ready. We cannot afford to let that happen again.

To quote a young C–17 instructor pilot, "I am committed to defending this Nation anytime and anyplace, but I need the training and equipment to be ready to perform at my best." This is critical to answering the Nation's call to fly, fight, and win.

I'd like to thank you all for the opportunity to be here today, and for your continued support of your Air Force. I'm now happy to take your questions.

Thank you.

[The prepared statement of General Spencer follows:]

PREPARED STATEMENT BY GENERAL LARRY O. SPENCER

INTRODUCTION

The United States Air Force has never failed to meet any threat our Nation has faced and establish an environment that was beyond the capabilities of our enemies to resist. Our capabilities of range, speed, and agility give our Nation an indispensable and qualitative advantage that is unparalleled today and we must retain them going into the future. Whether it's opening an aerial port to deliver humanitarian

aid, flying a single sortie from middle-America to the Korea peninsula and back to send a clear message, dropping a bomb, or dropping a Brigade Combat Team into the conflict zone—we can reach out and touch anyone, anytime, at any place, in a matter of hours, not days. Since 1947, Americans have been able to sleep soundly knowing that in every corner of the globe, the United States Air Force is ready.

Through technology, ingenuity, and unparalleled training and expertise the Air Force provides our Nation and allies more precise and effective options. But readiness requires the right number of Airmen, with the right equipment, trained to the right level, and with the right amount of support and resources, to accomplish what the Nation asks us to do. While Airmen have performed exceptionally well in major combat operations such as those in Iraq, and Afghanistan, these operations come at a price. Today, continual demand for airpower, coupled with dwindling and uncertain budgets, leave the force with insufficient time and resources to train Airmen across the full range of Air Force missions. Proficiency required for highly contested, non-permissive environments has suffered, due to our necessary engagement in the current counterinsurgency fights.

We recognize that there are no quick fixes. Even at the level of the President's Budget it will take the Air Force years to recover lost readiness. Our return to full-spectrum readiness must include the funding of critical programs such as flying hours, weapons system sustainment, and infrastructure, while also balancing deployment tempo, training, and exercises. We must also be technologically superior and agile enough to evolve ahead of the myriad of future potential threats.

However, because of the current restrictive and uncertain fiscal environment we have been forced to make difficult choices within an incredibly complex security environment. Our current Service readiness and capacity are degraded to the point where our core capabilities are at risk. To correct this, the fiscal year 2016 President's Budget (FY16 PB) preserves the minimum capability to sustain current warfighting efforts, and places the Air Force on a path toward balancing readiness with necessary modernization in order to meet evolving threats.

READINESS TODAY; READINESS TOMORROW

The 2012 Defense Strategic Guidance (as updated by the 2014 Quadrennial Defense Review) requires healthy and sustainable Air Force combat readiness, modernization and recapitalization programs. Since passage of the Budget Control Act, the Air Force has been forced to trade capacity in an attempt to preserve capability. We are now at the point where any further reduction in size equals a reduction in capability—the two are inextricably linked. Combatant commanders require Air Force support on a 24/7 basis, and the Air Force does not have excess capacity to trade away. If asked to accomplish multiple parts of the defense strategy, we will have to make difficult decisions on mission priorities and dilute coverage across the board. Unless we improve readiness levels, our full combat power will take longer to apply, will pull coverage from other areas, and will increase risk to our Joint and coalition forces.

The FY16 PB is a step to alleviate some of that risk. It allows us to preserve our future readiness, including munitions inventories; protect our top three acquisitions programs; and protect investments such as the training aircraft system, cyber mission forces and the next generation of space systems. Our plan is to reduce risk in high-priority areas by accelerating the modernization of aging fleets and improving our installations around the country. We are focused on capabilities, not platforms—preserving and enhancing the agility and flexibility of the Air Force.

Weapons System Sustainment

Weapons system sustainment (WSS) is a key component of full-spectrum readiness. Years of combat demands have taken a toll across many weapons systems. We continue to see an increase in the costs of WSS requirements. These costs are driven by factors such as the complexity of new systems, operations tempo, force structure changes, and growth in required depot-level maintenance on legacy aircraft.

If sequestration-level funding returns, it will hamper our efforts to improve WSS. Depot delays will result in the grounding of some aircraft. It will mean idle production shops, a degradation of workforce proficiency and productivity, and corresponding future volatility and operational costs. Analysis shows it can take up to three years to recover full restoration of depot workforce productivity and proficiency. Historically, WSS funding requirements for combat-ready forces increase at a rate double that of inflation planning factors. WSS costs still outpace inflationary growth, and in the current fiscal environment, our efforts to restore weapons systems to required levels will be a major challenge.

The longer we fly our legacy aircraft, the more they will break and require increased preventative maintenance. We have tankers that are on average 52 years

old, bombers that are over 50 years old, and fourth generation fighters that are an average of 25 years old. If we had kept WWII's B–17 bomber, and flown it in Operation Desert Storm 1991, it would have been younger than the B–52, the KC–135, and the U–2 are today. If we are not able to perform weapons system sustainment on our aircraft or modernize them so we can improve upon their speed, range, and survivability, we will lose our technological edge and superiority.

Flying Hours and Training

Our flying hour program is essential to full-spectrum readiness. If sequestration is implemented, it will affect our ability to accomplish flying and training requirements and our ability to meet full-spectrum operations. Readiness is not just influenced by funding, but also ongoing operations. Time and resources used to conduct current operations limit opportunities to train across the full-spectrum of missions. For example, the operational and combat demands over the last decade have eroded our ability to train for missions involving anti-access/area denial scenarios. To meet combatant commander requirements, we have had to increase our deployment lengths and decrease time between deployments, which affect our reconstitution and training cycles. Our high operations tempo has resulted in Airmen that are only proficient in the jobs they do when they deploy.

To fix this problem and be able to meet an increasing demand for Air Force capabilities in future operations, we need the funding and the latitude to balance these rotational and expeditionary requirements with adequate full-spectrum training. The additional funding requested in the FY16 PB will help us recover flying hour-related readiness due to the fiscal year 2013 sequester and put us on a steady path toward full recovery.

Operational Training Infrastructure (OTI)

Full-spectrum training for combat against a high-end adversary requires specific investment and emphasis on an integrated training and exercise capability. This includes the availability and sustainability of air-to-air and air-to-ground training ranges, fully augmented by, and integrated with, virtual training in simulators and with constructive models to represent a high-end adversary. This is what we call our Operational Training Infrastructure (OTI). Our ability to effectively expose our forces to a realistic, sufficiently dense, and advanced threat capability cannot be accomplished without our focus on OTI.

OTI becomes critical when you consider that we must expand our 5th generation weapon systems. These systems are so advanced that challenging our operators in live training environments while protecting the capabilities and tactics of these systems is problematic. Our approach to OTI will address these training shortfalls while maximizing the value of every training dollar.

In addition to investments in simulators as part of OTI, our ranges are used for large-scale joint and coalition exercises that are critical to training in realistic scenarios. We intend to sustain these critical national assets to elevate flying training effectiveness for the joint team and improve unit readiness. The same is true for our munitions. The FY16 PB includes funding to addresses the shortfalls in our critical munitions programs and to accelerate production and reduce unit cost.

Space Readiness

Space-based capabilities and effects are vital to US warfighting and the Air Force remains committed to maintaining the advantages this domain provides. Potential adversaries are developing and fielding capabilities to deny us these advantages and are also fielding their own space capabilities to support their terrestrial warfighting operations. We now recognize that space can no longer be considered a sanctuary. In order to deter and defeat interference and attacks on US space systems we must improve space domain mission assurance capabilities against aggressive and comprehensive space control programs.

Nuclear Readiness

The FY16 PB strengthens the nuclear enterprise, the number one mission priority of the Air Force. The Air Force's intercontinental ballistic missiles and heavy bombers provide two legs of the Nation's nuclear triad. The FY16 PB funds additional investments across the FYDP to sustain and modernize the ICBM force and funds 1,120 additional military and civilian billets across the nuclear enterprise as part of the Secretary of the Air Force-directed Force Improvement Program.

CONCLUSION

A ready, strong, and agile Air Force is a critical component of the best, most credible military in the world. Air Force capabilities are indispensable to deterrence,

controlled escalation, and destruction of an adversary's military capability ... as well as development, stability, and partnership-building. Today's Air Force provides America an indispensable hedge against the challenges of a dangerous and uncertain future, providing viable foreign policy options without requiring a large military commitment on foreign soil.

Such a force does not happen by accident; it must be deliberately planned and consistently funded in order to be successful. Continued investments in Air Force capabilities and readiness are essential to ensuring that the Air Force maintains the range, speed, and agility the Nation expects. Regardless of the future security environment, the Air Force must retain—and maintain—its unique ability to provide America with *Global Vigilance*, *Global Reach*, and *Global Power*.

Senator AYOTTE. Thank you, General Spencer.

In light of the fact that we've had President Ghani here, I wanted to, in particular, ask General Allyn and General Paxton about what is happening on the ground in Afghanistan. In—you know, in particular, I was pleased to hear the President's announcement this week that he has decided to leave 9,800 troops in Afghanistan until the end of the year. However, it seems to me that, as we look forward, having spoken to General Campbell and others about the situation in Afghanistan, that, even after this year, the most prudent course forward would be a ground—a conditions-based determination of what we do with those 9,800 troops. So, could you speak to that issue for me, in terms of where we are in Afghanistan and the needs we will have, going forward? You know, and I think one of the things all of us took from the President's speech today is, we actually have a partner that we can work with. That is refreshing.

So, General Allyn?

General ALLYN. Thank you, Madam Chair.

I was fortunate to be in Afghanistan with General Campbell the first week of February, and I had an opportunity to deploy down to be with both of our divisions that are forward, providing mission command—one from Kandahar, at Regional Command South, Tactical Air Command South (TAC–South), and the other one in TAC–East, from the 3rd Infantry Division stationed at Bagram. What was very clear to me as they were posturing for the potential to have to draw down to the directed numbers by the end of the year was that we had increased the ratio of our soldiers to contractors to a level that was what I would call the "razor's edge of risk." We had contractors doing that which soldiers need to do to assure the security of our forces. It was really driven by the force manning levels that General Campbell was posturing for to accomplish the mission.

I also had an opportunity to meet with two of the senior commanders from the Afghan Security Forces that I had served with in 2011 to 2012 in Regional Command East, and I asked for their assessment of where they thought the Afghan Security Forces were and what gave them concern. They were, overall, very optimistic, very determined, and very confident that they could weather the battle against the Taliban if they had the critical enabling capability that they required from—you know, from the United States—and, in specific, some of the—closing the gap for them, in terms of their aviation and their close air support capability that is not yet fully developed, and to continue to mature their sustainment capacity. Both efforts are well underway by the joint team that is there on the ground in Bagram under General Campbell's leadership. I

concur with you that the ground that we have been able to regain with the partnership between General Campbell and President Ghani is very, very inspiring, certainly to us, who have not had that experience in the last couple of years, but it's also very inspiring to the Afghan Security Forces. Because President Ghani has personally gone down to spend time with his forces and communicate his intent to enable them to fight and win. So, I think it bodes well as we look forward, ma'am.

General PAXTON. Yeah, thank you, Madam Chair. I, too, have had the opportunity on many occasions to be over in Afghanistan and, just several months ago, with our Marine Expeditionary Brigade (MEB) Alpha, who was down in Helmand Province before they pulled out. I'd echo what General Allyn said a moment ago, in that the conditions for success in Afghanistan have been set, both at the tactical level as well as at the strategic level. Making events on the ground and the commitment to continue there be more conditions-based than time-based is always a good thing. I feel good for General Campbell and our national leadership that, by making things condition-based, we have set ourselves on a path for success over there, and set the government as well as the Afghan National Security Force on the conditions for success.

President Ghani committed as much to the Department of Defense and the Armed Forces when he was over at the Pentagon the other day. So, I think we're in a good trajectory now, ma'am.

Senator AYOTTE. Thank you both.

I wanted to follow up with General Spencer and Admiral Howard on the issue of—we're engaged with, obviously, still the mission against ISIS, which has involved significant use of our fighters that, if we had met probably a year ago, we wouldn't have been talking about some of the additional use of our fighter force in regard to this fight that we face and challenge that we face there. Can you help update the—both of you update me on where—what are our challenges, in terms of having enough fighters, given that this is sort of a situation that we're, on the air, really helping the Kurds and the Iraqis on the ground fight the fight? You know, where do you see that, in terms of extra push on the force? As we do the authorization, what would you like us to think about that, just in terms of the current situation on the ground in Iraq and Syria?

Admiral HOWARD. Thank you, Senator.

So, as I mentioned in my opening statement, as we maintain carriers about—the *George Herbert Walker Bush* was there, and first the fighter size started to fly nontraditional Intelligence, Surveillance and Reconnaissance (ISR), but then quickly went into strike missions. As we stay committed in these endeavors, we will most likely maintain carrier presence over there. What we're finding is, we're flying the aircraft at a higher operational tempo. So, as we move forward and we continue staying engaged in support to the land components, we end up flying these aircraft much longer, longer distances, and then we end up consuming their readiness. We're seeing that play out as we try and extend the life of these fighters, particularly the legacy Hornets, from 6,000 hours to 10,000 hours.

Then, as we go through and we do maintenance on them, we're finding that the additional flight time has created deterioration problems that we just weren't expecting. So, as Senator Kaine pointed out, it would have been this morning's testimony, the more—the higher the OPTEMPO and the more we're engaged, the more we're flying, and then the more hours we put on these aircraft, and then the longer it is to return them back to a flyable status. So, we're clearly committed to the—any—the support that we're tasked to provide, but it does consume readiness.

Senator AYOTTE. General Spencer?

General SPENCER. Yes. Madam Chair, first of all, I echo everything that Admiral Howard had—Admiral Howard said. I'd like to—but, let me add a couple of things to give you some context.

Back during Desert Storm, in the Air Force, we had 133 combat aircraft squadrons—133. We—during Desert Storm, we deployed 33 forward, so we had a lot of squadrons left to do something else if something came up in the world. Today, we have 54 fighter squadrons—54 total. So, I would ask you to think back, if we were in Desert Storm today and we deployed 33 forward. So, that's problem number one.

The other issue is—and that we've—I assume we'll get into, here—is readiness, because a lot of folks assume you deploy folks to war and they are as ready as they can get. But, that's not the case in a counter insurgency (COIN) fight, because they're getting a lot of training, flying and dropping smart munitions, but they don't have the sophisticated surface-to-air threat that they would have in a more—in a higher-level fight. So, part of our challenge is, we are continually deploying folks to the current war. We don't keep them back home long enough to go out and train on these higher-level threats.

The final challenge I would mention is, we are using up a lot of smart munitions, and—which are expensive—and the interesting thing about the OCO budget is, overseas contingency operations (OCO) allows us to replace smart munitions that have already been expended. It doesn't let us project ahead.

Senator AYOTTE. Really?

General SPENCER. So, we—we're always chasing ourselves, getting behind in the amount of munitions we have.

So, to add a couple with Admiral Howard's comments, I couldn't agree with you more.

Senator AYOTTE. Thank you.

I'd like to turn it over to Senator Kaine.

Senator KAINE. Thank you, Madam Chair.

Thanks, to the witnesses, for your testimony.

General Allyn, you said something—I tried to write it down fast, and I'm having a hard time reading my handwriting, during your testimony, but I think it was, "We have enough readiness for immediate consumption, but not enough for a contingency." Is that basically the thought you were expressing?

General ALLYN. Yes, it is, Senator Kaine. We—for the past, you know, in—about 6 months after sequestration, our readiness had degraded to about 10 percent of our brigades being ready for a global contingency. The next 18 months, we rebuilt that to just above 30 percent. But, we have been holding steady at 30 percent

now for about 4 months, because, as fast as we generate the readiness, it's being consumed.

As an example, when the ebola crisis hit——

Senator KAINE. Yeah.

General ALLYN.—you know, within days, we deployed the 101st Airborne Division, that was a force training and ready to go to Afghanistan, to divert in and provide essential support to the U.S. Agency for International Development (USAID) to fight and abate the Ebola crisis. We also deployed a Brigade Combat Team of the 82nd Airborne Division into Iraq to provide the plus-up and advise-and-assist capability that was required in Iraq. Their readiness was, you know, absolutely at the top, because they had just handed off the Global Response Force mission to the 2nd Brigade of the 82nd. We had sort of counted on that brigade coming off to provide some surge capacity for a number of months, but, instead, you know, a requirement emerged, and we met it, just as we always will.

So, as we've been, you know, being good stewards of the resources you are giving us to generate readiness, we are also responding to emergent requirements.

Senator KAINE. Right.

General ALLYN. In 2014, about 87 percent of the emergent requirements, we met as an Army, as we will continue to do, but it does speak to the—really, the twofold challenge of building readiness. You know, we can generate additional readiness, but we can't control the demand.

Senator KAINE. Right. Right. Is that just basic, kind of, phraseology, "We have readiness for immediate consumption, but not for a contingency"? Would that be kind of a fair statement that all of you from your respective branches would agree with?

Admiral HOWARD. So, in particular for the Navy, we look at the readiness of the units that we deploy and then the forward-deployed units, and then we've always kept a level of readiness for the units in order to surge, those that respond to a contingency, just as General Allyn described. Right now we're at our lowest surge capacity that we've been at in years, and—so, we're able to have two carriers out and about, but we've only got one in backup. The same with the amphibious ready group (ARG). We've got two out and about and one in backup.

Our goal is to—with this budget, to get us back and increase that readiness and meet our own goals of two—having two carriers deployed and three ready to surge, approximately half the force.

So, yes, as time has gone on, we have literally consumed the readiness, and then the readiness of the forces that are next in the wicket.

Senator KAINE. Great, thank you.

General Paxton?

General PAXTON. Thank you, Senator Kaine.

I guess the short answer is, absolutely, we generate readiness, but we consume it as fast as we generate it. We, as a Corps, are focused primarily on crisis response. As we do that, we are mortgaging our future for sustainment and for modernization, and we're also reducing the at-home or home-station training and availability of units.

I can give you two examples, if I may, Senator. One is in the Africa Command (AFRICOM) area, and one is in the Central Command area. In both of those geographic combatant commanders today, we have a Special Purpose Marine Air-Ground Task Force. We would like to say that is kind of like a MEU, a Marine Expeditionary Unit. It is not as sustainable and expeditionary ashore, and it certainly doesn't have the power projection and sovereign capability that we would like to have coming off of an amphibious platform, a ship. But, we generated those two capabilities in immediate response to combatant commander requests. In the case of AFRICOM, it was to help with some security-force arrangements at some embassies, to work some train, advise, and assist missions and develop partnership capacity. Then, in the Central Command area of responsibility (AOR), it was because of specific risks at two embassies, and then also to start working on train, advise, and assist missions with the Iraqi Security Forces.

But, in both of those cases, that has now consumed what would have been home-station readiness, because it's now forward deployed. It has brought us closer to a one-to-two depth-to-dwell, which creates stress on the force. It further exacerbates the age and the maintenance of our equipment. Despite the good work of my shipmate and where the Navy's trying to go with capital investment, it highlights the fact that we already have a paucity of amphibious ships by inventory, and that's also exacerbated by the fact that they have maintenance challenges keeping them in the yard. So, we can't generate enough sovereign launch-and-recovery capability for the Nation that we have to do these things with a smaller unit and go what we call "feet dry" ashore. So, we consume it as soon as we generate it, yes, sir.

Senator KAINE. General Spencer?

General SPENCER. Yes, sir. The—first of all, a similar story from—for the Air Force. The combat air forces that we have right now, less than 50 percent are fully spectrum ready—less than 50 percent. Let me give you a couple of examples, because, again, we're—right now we're just talking about combat air forces. We haven't talked about nuclear, we haven't talked about ISR, we haven't talked about space. But, let's talk about ISR for a second.

I mean, right now we have been in a position of surge in our ISR caps since 2007. That does not define a surge. So, we are essentially——

Senator KAINE. Because nobody ever asks for less ISR.

General SPENCER. That's exactly right.

Senator KAINE. It just continue—it continues to——

General SPENCER. It continues——

Senator KAINE. Yeah.

General SPENCER.—it has exploded—the demand has exploded. So, we have been staffed, if you will, for 55 cap since 2007, flying 65. We've—we surged, that entire time. So, we have essentially at our wits' end at the—where we are now, because we've got—remotely piloted aircraft (RPA) pilots are that we have just worked to the point where we are worried that we—whether we can retain them, or not, and whether they will stay.

Now—so, when we first started ISR, as you know, we did a combination of things. We brought in pilots from other airplanes, other

weapon systems, brought them in, taught them how to fly RPAs, and we also created a schoolhouse to train new RPA pilots.

We've now reached the point where the new RPA pilots are coming up to the point where they can separate. We have asked them all, in a survey, "Are you going to take the bonus and stay?" Roughly 30 percent say they'll stay. We've already reached a point where our pilots can go back and fly other weapon systems, and we're telling them they can't go back. So, we're asking for volunteers to come back in, we're increasing their bonuses. We're asking for Guard, you know, to volunteer. We're—we have a series of things we're doing to try to make that enterprise healthier, but it's just an indication of what the current Ops Tempo has done. I can't—I want to footstop that, because General Paxton mentioned it. The Ops Tempo that we're under now has now allowed us to bring the—where we are down low enough so we can——

Senator KAINE. Yeah.

General SPENCER.—train and get ready to go again.

Senator KAINE. Right. Well, I'm over time, but just to say, you know, if we have, essentially, a force that's ready for immediate consumption, but we don't really have the contingency ability, you've just got to look at the world and say, "So, are we in a world without contingencies, or are we in a world that is likely to throw some contingencies?" The answer to that is just as plain as everyday's front page. We are in a contingency-rich world right now.

So, thank you, Madam Chair.

Senator AYOTTE. Senator Rounds.

Senator ROUNDS. Thank you, Madam Chair.

Thank you for your service.

Admiral Howard, a week ago today we had a group of South Dakotans in for a meet-and-greet. One of the guys was about my age, brought in and was very proud of the fact that in his wallet he was carrying a picture that his son had taken at his first solo flight in an F/A–18. In doing so, we could see the pride. But, he said something that was concerning to me, and that was that it was just unfortunate that it was taking approximately 18 months for them to reach a certain level of readiness, where, if they would have had the parts to keep the aircraft in the air, it would have taken normally about 12 months. It seems to me that, if that anecdotal information being shared is accurate, that you're going to have a tough time coming up with the pilots, in a regular order of operation, just to replace and keep up with the readiness necessary for the folks that are working right now in combat areas.

Could you visit a little bit about—number one, is my estimate—or is my information accurate, in terms of the challenges you've got right now with keeping aircraft in the air and operational? Second of all, with OCO funding the way that it's set up right now—and I'm going to ask this of all of the members here—is there something that we can do, with regards to the limitations that we've got, to where we can modify OCO somehow so that you can access funds that might otherwise be there, but not available for what your immediate needs are?

Admiral HOWARD. Thank you, Senator.

Perhaps a slightly different perspective. This gets down to that 2013, when we sequestered, we furloughed some of our artisans and engineers, and then we created a backlog in our aviation depots. So, when we're looking at the throughput of those aviation depots, coupled with the aging aircraft, and then as we open up those older F/A–18s and discover that, by flying them longer, there's more corrosion, that backlog just increased. So, we already had the—have and are living with the impact of that short period of sequester. We now are in the timeframe where we are hiring the artisans as quickly as we can, several hundred this year, to help get us to being able to assess those aircraft quickly and then repair them as quickly as we can.

This is where OCO has been very helpful. So, we have our fundamental aviation maintenance account, and then we've plussed-up that maintenance account to help get that throughput up to where it needs to be, and to decrease that backlog.

So, for us, right now the limitations for the depot is not the money. The limitation is literally getting the people hired and in place; for the people who are new, getting them trained. But, there's also another piece to it. I think there's a trust factor there, that, when we want to bring people—proud civilians in to do all the support for our aircraft, or whether it's ships, they have to trust that the work's going to be there, that they can live their lives, pay their mortgages, and not worry about being furloughed, so that they want to have a job with the government.

So, we know we have a backlog, and we expect to be able to clear that up in 18 months. But, all bets will be off if we sequester again. Then, you're right, then it gets down to, not just, "Do we have the aircraft for our pilots to train in?"—but, when we sequestered last time, I was the Deputy Commander of Fleet, and I had the very unhappy job of going down and talking to a cruiser community officer (CO) and his chiefs and his crew, because we weren't going to be able to get that ship underway. We talked about what it meant for their qualifications, what it meant for the—their ability to serve at sea. If people can't do their jobs, it's an immense dissatisfier.

Thank you.

General ALLYN. Senator Rounds, in terms of the OCO flexibility that's required, clearly OCO has been critical for us to meet the readiness and the equipment recovery, replenishment for our forces that have been deployed in support of the countless operational requirements, both emerging and known. We've been thankful for that funding. But, as you talk about a wider application of OCO in the future, it needs to be more flexible. It must be more flexible. Because, otherwise, we cannot use it for all the readiness requirements that we have, and certainly the year-to-year application of it——

Senator ROUNDS. Sir, if I could, would you get us a list of what you need the flexibility on that we may be able to look at, in terms of OCO funding available?

General ALLYN. Yes, sir, we will.

[The information referred to follows:]

General ALLYN. The Army, like each of the other services, needs the fiscal flexibility to address the uncertainty of funding we are dealing with, in a world were instability is creating increased overseas requirements. What we really need is suffi-

cient base funding, but where feasible, we need broader discretion on the use of already appropriated Overseas Contingency Operations (OCO) funds in order to maintain the readiness of our formations and to respond to new missions. An example is what has occurred in Europe due to the Russian annexation of Crimea. This created a demand for the Army to defer sending an active component Brigade Combat Team to Kosovo, and instead, we sent it to Eastern Europe to deter and assure. To backfill that brigade, which was responding to a named operation, we mobilized a National Guard unit to go to Kosovo. Current OCO rules do not allow us to use OCO to pay the mobilization costs of the National Guard unit, instead we used base funding and had to reduce the readiness of other units to pay for those costs. Allowing for more flexible use of OCO, for direct and indirect impacts to named operations that may not occur in the geographic area of the named operation, would greatly improve our readiness.

Admiral HOWARD. I have nothing further to add to my response.

General SPENCER. Senator Rounds' question was directed to General Allyn, not General Spencer.

General PAXTON. The largest issue concerning flexibility in OCO funding is timing. The Marine Corps begins to plan its requirements for the OCO budget approximately 18 months before the funding would likely be made available. Even with our best forecasting, requirements will change during the year of execution, requiring transfers between accounts, many of which require Congressional approval.

Additionally, the planning process for long-term modernization, sustainment and upgrade programs requires a lengthy, multi-year timeline. Since the OCO budget is developed outside the normal Planning, Programming, Budgeting and Execution process, it is difficult to use on critical shortfall procurement items in the current year.

Senator ROUNDS. Thank you.

General PAXTON. Yeah, thank you, Senator Rounds.

If I may, two things. Number one, to follow up on Vice Chief of Naval Operations' (CNO) comments, when we have a challenge with our maintenance and the dollars for maintenance—and you used F–18s as an example. We call it RBA, Ready Basic Aircraft. Those are the ones that are through the upgrades, modernization, and they're ready on the flight line to take off. When those aircraft are delayed, either because we don't have money for parts, money for engineers, or money to actually move the aircraft to the depot, we still have pilots who are waiting to fly. So, now we have more pilots than we have aircraft. Sometimes, if we have a higher demand signal, those pilots may actually go forward. So, the time they have available to train to them when they get back is shorter. So, you can see the downward spiral that happens, because then you have more pilots with a shorter-term time, with less aircraft to train on, and then you get in this training readiness spiral that goes down.

If you exacerbate that by the fact that some of those flight requirements actually have to come from the deck of the ship that you need bounces on carrier calls or that you need night vision goggle ops, the minute you perturb the availability of a ship or an aircraft, the spiral starts, and it's really hard to regain.

To your second question, on OCO dollars, always helpful. We'll all work together to get you examples of how that would help. But, I'd just like to be on the record, sir, that the OCO dollars are insufficient to the problem we have right now. I mean, they are single-year dollars. It's a short planning horizon. It's actually the BCA caps and it's the ability to forecast across the Future Years Defense Program (FYDP) to start long-term modernization programs and sustainment and upgrade programs that will eventually allow us to not only handle the crisis, but to handle the contingency we need because we have enough readiness at home station.

Thank you, sir.

General SPENCER. Senator, in terms of OCO specifically, flexibilities of where you may—might be able to help, I already mentioned one. So, there are certain things, like munitions, that are after-the-fact. So, we put, in our OCO submission, munitions that we used last year, but we can't put in OCO submission what we plan to use this year. So, again, we're always a year behind.

Timing is really critical, because if the OCO budget comes late in the year, that does a lot of things to us. One, we are trying to plan, hoping on the come, not exactly sure what we'll get passed. There is actually a law that says you have to obligate 80 percent of our own end money by July. So, if the money comes late, we've got a problem there that we have to work through.

We're all afraid to death one of these days, if OCO goes away, and a lot of the things that are being funded in OCO, quite frankly, will end up in our base. How is that going to work? You know, in the Air Force, for example, we have several bases in the theater right now that we've been told are going to be, quote/unquote, "enduring," which means we'll probably hang onto those bases. They're being funded by OCO. What happens when OCO goes away? How do we get that money into the base?

Finally, as General Paxton mentioned, planning is a really big deal, because—particularly in a procurement account. So, if we're going to buy a weapon system, if we're going to pay for F–35s or do a multiyear for C–130s, it—that's really difficult to do if you're trying to do that one year at a time, because you don't know what's going to come in the next few years. So, to the extent that those type of purchases can—you know, I've been told that there's a—there is—that we have had a multiyear OCO in the past, or a supplemental. I don't know if that's under consideration. But, the real answer for us is if we can get that money in the base, that would really be helpful.

Senator ROUNDS. Thank you, Madam Chair.

Senator AYOTTE. Thank you.

It would be really helpful to us, especially those of us that serve jointly on the Budget and Armed Services Committee, if all of you could submit to us what you think, in terms of flexibility for OCO, because we don't know how this story ends, this year, and just—you know, you're, I'm sure, aware of things that happen on the floor on the budget and all that. It would be helpful for us to understand that. If the plus-up ends up being in the OCO line versus the base budget, what do you really need, to do what needs to be done? I know it's not ideal. Frankly, there are many of us that want to deal with the overall BCA in solving it. I'm still committed to doing that. But, you know, we've got to do what we've got to do around here. So, just—if you can get that to us, it would be helpful—all of the branches—to understand what you really need.

[The information referred to follows:]

General ALLYN. Receiving OCO funding instead of base funding for fiscal year 2016 would allow the Army to conduct its missions and achieve readiness targets provided that appropriation language and OMB interpretation fully allowed OCO dollars to be spent on base requirements. However, in the long term, using OCO to circumvent Budget Control Act caps would put Army readiness at risk, because steady, predictable base funding is the key to long term, enduring readiness.

Admiral HOWARD. What we really need is what we have included in the fiscal year 2016 Navy budget submission. As we look to the future, the Navy will continue to be globally deployed to provide a credible and survivable strategic deterrent and to support the mission requirements of the regional Combatant Commanders. Global operations continue to assume an increasingly maritime focus, and our Navy will sustain its forward presence, warfighting focus, and readiness preparations. We see no future reduction to these requirements. The fiscal year 2016 Navy budget submission addresses the challenges to achieving the necessary readiness to execute our missions.

Overseas Contingency Operations funding is meant to fund incremental costs of overseas conflicts such as in Afghanistan and Iraq. OCO does not provide a stable, multi-year budget horizon. Our defense industry partners need stability and long term plans—not short-term fixes—to be efficient and cutting-edge. OCO is dispiriting to our force. Our personnel, active, reserve and civilian and their families deserve to know their future more than just one year at a time.

The Navy appreciates Congress' continued action to explore alternative paths that do not lock in sequestration. Any funding below our Navy budget submission requires a revision of America's defense strategy. Sequestration would outright damage the national security of this country.

General SPENCER. *Question.* It would be really helpful to us, especially those of us that serve jointly on the Budget and Armed Services Committee, if all of you could submit to us what you think, in terms of flexibility for OCO, because we don't know how this story ends, this year, and just—you know, you're, I'm sure, aware of things that happen on the floor on the budget and all that. It would be helpful for us to understand that. If the plus-up ends up being in the OCO line versus the base budget, what do you really need, to do what needs to be done? I know it's not ideal. Frankly, there are many of us that want to deal with the overall BCA in solving it. I'm still committed to doing that. But, you know, we've got to do what we've got to do around here. So, just—if you can get that to us, it would be helpful—all of the branches—to understand what you really need.

Answer. The fiscal year 2016 President's Budget supports our critical needs to execute the defense strategy, but we made tough choices in capacity and capability / modernization. The Air Force does not support any reductions to the President's Budget and the short term solution of using OCO does not address the long term budgeting challenges created by the Budget Control Act (BCA). Further, this short term solution does not provide the necessary BCA relief for the other Federal Agencies that the Air Force works with such as Homeland Security and Department of Energy. Without relief for the other Federal Agencies, our partner missions will be at risk. Most importantly, this solution does not move us towards a more stable budget environment that is critical to long term strategic planning to meet the Defense Strategic Guidance and protect the Homeland.

General PAXTON. The largest issue concerning flexibility in OCO funding is timing. The Marine Corps begins to plan its requirements for the OCO budget approximately 18 months before the funding would likely be made available. Even with our best forecasting, requirements will change during the year of execution, requiring transfers between accounts, many of which require Congressional approval.

Additionally, the planning process for long-term modernization, sustainment and upgrade programs requires a lengthy, multi-year timeline. Since the OCO budget is developed outside the normal Planning, Programming, Budgeting and Execution process, it is difficult to use on critical shortfall procurement items in the current year.

Senator AYOTTE. I wanted to ask, General Allyn, can you give us an update on end strength and where we are, in terms of numbers, on end strength? How many people have we had to use involuntary terminations for in 2014? What's been the status of those individuals? You know, are they—are there people that we have in combat that we're giving involuntary terminations to? Then, you know, one thing I think that's fairly powerful as we look at—if we go to sequester, where does that put our end strength? I know we've talked about it in the larger committee. But, also, what does that mean, in terms of involuntary terminations?

I really want people to understand. I think this committee understands very well. In some ways, when we talk about sequester, when you talk to the Armed Services Committee, a little bit like

preaching to the choir, but we want to get this word out also to the broader Senate. So, if you could comment on the involuntary termination issue, end-strength numbers. I would also then ask General Paxton to follow up the same with the Marine Corps.

General ALLYN. Yes, Madam Chair. The bottom line is, we are at about 498,000 today in the United States Army, headed toward a end-of-fiscal-year number of 490,000 and budgeted in the, Program Objective Memorandum (POM) to go down to 450,000. To give you the broader answer first, to get to 450,000 soldiers, as has been directed by our current budget, that will require the involuntary separation of 14,000 soldiers. On average—that's officers and noncommissioned officers—on average, it's about 2,000 per year. Okay? So, fiscal year 2014 was about 2,100 soldiers. Just over 50 percent of those soldiers served over two or more combat tours. So, these are soldiers that answered the call multiple times to meet the requirements that the Nation had. They were——

Senator AYOTTE. Two or more combat tours.

General ALLYN. Two or more combat tours for 50 percent of that—those that we were asking to leave involuntarily. Now, first and foremost, this is not a choice the United States Army took. This is a budget-driven requirement. So——

Senator AYOTTE. I assume that, if you've done two tours, you're not terminating these people because they aren't capable of fighting.

General ALLYN. You are absolutely accurate. You asked a question, were we really having to separate some soldiers that were forward deployed? The answer is yes.

Let me first let you understand that treating those veterans of multiple combat tours with dignity and respect is our absolute number-one commitment. Every single officer or noncommissioned officer that we asked to involuntarily separate was briefed, before the board was held, by a general officer—first general officer in the chain of command, and then, when the board completed its process and identified those for separation, they were briefed again, face to face, as much as possible. In a couple of cases, they had to have the general officer contact by phone or video teleconference (VTC) with the immediate commander present to ensure that we treated these, you know, people who had served so courageously with the absolute utmost dignity and respect.

Our objective in notifying people that were forward deployed was to give them the maximum time possible to transition effectively to the next phase of their life. The minimum that we wanted to provide them was 10 months, at least, so that they would have an opportunity to take the benefit of all of the transition, education, plug them into employment advisors through programs like our Soldier for Life Initiative, and ensure that we set them up for success, to include providing opportunities for mentors from industries around their communities that they intend to go back to.

So, not a choice that we took willingly or voluntarily, but we have taken it on, we have ensured the appropriate care of every one of our soldiers, and are committed to do so as we go forward.

Senator AYOTTE. General Paxton?

General PAXTON. Yeah, thank you, Senator Ayotte.

Your Marine Corps today is 184,000. We had grown to 202,000 by some special appropriations and authorizations. That was temporary. We knew we were not going to be able to sustain that. So, we had started our downward growth, if you will, before BCA kicked in.

Under BCA, we have to be at 182,000 by the end of fiscal year 2017. We expect, if full BCA continues, we could very well have to go to 175,000.

To date, we have deliberately not broken faith with marines. Almost all of our separations have been voluntary. We have had low double digits of majors who were not selected to lieutenant colonel, and staff sergeants who were not selected to gunnery sergeant, who we did not continue. But, they were afforded other venues for separation at that time.

We do have a concern that if the BCA caps come back and we have to go to 175,000, that at some point we could be forced to do larger numbers of involuntary termination.

Senator AYOTTE. I don't know if—you know, Admiral Howard, I'm not trying to exclude the Navy and the Air Force on this. Anything you want to report on this end?

General SPENCER. I would only add that we've—we were on a steady decline in manpower, and finally have—we've drawn a red line at around 317,000 for active duty, because we just can't go any lower. Based on our—the levels of maintenance folks we have on our flight lines, fixing our airplanes, launching satellites, we've sort drawn a red line and said we can't go any further.

Admiral HOWARD. So, along with General Spencer, I think the Navy and Air Force were on a different journey these last 15 years. I recall, in December of 2000, when I reported to the Joint Staff and then 9/11 happened the following year, literally I—we were a Navy of about 14 carriers, 383,000 people, and I think it was close to 312 ships. We're—we've downsized about 67,000 people, and we're about 279 ships today

The budget we've submitted continues to acquire ships, build ships, and we would be looking at being back to 304 ships in 2020. But, because we're a capital-intensive force, our manning is matched to those ships. So, we would expect to be at 329,000, and about 57,000 Reserve. But, we took—we reduced our force over the last 14 years. So, along with the Air Force, we're not trying to get any smaller.

Senator AYOTTE. Thank you.

Senator Kaine?

Senator KAINE. On the issue of OCO and flexibility, I'm maybe a little bit like a former Governor. We're all into flexibility. I like giving folks flexibility.

But, I would guess that, as long as we're talking about readiness, even putting flexibility doesn't necessarily—I think, General, you said, it's the caps, not the flexibility. Flexibility would be helpful. But, won't there always be a tendency, if you have to choose between priorities, to kind of short readiness? I mean, you're always going to—you're always going to do the day's mission and try to have people as well deployed as you can for doing a deployed mission. If you don't have enough to choose from, you'll always pick that, and probably try to save on the readiness side. It seems like

that's one of the challenges. So, even if you allow for flexibility, it would seem that readiness is always going to be somewhat at risk in a capped environment when there aren't sufficient resources, "Well, we can't—we don't want to short the folks who are forward deployed during these missions, so we'll probably—you know, if we have to save it somewhere, we're going to save on the readiness side."

So, flexibility, I don't view that as the real solution. I mean, it could be helpful, but it's not really going to solve the readiness challenge we have, in my view. Am I wrong to look at it that way?

General PAXTON. Senator, if I may, I'll start, only because we've just had this discussion this morning in the building. Although there are some common terminologies and lexicon, each of the services has to look——

Senator KAINE. Yeah.

General PAXTON.—at this in a little different way.

So, on the part of the Marine Corps, we truly envision ourselves as the 9–1–1 force that you—that the American public, the American Congress, the taxpayer, they expect us to be most ready when everybody else is least ready. We don't have a big role or mission in the nuclear triad and things like that. We're a rather conventional force, we're a rather small-unit force, and we're supposed to be forward deployed, forward engaged. So, we fully expect that we're going to generate readiness and consume readiness, and, at some point, we will take risk in some modernization and we'll take risk in some home-station readiness. We think we're at that ragged edge right now.

For example, our aircraft are old, too, anywhere from 22 to 29 years, and growing. Our amphibious vehicle capability is 42 years old. So, we're at the point, as General Spencer said earlier, that we have to modernize. We, early on, after Operation Iraqi Freedom (OIF) and Operation Enduring Freedom (OEF), went into this bathtub, and we had to go all in to modernize, because the gear was too old.

So, we feel at risk now for modernization and sustainment. But, we're going to continue to give you fight-tonight forces, ready forces for the crisis that's at hand, even if we know, later on, we may eventually get to the point of, "Yes, but," that we'll give you several companies, but not a whole battalion, we'll give you a squadron with 8 aircraft instead of 12 aircraft.

But, each of the other services, at some point, looks at it just a little differently. So, that's where the Marine Corps is, sir.

General SPENCER. Yes, Senator. You put your finger on really what our challenge is, quite frankly, because you said, in most cases, we would go to readiness if we had a budget issue, a budget concern. The reason we do that is because we don't have a lot of choice. We've only got three pots of money. We have people, procurement, and readiness. People, you can't just send people home. I mean, you know, you—even if—people—actually, our military folks were exempt from sequestration, but, even if they weren't, that's a long process to reduce. Quite frankly, we can't reduce any more. Similarly with procurement, those are multiyear purchases that are stretched out over many years, involve a lot of money. If you start cutting those, your unit cost goes up.

Senator KAINE. Yeah, you can slow down the next one, but you can't——

General SPENCER. That's——

Senator KAINE.—break the one that you're——

General SPENCER. That's exactly right.

Senator KAINE.—in the middle of. Right.

General SPENCER. So, then—so, a lot of times, we don't have any choice, if we have to find fast money, but to go to readiness, because it's essentially Operations and Maintenance (O&M) money. But, that's the dilemma, because we—that's where our readiness is. So, that's the box we're put in.

Senator KAINE. Yeah.

General SPENCER. We don't want to do that. We're—all the services are obviously a little bit different, but, at least in the Air Force's case, as you know, you know, if we get called upon, I mean, we've got to be there in hours, not days, weeks, or months. So, it's—we have to—readiness is critical for us, yet readiness is the only account we can go reach out and take money quickly. So, that's the sort of dichotomy we're in.

Senator KAINE. Indeed.

Other comments? General Allyn, Admiral Howard?

General ALLYN. I was just going to just reinforce my teammates' points, here. But, it really does come down to trying to balance concurrent priorities. As has been stated, the Army's budget, over 50 percent of it is committed to our national treasure, our people, you know, both the military and civilian. So, we've got 50 percent of the budget with which we wrestle with the dual priorities of readiness and modernization. We, in the Army, have actually erred on the side of delivering the readiness that's required for the known and emerging missions, and taking risk in the mid- to long-term with modernization. But, that is a—that's a hard choice, and it's a choice that our Chief and our Secretary take, fully analyzing, you know, the opportunity costs of doing that.

It's just a very, very difficult position to be in, and one—with the capacity that this Nation has, we shouldn't be in that position.

Senator KAINE. Yeah.

General ALLYN. You know, our soldiers should expect that, when they go up against an adversary, that adversary faces an unfair fight whenever they come up against the United States of America. We are putting that at risk.

Senator KAINE. Admiral Howard?

Admiral HOWARD. Senator, thank you. I just wanted to share that, when I was at fleet, when we sequestered last time, as General Spencer pointed out, that was the only intermediate choices we had.

Senator KAINE. Yeah.

Admiral HOWARD. When you talk about readiness, we had to cancel deployments of ships. Now you're not where you need to be, and you're not giving the COCOM any forces, let alone ready forces.

Then we had to reduce steaming hours and flying hours, which is the training of the piece Senator Rounds brought up. We had to take some of the air wings down to tactical hard deck to generate the savings to hit that lower target budget—budget target. So, there is, in the immediate aftermath of sequestration, an impact on

the forces and—in the Operations and Maintenance (O&M) account and in operations and in training dollars.

Thank you.

Senator KAINE. Last—just a comment. You had—you mentioned the COCOM, and that reminded me of one other thought. We have the hearings with the COCOMs, you know, the status hearings, during the spring. One of the things I'm really always impressed by, and most recently a conversation with General Kelly at SOUTHCOM, is the degree to which the COCOMs really approach their mission with kind of a whole-of-government approach. They're relying on the intelligence community, they're relying on the State Department, they're relying on Department of Justice, they're relying on the Department of Homeland Security (DHS)—especially in the SOUTHCOM, that's really important. All these agencies are affected by sequester, too, the partners that our COCOMs rely on. They may not be—you know, it may not be defense sequester, but they're sequestered on the nondefense side, and they have a direct impact on the security mission. So, again, there's a lot of compounding effects here, and your testimony is good tribute to that.

Thank you, Madam Chair.

Senator AYOTTE. Senator Rounds.

Senator ROUNDS. Thank you, Madam Chair.

I think it's becoming obvious in the discussion that, as you listen to us, we talk about trying to make it—we're trying to set it up so that there is a way to skin this cat that's out there right now with BCA basically there and in front of us. Part of it is to give you as many options as possible in order to be able to utilize the funds that we are able to allocate, either through the budget and then through the appropriations process. I want to make sure that, if we do take a particular approach, that it is as readily available to you as possible without other strings attached to it. So, you know, we're not exactly sure how we skin this cat that's in front of us, but we want your help in doing so, and that's the reason for the discussion.

I just wanted to go directly to General Spencer with something that you said earlier that I think is just so impactful, and that is that, if we would have been going to war in 1991, we would have been in the same position as we are today with the age of our aircraft; we'd be flying B–17s. You know, in fact, if my information is correct, the Department of Defense (DOD) currently operates a bomber force that is half the size of the Cold War force recommended by its 1993 bottom-up review.

Now, if it's true that advances in sensor technologies and precision-guided weapons have helped to offset cuts driven by budget reductions, but—in other words, they have the effect, though, of acting as a force multiplier—but, that being said, reduced readiness levels—and that's what we've been talking about here, are the readiness levels—the readiness levels have an opposite effect.

I'd just like to talk a little bit, and I want to give you an opportunity to visit a little bit, about the—what happens with the—has the combination of reduced readiness and smaller force size eroded our global strike advantage? Right now we're talking about aircraft that are very, very old, and you've got an F–35 that's available

right now that you're still trying to procure, you've got a tanker that's necessary to be set up and operational, but you also have a need to replace, or at least to supplement, the B–1 and the B–2. Right now you've got B–52s that are doing some of that work, but the Long Range Strike Bomber (LRSB) has clearly got to be maintained, as well, or at least you've got to be able to procure that in the future. Can you talk a little bit about what that is and what's going on right now within the Air Force to try to maintain all of those goals, and procure and still maintain readiness?

General SPENCER. No, thank you, Senator.

Again, you've put your finger right on the issues, here. You know, the—we've only got 20 B–2s, and if—so, if we have to have a long-range penetrating bomber that can get through a lot of the—you know, back when the B–52 and the B–1 was built, they aren't stealthy, they don't—they won't penetrate some of the systems that are out there now, so we have to have that capability. Similarly, for our other platforms, as well. The F–35, for example, along with the F–22, you know, some of—there are other fighters being introduced into the market now, so-called 4.5 generation, if you will, that would beat our—I mean, the advantage that we have always had, and I think we still have, is, our pilots are better trained. But, if you give the adversary a better airplane, then that's a real problem.

So, the faster and the more efficiently we can get to fifth generation, the better.

Senator ROUNDS. Do you want to talk just a little bit in—you made the remark, and then you moved on rather quickly, but you're talking about a 4.5, which is out there, which is going to, basically, be in a position to where—we don't ever want to be in a fair fight, but we want to the advantage to be on our side all the time. Do you want to talk about that just a little bit?

General SPENCER. Sure, yes. So, the—they are being produced, as we speak, developed and produced, a fighter that is ahead of our fourth-generation—the F–15, F–16s—it is ahead. So, based on the systems they have, we—they would—as our Chief said, 4.5 kills a fourth-generation airplane. So, that's why it's—and the sense of—we have to modernize our fleet, is what I'm saying. The age of our fleet that we have now won't—is not sufficient for us in the high-end threats and the high-end fights that we are—that we could be involved in. So, we—so, if nothing else, to maintain, first, deterrence, but then to be able to win if deterrence fails. We want to go in—as General Allyn said, we don't want a fair fight. We want the best equipment, with the best technology, with the best-trained both—maintenance folks, pilots, you name it, space operators—we need the absolute best that we can have. So, that's really imperative for us to stay on track with our modernization.

Senator ROUNDS. Thank you, Madam Chair.

Unless one of the other——

Sir?

General PAXTON. Thank you, Senator Rounds.

If I may—I had made the point earlier about how we all need a planning horizon. We had aging aircraft in both our F–18s, our AV–8Bs and our EA–6s. We knew we were going to have to replace them, so we put—we went all in on the F–35, and we're in that

bathtub right now. So, the monies and the planning that is available to us to bring the F–35 to fruition are critical for the fight in the future. If we don't—if the BCA kicks in and we buy fewer, then you lose the economies of scale, you delay the production line, and then our fight-tonight force and our fight-tomorrow force are both jeopardized.

Thank you.

Senator ROUNDS. Thank you.

General ALLYN. I would just add, for the Army, the same application that General Paxton just talked about for our—modernization of our aviation fleet is absolutely the exact same dynamic. So, we will not procure the more modern UH–60 aircraft that our total force needs, we will not modernize the AH–64 to the level that it needs to, and our CH–47 modernization will stop after fiscal year '16. So, it is absolutely critical that we stay on this path.

Admiral HOWARD. So, we have often used a technological edge as a warfighting edge. So, as we've had to meet budget targets, we've had to slow modernization down. But, really what that gets to is our ability to win in a anti-access aerial-denial fight. So, as we slow down our ability to modernize weapon systems on ships or on aircraft or the physical platforms themselves, it's given potential adversaries an opportunity to get closer to us and to start—and that gap in the technological edge is starting to diminish.

Senator ROUNDS. Thank you.

Thank you, Madam Chair.

Senator AYOTTE. So, I wanted to—we have—Senator Shaheen is on her way for some questions—but when—Admiral Howard, when we met in my office, one of the issues that you raised, we saw, recently, the attempt by ISIS to expose our men and women in uniform in the cyber domain. So, I wanted to get your thoughts on, you know, What are the cyber challenges that our forces face, and how does all this relate to readiness and our posture?

Admiral Howard, I'd start with you.

Admiral HOWARD. Thank you. So, there's two issues. All of us—one is the force, writ large—our civilians, our Active, and our Reserve. We all actually live and operate in this domain. We're in it for our workday, and then, for our sailors and Reserve, they're in it when they're off duty. So, for us, we have to continue to develop and train our workforce to understand that as much innovation and excitement and fun as you can have on liberty in this domain, there's vulnerabilities in this domain. Because of the robustness of knowledge exchange in this domain, the vulnerabilities translate to potential operational security issues, which is some of what we saw this week.

So, as—whether they're sailors, Reserves, or civilian, if they are out and about on social networks, and identify themselves or identify units, that they have to be trained to understand operational security in this virtual domain, just as they understand operational security in the physical domain.

The next piece is, there is a more professional cohort when you look at the—for us, the information dominance community, you look at our enlisted, our IT, and then, for officer, informational professionals, cryptologists, intelligence officers, and then they are really the heart of our cyber warriors and the workforce that we're

developing to not only defend our networks, but also develop both offensive cyber capability, as well. Then, that's—for us, those are the components, those are the folks we put together, and then they are the ones that work underneath U.S. Cyber Command in whatever mission sets they're required to provide.

General ALLYN. Madam Chair, I would just add that, you know, in 2013, we had no Army cyber mission teams. Today we have 24 that are supporting combatant commanders at the initial operating capability, building to over 40, you know, by the end of next year. Their training and development is absolutely critical.

But, you highlighted a very critical point, and that is, we should be trying to accelerate the elimination of our vulnerabilities. Unfortunately, all of us are faced with the reality of having to take a multiyear approach to this, because of funding limitations. My belief is, this cyber risk is accelerating very, very fast.

General PAXTON. Senator, if I may, the—it also shows—to General Allyn's point, it shows the dynamic here—I'm sorry—it shows the dynamic of the pressure we're under. As the money gets tighter—BCA cap, if you will—and as the pressure on end strength goes down, we're—we all spend over 50 cents of our dollar on our people, the most important weapon system that we have. In the Marine Corps, it happens to be about 61 cents on the dollar. We have also stood up cyber mission teams and cyber support teams, both for the service and for some of the geographic combatant commanders—in our particular case, Special Operations Command. So, then you get into the tension about providing conventional force capability and providing cyber capability. It really shouldn't be a tension. You should provide both. But, when you're under an end-strength reduction and a fiscal reduction, that's hard to do.

General SPENCER. Yes, Senator, and we're similar. We've got 20 cyber teams, growing to 40, as General Allyn mentioned. Because of funding, we've had to stretch that out longer than we would—we're comfortable with.

You know, I was raised, you know, to keep my personal business to myself. You know, my daughter puts all of her business out on Facebook. I don't really get that.

[Laughter.]

General SPENCER. But, that's kind of the generation of folks that are coming in the military now, that everything they do and everywhere they go and everything they eat and everybody they talk to is on Facebook. You know, we're realizing now, that's a vulnerability. So, all of us have—you know, all of the names that were listed by ISIL on their list, we've contacted them all and talked to them specifically about these sort of social networks, if you will, that they put your—you know, your access out there. Unfortunately for us, I mean, you can Google any of us, and our whole life history is out there, whether we like it or not. But, for a lot of our troops that deploy, again, those, you know, Twitter or Facebook, all those—they're great social tools, but they also make us all vulnerable, and they expose our personal—some of our personal information.

Senator AYOTTE. Thank you, I think all three of us can relate to that, certainly.

I wanted to call on Senator Rounds for a brief follow-up question, and then I'm going to turn it over to Senator Shaheen.

Senator ROUNDS. Thank you, and I'll try to make this brief. It's just a followup to what the Chairman was asking about a little bit.

In terms of your overseas operation or your downrange operations, particularly with regard to ISR, have you seen any kind of a degradation with either regard to the cyber capabilities or your space capabilities? Anything, in terms of the items there that you would like to address or that you see as threats to our capabilities, that we should be aware of, in terms of things that impact your ability to deliver?

General ALLYN. Well, I think we have to be careful, in terms of, you know, just how much we can talk about, there is——

Senator ROUNDS. If a simple "yes" is there, then——

General ALLYN. There is risk out there in that domain.

Admiral HOWARD. Senator, I'm sure you're aware, for the Navy, we had, a year and a half ago, multiple simultaneous intrusions into our network. So, that really, I think, raised our awareness and our focus on defending our networks and making sure we mitigate risk in this domain.

Senator ROUNDS. Impacted you overseas.

Admiral HOWARD. It was simultaneous, and several different organizations.

Senator ROUNDS. Thank you.

General PAXTON. Yes, sir, there is risk. There has been intrusion and threat. We need both the policies and the monies to do the training to combat that, sir.

Senator ROUNDS. Thank you.

General SPENCER. Senator, I agree, and would offer that we could—any of us, certainly the Air Force, would like to come and brief you, sort of, one on one, if we could.

Senator ROUNDS. Thank you.

Senator AYOTTE. Senator Shaheen.

Senator SHAHEEN. Thank you, Madam Chair.

Thank you all very much for your service and for being here today.

I know this—I don't think the Chair has asked this question, though I know she's very interested in it, as well. One of the things that I have heard from folks at the Portsmouth Naval Shipyard, which, of course, is one of the shipyards that we're very interested in, is that if sequestration returns, the ability to attract the workers that we need for the shipyard is going to be compromised. Right now, they're in the process of hiring 700 people. We're seeing a whole generation of engineers, technicians, people who have real expertise at the shipyard who are retiring. If—can you just talk about what the potential challenges are, if sequestration returns in 2016, to being able to attract the workforce we need to fill our public shipyards?

Admiral HOWARD. Yes, ma'am. So, when I was down at fleet—this is anecdotal, but—as we sequestered and then we had a hiring freeze, and then we ended up furloughing different folks, we found, in some areas, that folks who had sufficient years decided to retire early, that the potential of not having a full year of employment, year to year, was enough for them to rethink.

So, for us, if that happens again and then we have to reduce maintenance contracts or make similar tough choices, in particular for our shipyards, we have that—a demographic, where we have an older cohort that's a substantial part of the workforce that might make that decision.

The next thing is, for the folks who stay, there becomes doubt as to—and a lack of trust as to whether they are going to have a full year's worth of employment. It's not just the pay. There is that component, because they have to support their families.

Senator SHAHEEN. Right.

Admiral HOWARD. But, it's also, they take a lot of pride in who they are and what they do as helping generate forces for our Navy or as public servants in other areas.

Senator SHAHEEN. Is this something that the rest of you are seeing in a different way as you're trying to recruit folks?

General ALLYN. Well, I think, ma'am, the impact of the furlough across our civilian workers was devastating. It gets at this issue of erosion of trust. We've got incredibly dedicated workforce, in uniform and in civilian workforce. But, there is a limit to, you know, how many times we can keep going back and asking them to hang in there with us. We have seen a similar case, where some of them that were retirement-eligible or could take an early retirement option decided, "You know, this has been a great run. I love serving in the Army, but I'm not sure the Army loves me as much as I love it." That's a terrible feeling for us, who take this on as a profession.

General PAXTON. Senator Shaheen, if I may, just as a overview of our civilian workforce, most of us are pretty lean in the civilian workforce. Between mil-to-civ conversions and then outsourcing and contractors, our civilian workforce has been getting smaller and smaller. The furlough and the BCA caps had a disproportionate effect on our civilian workforce. So, there is a sense of an erosion of trust and confidence, and they're really valuable members of the team. When the Commandant testified in front of the full committee several weeks ago, he said that, in the Marine Corps' case, only 1 in 10 in civilian workers, civilian in military is the workforce—over 90 percent of them work outside of the national capital region. So, there's this perception there that maybe the headquarters are bloated and there's a lot in Washington. Now, they're actually tooth and not tail, and they're actually out there doing important things for the service and for the Nation.

The anecdotal story that I bring up is, I went down our depot in Albany, Georgia, about a year ago, and this was in the aftermath of the furlough. We had worked very hard to keep folks there. Some of these folks are working in a very small county, a very rural county. The other two or three industries in the county, a rubber and tire plant and a golf plant, had left. So, the only viable workforce in—major in the area now, is—there's one health system and then there's the Marine Logistics Depot. When we started to furlough people, there was no other place for them to go. Many of them were working on equipment where they needed a security clearance. As they went from payday to payday without a security clearance, they were deathly worried that the creditors would come after them; and then, the minute the creditor came after them, even if it was a delayed payment in a home mortgage, that would

affect their clearance, so that, even when the furlough was relieved, we couldn't hire them back because then they'd be flagged as a security risk. So, there's this horrible downward spiral when that happens.

Thank you.

Senator SHAHEEN. Thank you.

General SPENCER. Senator, we have a similar story. We also have 96 percent of our civilians that work outside of the national capital region, so at our training bases, for example, where we train pilots to fly, the entire flight-line maintenance operation are civilians, the whole unit. So, if you think about the Air Force—as an example, when we sequestered, last—or a year and a half or so ago, we stopped flying airplanes, we actually put airplanes down, which meant now pilots can't train, so they lose their certification over time, maintenance folks have nothing to work on, and airplanes—I happen to have a '72 Monte Carlo at home, and if you don't start that thing about once a week and drive it, it's not any good. Airplane—you have to fly airplanes to have them efficient.

So, we had airplanes sitting down. Now they're not going to the depot. Now you've got this stackup. You've got—don't have airplanes available. As you know, it's going to take X number of days to get an airplane through the depot. So, now they back up. So, it's not like if sequestration is suddenly lifted, you know, everything works well. No. You've got this backlog that you have to now push through a funnel.

The final thing I'll mentioned, that General Paxton touched on, is my son, who works for the government—he's a computer science guy—he—when we furloughed him, he—and this is similar to what I heard from a lot of other civilians—he was really frustrated, because—he said, "I can go work somewhere else and make more money. I want to be a part of the government." But, he said, "If they're going to—I've got a family. And I"—you know, two of my grandkids—"and if every time there's budget dispute, they lay me off," he said, "I don't know if I could do that for the long term." So, it had—it took a real toll.

Senator SHAHEEN. I very much appreciate what you all are saying. I think it's an important reminder for those who say, "Well, you know, we exempted uniformed personnel, and so it didn't have the kind of impact," that all of you are pointing out that it really did. Hopefully, we will act with more sanity in this budget cycle.

Thank you all very much.

Senator AYOTTE. I just have a couple of follow-ups, but, since I have my colleague, Senator Shaheen, here, I know she'd want me to follow this one up with General Spencer.

Just wanted to check in on the KC–46As delivery to Pease in 2018. I know there were a couple of testing delays, but are things looking pretty good, on track?

General SPENCER. Yes, Madam Chair. We're on track. As you know, we had a couple of concerns, but we are still on track. We had some slack built in. Some of—a lot of that slack's been taken up now. But, as we stand today, we're still on track. We still feel good about the schedule.

Senator AYOTTE. Excellent. Appreciate that. We appreciated General Welsh's recent visit to Pease, as well. That was terrific, and

I know it meant a lot to those in our Guard and those that are part of the 157th Air Refueling Wing. So, please pass our gratitude on.

Senator SHAHEEN. Thank you, Madam Chair. We like to tag team on this issue whenever possible.

[Laughter.]

Senator AYOTTE. I just have a couple of follow-up questions.

One, General Spencer, I had a question about the joint terminal attack controller (JTAC) training, because recently it was brought to our attention, a memo that was dated February 25th, 2014, signed by the Commander of the 18th Air Support Operations Group, ASOG, Commander. The memo relates to JTAC training. The issue raised in the memo are problems with ground force commander coordination, airspace deconfliction, and nine line errors. The Commander also writes that an increasing lack of live-fly close air support (CAS) training opportunities and funds for temporary duties (TDYs) have eroded overall JTAC proficiency across the 18 ASOG. The Commander notes that continued decrease in the amount of live-fly CAS controls available to unit JTACs; and to the credit of the Commander, he intends to offset that decline with using simulators. So, can you give me a sense of what's happening with the JTAC training, and especially live-fly CAS training, and where we are with that, and just an update on how the JTAC training is going?

General SPENCER. Yeah. First, Madam Chair, I have to apologize. I haven't seen that letter, so I would like to go back and take a look at it and give you a more—give you a better response——

Senator AYOTTE. Sure.

General SPENCER.—so I can get the specifics. I'm actually going down to Pope Air Force Base on Monday to talk to some of our——

Senator AYOTTE. Okay. Well——

General SPENCER.—JTACs——

Senator AYOTTE.—we're happy to get it for you, and we'll be happy——

General SPENCER. Okay. So, if——

Senator AYOTTE.—if you want to take it for the record and get back——

General SPENCER. So, if I could, I would like to give you——

Senator AYOTTE. Absolutely.

General SPENCER.—make sure I give you a good response on that.

[The information referred to follows:]

JOINT TERMINAL ATTACK CONTROLLER (JTAC) TRAINING

Question. I just have a couple of follow-up questions. One, General Spencer, I had a question about JTAC training because recently, it was brought to our attention a memo that was dated February 25, 2014, signed by the commander of the 18th Air Support Operations Group, ASOG Commander, and the memo relates to JTAC training. The issues raised in the memo are problems with ground force commander coordination airspace deconfliction and nine line errors, and the commander also writes that an increasing lack of live fly CAS training opportunities and funds for T.D.Y. have eroded overall JTAC proficiency across the 18 ASOG. The commander notes that continued decrease in the amount of live fly CAS controls (available unit) JTAC, and to the credit of the commander, he intends to offset that decline with using simulators. So can you give me a sense of what's happening with the JTAC training especially live fly CAS training and where we are with that and just an update on how the JTAC training is going.

Answer. The 18th Air Support Operations Group (18 ASOG) is trained, combat mission ready and has certified personnel deployed down range. Regarding JTAC training, while we anticipate simulation to become a more significant element of our overall training program, we recognize that live-fly training will remain an essential tool for our overall combat readiness. By design, the actual amount of live-fly close air support controls for JTACs is planned to steadily decline over the years and transition to a more balanced combination of live-fly events and simulators. The Air Force is a contributing member of the Joint Staff J6 led Joint Fire Support Executive Steering Committee (JFS ESC). The JFS ESC produces an Action Plan which focuses analytical efforts and solution recommendations to assist Services and Combatant Commands in providing enhanced, jointly integrated, interoperable and cost efficient JFS capabilities to the warfighter. We collaborated with the JFS ESC to develop and field a Joint Terminal Control Training and Rehearsal System that provides a realistic, modular, upgradeable and scalable Joint Combat Air Support training / rehearsal simulation system. Simulation is already becoming a fundamental part of JTAC training. In fact, simulation is better than live-fly training in many areas. For example, simulation can permit more complex mission scenarios with more simulated aircraft involved resulting in a significant cost savings. The 18 ASOG is scheduled to receive a JTAC Dome simulator in the summer of 2015.

Senator AYOTTE. No problem. Appreciate that very much.

The other question that I had for you was, you know, about what's happening at Nellis. Can you confirm for me whether the Air Force has made a decision to close the A–10 Division at 422 Test and Evaluation Squadron at Nellis? If so—I mean, yes or no. I don't know if you're making that decision or where things are.

General SPENCER. Yeah, that—again, I'm a deer in the headlights on that one, as well. You—close the squadron?

Senator AYOTTE. Yes.

General SPENCER. No, I—again, I'll have to follow up with that, because I—

Senator AYOTTE. Then why don't I give you a follow-up question—

General SPENCER. Okay.

Senator AYOTTE.—on that one, too.

General SPENCER. Okay.

Senator AYOTTE. That's pretty specific.

[The information referred to follows:]

A-10 SQUADRON AT NELLIS AFB

Question. The other question that I had for you was you know about what's happening at Nellis, can you confirm for me whether the Air Force has made a decision to close the A–10 division at 422nd Tests and Evaluation Squadron at Nellis. If so, it would be yes or no, I don't know, if you're making that decision or where things are.

Answer. Yes. The FY16 PB divests the A–10 division at the 422nd Tests and Evaluation Squadron in fiscal year 2016. However, because of the prohibition on the divestiture of A–10s contained in the fiscal year 2015 NDAA, the Air Force will not be divesting A–10s at Nellis AFB at this time.

Senator AYOTTE. I wanted to thank you, Admiral Howard. You and I talked about this when we met in person, and that is on the maintenance projects at the Portsmouth Naval Shipyard. Frankly, you know, I want to commend the Navy for meeting and exceeding its capital investment requirements across all the shipyards. The thing that you and I talked about was the P–266 project at Portsmouth. I know I was very happy with your answer, and you're very focused on seeing that go forward. So, thank you for that.

Admiral HOWARD. Yes, ma'am. Thank you.

Senator AYOTTE. Terrific.

Not to keep you all too much longer, but there was one question that I just wanted to follow up since I had you all here, because I think it's important. You know, we spent a lot of last year talking about how are we going to address sexual assaults in the military. Having all of you here today, I think I'd be remiss if I didn't ask you how things were going, where is the status of—what's the status of the legislation that we passed, and how do you perceive the implementation of that legislation in your branches, and—give us an update on how things are going and where you see we can help some more.

General ALLYN. I'll start, Madam Chair.

First of all, we have made significant headway in eliminating the threat and the presence of sexual assault and sexual harassment in the military. Most promising is that reporting is up. Our soldiers are reporting over 90-percent confidence that, if they report an incident, that the chain of command is going to take the right actions, both to protect the person that is—has been assaulted, as well as to ensure accountability of those who perpetrate the alleged assault.

So, we are continuing a rising level of reporting. We are seeing a reduction in the incidences of assaults. Both promising. But, we still have work to do, particularly in eliminating the risk and the perception of retaliation by our soldiers inside our formations. So, our sergeant major of the Army has initiated an effort called "Not in My Squad," because the confidence level that we see at the battalion level and above is very high, but the incidents are occurring at the company level and below. So, he is bringing forward a group of staff sergeants from across our total force to get their input on how do we improve both ownership of resolving this threat to our trust and our dignity and respect in our formation, and accountability to ensure that every soldier, every leader, is doing everything they can, not only to prevent these acts, but to prevent even the perception of any—retaliation of any type.

We talked a bit ago about social media and the impact that that has. What we're seeing is, the most significant level, and the hardest to defeat, is the retaliation—the social retaliation by peers and others that's occurring in social media. So, we are arming our leaders with the tools that they need and the training to understand how to attack this part of the spectrum that is somewhat new to most of us, but, unfortunately, not new to our soldiers.

Admiral HOWARD. Thank you, Senator.

I'd like to, if I may, refer some of this to the report, but some of it to the conversations I've had with our sailors as I've traveled as Vice Chief. So, when I do my all-hands calls, I talk about this issue, about the RAND survey, and then ask them for their thoughts. Then, in particular, in San Diego, I was able to sit down with a group of 40 women who represent all the different communities on our ships, from commanding officers to the medical officers to engineers.

The—from the RAND survey, we understand that prevalence has decreased for both men and women. But, you asked, more specifically, what changes have we made, some of it based on law, that really has made a difference. The feedback I'm getting, which seems to be buttressed by the results of the survey, is, first of all,

having Naval Criminal Investigative Service (NCIS) be the first one on scene to investigate sexual assault seems to be bring an objectivity to the whole process. So, that is an important change that—you know, I think all of the services are committed to professional investigation when there's an incident.

The—in our case, bringing in victim legal counsel—this is the person who's the—who helps the victim through the process—that person is making a big difference for our sailors and their trust in the—

Senator AYOTTE. That's music to my ears, because that was my piece, and I'm glad to hear that.

Admiral HOWARD. I actually just sat down with one of our first Victim's Legal Counsels. She's in Rota, Spain. She talked a lot about both her and the Sexual Assault Response Coordinator (SARC) and what their presence meant to the Victims throughout the process.

The other is, for the—for us—for the training, the bystander intervention. I've heard from our sailors, both men and women, and then it bears out in the metrics, that this training that we put together, the scenario-based training, really felt—empowered them to be able to take care of their shipmates. Then, when you look at the results of the RAND survey, that when our sailors saw something, nine out of ten of them took action. The training works. They understand the importance of taking care of shipmates, whether, when you see something, you go to help your shipmate, you help your shipmate make a report through another process, or you report it yourself. When I've spoken, particularly to the women, they say the training is very effective, but that the results are even more impressive. So, thank you for all of that.

General PAXTON. Thank you, Madam Chair.

I would echo—and I think the Secretary of Defense was on record as saying—in the subject of Sexual Assault Prevention and Response (SAPR), we have had almost unprecedented focus and significant success and accomplishments. We're not, as General Allyn said, anywhere near where we want to be, need to be, should be, but we're going to continue the focus. In the case of the Marine Corps, we've had almost 1,000 fewer documented cases of unwanted sexual contact. That's about a 30-percent reduction, so pretty significant.

The two pieces to your specific question that I'd like to highlight, if I may, Senator—number one is, there's over 70 pieces of legislation that have either been enacted or proposed, and it's going to take us a while to work with them. I would echo what the VCNO said. We have several documented cases where the victim's legal counsel office—or officer was a big help, both in comfort to the potential victim and then in the adjudication and the defense. But, we have also had cases, too, where we have now introduced a fourth lawyer into what was a three-lawyer equation, where you had a prosecutor, a defender, and a judge. You know much better than I, ma'am. But, we're going to have to work through that, because some of these cases will be challenged, and you would hate for the one out or the one each to perturb the goodness of the whole system.

The last piece, if I may, Senator, is just to highlight the centrality and the criticality of the commander in all this. We're very appreciative of the work by the committee to keep the commander involved. Because whether it comes to bystander intervention, NCO leadership, legal accountability, you have to have the commander there.

So, thank you.

General SPENCER. Madam Chair, similarly, we—because we all work together on this problem to share lessons learned, and working together to try to solve this problem. It's similar, the Air Force. Our prevalence is down by 25 percent, our reporting is up by 61 percent. So, we think that's all in the right direction. We've done a lot of work, as you know, through special victim's counsel, things to make sure victims are taken care of, make sure that commanders have the tools they need to prosecute if someone is found guilty.

Our big push right now is on prevention, preventing this from happening in the first place. So, we've done several things. About a month ago, we had a Sexual Assault Prevention Summit. We brought in everyone from E1 all the way up to wing commanders. We brought in experts around the country, brought in the Center for Disease Control. We spent a whole week diving into this issue. The good news was, the answer was yes, you can prevent it, but it takes a lot of study, a lot of understanding the crime and to have things that specifically get at it.

Just two weeks ago, I was down in North Carolina, in the Research Triangle. I met with folks from University of North Carolina and from Duke who are also working on this crime in their colleges—local colleges—have a lot of great ideas. We're partnering with them. In fact, they're on their way now to Sheppard Air Force Base to work with some of our trainees there. So, we're—this is something—I can promise you, this is something I—we all work on. I know I work on it every day. We're not going to stop until this is fixed.

Senator AYOTTE. Thank you. We're not going to stop, either. So, you know, I think this is something we—we did tremendous pieces of legislation and worked on this collectively in a bipartisan fashion in the last Congress. Now you've got, as General Paxton really pointed out, a lot of implementation of—you know, to get this right. I really appreciate what I hear most from all four of you, which is understanding the importance of this and the commitment that we need, you know, every day to get this right, and to work together on it. So, I appreciate your giving me an update on that. I look forward to continuing to work with you, all of you, on this issue.

Thank you all for being here today and for what you do for the country.

[Whereupon, at 4:21 p.m., the hearing was adjourned.]

[Questions for the record with answers supplied follow:]

QUESTIONS SUBMITTED BY SENATOR KELLY AYOTTE

HOLLOW ARMY

1. Senator AYOTTE. General Allyn, what does a hollow Army look like?

General ALLYN. A hollow Army is characterized by prolonged and disproportionate investments across manpower, operations and maintenance, modernization, and pro-

curement without corresponding adjustments to strategy. If we have too little of anyone of these, the Army won't be ready when called upon.

Specifically, a hollow Army is one that appears capable on the surface, but is unable to adequately meet national objectives without assuming an extremely high amount of risk. We accept a greater likelihood of forfeiting the decisive edge we expect our Soldiers to retain when we face an adversary in combat ... we create an opportunity for adversaries to experience a "fair fight," which we should never permit given our National capacity.

2. Senator AYOTTE. General Allyn, what warning signs should we look for when we are coming dangerously close to a hollow Army?

General ALLYN. A hollow Army is characterized by prolonged and disproportionate investments across manpower, operations and maintenance, modernization, and procurement without corresponding adjustments to strategy.

By this measure, the Army is not hollow. However, we are beginning to see the warning signs. The Army today is able to produce only enough readiness to meet requirements—and we can only achieve this because of the extra funding made available by the Bipartisan Budget Act (BBA). The result has been a steady erosion of readiness across the force. Underfunding readiness not only reduces training, but the maintenance of our equipment as well. This is evidenced by a gradual decrease in equipment readiness. Because we are underfunding modernization, we risk our qualitative edge. Our equipment has continued to age, becoming less reliable and less survivable as the technological sophistication of our adversaries is increased. Finally, the underfunding of our installations impacts Soldier and Family quality of life and ultimately, retention. We've consistently deferred critical sustainment, restoration, and modernization projects, creating substandard living conditions on many of our bases. If sequestration levels of funding continue, we will have a hard time maintaining the balance between manpower, readiness, and modernization. That is a template for a hollow force.

3. Senator AYOTTE. General Allyn, would a return of defense sequestration in fiscal year 2016 result in a hollow Army?

General ALLYN. Not immediately, but the necessary actions to meet sequestration level funding requirements would keep the Army out of balance in terms of manpower, operations and maintenance, modernization, and procurement for several years—until at least fiscal year 2023. Without a major change in national strategy to account for a smaller force with reduced capability, the Army will likely experience a period where it is indeed hollow.

MARINE CORPS READINESS

4. Senator AYOTTE. General Paxton, in your prepared statement, you writes that "approximately half of the Marine Corps' home station units are at an unacceptable level of readiness in their ability to execute wartime missions, respond to unexpected crises, and surge for major contingencies." What are the primary reasons for this reduced readiness?

General PAXTON. Resource shortfalls in available personnel and needed equipment at the unit level remain the principal detractors to achieving the level of readiness home station units need to execute wartime missions, respond to unexpected crises, and surge for major contingencies. The Marine Corps' principal concern going forward is the recovery of full spectrum readiness of our home station units and the reconstitution of the whole-of-force after over a decade of unprecedented sustained conflict.

The Marine Corps excels at meeting current operational requirements in support of the geographic combatant commanders. To maintain the high readiness of our forward deployed and forward engaged units, we globally source personnel and equipment from our home station units—the ready force. Ultimately, readiness comes at a cost and the high readiness of our forward deployed and forward engaged forces comes at the expense of our home station units' readiness.

Further compounding the recovery of full spectrum readiness for home station units is the paucity of available amphibious shipping essential to unit level training. Although Service-level training is protected through the future years defense plan, home station training enablers (primarily simulation systems and ranges, and operationally available amphibious ships) will steadily degrade due to inadequate sustainment, recapitalization, and modernization. Without appropriate funding, lower equipment maintenance levels will begin to quickly degrade those essential equipment pools, leading to degradation in training and readiness. Any reduction in amphibious ship maintenance will directly limit operationally available amphib-

ious warships and erode readiness. Eventually, the equipment needed at home station will wear out; when it does, our Marines will lose associated training and therefore the proficiency necessary to keep these units ready to respond. Budget Control Act funding levels may force the Marine Corps to choose between having its home station units being either well-equipped or well-trained. Training home station units to standard is necessary since these units constitute the ready force that would immediately respond to unforeseen crises or major contingencies.

5. Senator AYOTTE. General Paxton, which type of Marine units are having the most readiness challenges?

General PAXTON. Approximately half of Marine Corps' home station units are insufficiently resourced to achieve those readiness levels needed to execute wartime missions, respond to unexpected crises, and surge for major contingencies. Using Marine aviation as an example in this era of fiscal austerity, Marine Corps operational requirements have increased while the overall number of Marine aircraft for tasking and training has decreased. Approximately 80 percent of Marine aviation lack the minimum required Ready Basic Aircraft to train to the minimum readiness levels. Lack of procurement (future readiness) and aging legacy aircraft negatively impact aircraft availability for training and meeting operational demands. A significant training and warfighting requirement gap of RBA exists. Shallow procurement ramps (not buying aircraft fast enough) directly increase both the cost and complexity of maintaining legacy systems beyond their projected life. Marine aviation is 106 aircraft short of the training requirement or 158 aircraft (10-squadron equivalent) short of the wartime formations. Out of 52 fully operational capable squadrons, 13 are deployed and 8 are preparing to deploy. Of the remaining 31 squadrons, 22 are below the minimum training level required to go to combat in the event of a contingency. The majority of the aircraft deficit is caused by insufficient aviation depot repair capacity and throughput. Our aviation depots have not fully recovered from the turmoil caused by the last sequester. Marine aviation is not sufficiently ready now; another sequester would prevent any opportunity to recover readiness.

6. Senator AYOTTE. General Paxton, how can Congress best help with these readiness challenges?

General PAXTON. The Marine Corps' current resource level represents the bare minimum at which it can meet the current Defense Strategic Guidance. This budget allows the Marine Corps to protect near-term readiness, but does so at the expense of long-term modernization and infrastructure, threatening an imbalance across the five Pillars of Readiness—high quality people, unit readiness, capacity to meet commanders' requirements, infrastructure sustainment, and equipment modernization. An extended imbalance among the Pillars leads to conditions that could hollow the force and create unacceptable risk for our national defense.

Congress' continued support, and specifically support of the fiscal year 2016 President's Budget request, will be critical to ensuring our ability to fulfill our commitments as outlined in the Defense Strategic Guidance. Further, an end to both the threat of a sequester and to the caps imposed by the Budget Control Act would allow the Marine Corps to begin to address some of the readiness imbalances and would introduce much-needed budget stability to allow for effective long range planning.

OPTIMAL ARMY SIZE

7. Senator AYOTTE. General Allyn, setting aside the budget-driven Army endstrength reduction currently being implemented, based on combatant commander requirements, what size of an Army do we really need? Active Component? Guard? Reserve?

General ALLYN. Assuming our planning assumptions are correct, the minimum end strength the Army requires to fully execute the 2012 Defense Strategic Guidance (DSG), and answer the current demands of the Combatant Commanders is 980,000 Soldiers, including 450,000 in the Active Army, 335,000 in the Army National Guard, and 195,000 in the Army Reserve. At these levels, all three components will be smaller than the pre-2001 force.

However, much like the Chief of Staff and the Secretary, I am concerned that our 2012 DSG assumptions may prove to be incorrect. The 2012 DSG makes a number of optimistic assumptions regarding the number, duration, location, and size of future conflicts. Today, we see requirements and operational environments that were not forecasted in the 2012 DSG. These include Russian aggression in Europe, the rise of ISIL, and the rapidly changing security environment in Eastern Asia. All of these developments challenge our assumptions and elevate our strategic risk. It is

my military judgment that, based on increasing world instability, we should reconsider currently programmed reductions in Army endstrength.

IMPACTS OF BUDGET CUTS

8. Senator AYOTTE. General Allyn, Admiral Howard, General Paxton, and General Spencer, please describe how defense sequestration, combined with continuing resolutions, have had a lasting and negative impact on your Service's readiness.

General ALLYN. The readiness of the Army today is insufficient to support the national security objectives outlined in the guiding strategic documents and specified within Combatant Commander operational plans. Reduced funding coupled with sustained demand for Army forces results in fewer Army units available for contingency response and at lower levels of readiness. The specific readiness levels of units and the ability of the Army to execute its Title 10 requirements are classified; however, the causes and implications of the Army's degraded readiness are clear—over a decade of focus on counterinsurgency operations jeopardizes the Army's assured dominance to conduct Decisive Action in support of Unified Land Operations (DA/ULO). This degraded ability to provide sufficient ready forces to achieve those objectives outlined by the President has resulted in increased risk for the Nation.

Army readiness is approaching a tipping point. The combined effects of the Budget Control Act of 2011 (BCA), fiscal and end-strength reductions, and over a decade of conflict have suppressed the Army's ability to build readiness across our formations. While the Bipartisan Budget Act of 2013 (BBA) provided additional readiness funding, continued improvement requires multi-year consistent and predictable funding designed to build Army readiness beyond counter-insurgency towards decisive action in support of unified land operations. Sequestration will not provide sufficient funding to man, equip, sustain, and train units to the appropriate readiness levels and places our Soldiers at risk when responding to unforecasted contingency operations. The use of continuing resolutions wreak havoc on Army readiness, modernization, and manpower. It makes long term planning difficult. As a result, we are forced to train sporadically, and the materiel and equipment we buy costs more and takes longer to acquire.

Admiral HOWARD. Sequestration, the Continuing Resolution in fiscal year 2013, and a decade of combat operations have created maintenance backlogs that have prevented us from getting ships back to the Fleet on time and aircraft back on the flight line. We continue our efforts to rebuild the workforce in our public depots—both at shipyards and aviation Fleet Readiness Centers—and reduce the number of lost operational days, but it will take years to fully recover our readiness.

General PAXTON. For the last few years the Department of Defense, along with all other federal departments and agencies, has had to operate in an uncertain fiscal environment shaped by sequestration threats, BCA caps, and the near certainty of starting every fiscal year under a continuing resolution. Against this chaotic background the Marine Corps has been forced to make extremely difficult fiscal decisions that directly impact day-to-day operations. The recent budget cuts and the looming threat of sequestration have been particularly difficult to absorb. Today, approximately half of the Marine Corps' home station units are at an unacceptable level of readiness. Investment in the future is less than what is required, and infrastructure sustainment is budgeted below the Department of Defense standard. The Marine Corps has significantly reduced many of the programs that have helped to maintain morale and family readiness through over a decade of war. Additionally, the deployment-to-dwell ratio is being maintained at a very challenging level. The operating forces are deploying for up to 7 months and returning home for 14 or less months before redeploying. These are some of the damages to date caused by sequestration and lower funding levels.

The fiscal year 2016 President's Budget is the bare bones budget for the Marine Corps that can meet the current Defense Strategic Guidance. The budget prioritizes near-term readiness at the expense of modernization and facilities. Another round of sequestration would force the Marine Corps to significantly degrade the readiness of our home station units, which is the Marine Corps' ready force to respond to crises or major combat operations. The fiscal challenges we face today will be further exacerbated by assuming even more risk in long-term modernization and infrastructure in order to maintain ready forces forward. This is not sustainable and degrades our capacity as the Nation's force-in-readiness.

Annual continuing resolutions, some lasting several months, will further complicate these concerns. The delay in receipt of funds, combined with the uncertainty over when and how much will finally be appropriated, can wreak havoc on contract award timelines and our participation in training exercises, and put us at risk of

accruing additional costs in the long run. Furthermore, because CRs only fund agencies at prior year levels, critical programs may not be sustained.

General SPENCER. The Air Force has sought to protect readiness accounts under sequestration. Despite that, fiscal year 2013 sequestration has had a long-lasting negative impact on Air Force readiness. Prior to April of 2013, readiness levels were already low, predominantly due to constant global demand combined with a 20+ year steady decline in force structure. In 2013, as a result of sequestration, we were forced to ground 31 flying squadrons, cancel 8 exercises, and significantly curtail 8 more. Additionally, maintenance, repair, and upgrades to operational training ranges had to be deferred, degrading our ability to support high-end combat training. Individually, the training and professional development lost as a result of sequestration can never be recovered. Institutionally, it has taken 2 years to recover readiness to a point where still less than half of our fighter and bomber squadrons are full-spectrum ready. This is well short of Defense Strategic Guidance requirements. Restored funding will assist in re-building readiness, but the Air Force will also need relief from the current ops tempo and time to regain capabilities lost as a result of sequestration.

9. Senator AYOTTE. General Allyn, Admiral Howard, General Paxton, and General Spencer, if defense sequestration returns in fiscal year 2016, can we expect the negative readiness effects to last for many years?

General ALLYN. Yes. If sequestration levels of funding continue, the Army will be out of balance until at least fiscal year 2023 and will require at least 3 years thereafter to return to a state of full readiness, albeit with a much smaller Army.

Admiral HOWARD. Yes. Under sequestration there is no path to full readiness recovery to execute the required missions of the Defense Strategic Guidance (DSG). A return to sequestration in fiscal year 2016 would necessitate a revisit and revision of the defense strategy. The required cuts would force us to further delay critical warfighting capabilities, reduce readiness of forces needed for contingency responses, further downsize weapons capacity, and forego or stretch procurement of force structure as a last resort. While sequestration has caused significant near-term impacts, a return to sequestration in fiscal year 2016 would create further serious problems that would manifest across the years and be difficult from which to recover.

Assuming a stable budget and no major contingencies for the foreseeable future, I estimate that we will not recover from the maintenance backlogs until 2018 for Carrier Strike Groups and approximately 2020 for Amphibious Ready Groups. Sequestration would derail these readiness goals.

General PAXTON. Yes, the deleterious effects of another sequester would further compound the turmoil caused by the last sequester from which we still are trying to recover. We have yet to fully appreciate the cuts that have been made to date; however, sequestration has a chaotic effect on the force during a time of extraordinary challenges. Sequestration does not fund the optimally designed force of 186,800 active component required to meet the strategy. Sequestration prevents the Marine Corps from generating ready forces to meet operational requirements now and into the future. Sequestration equates to less force capacity; we would not have what is needed to fight in a major war. Essentially, all operational units would be committed for the war's duration with no relief and we would have very little left for crises that would occur in other parts of the world. Home station unit readiness and investments in infrastructure and modernization will continue to suffer as limited resources are prioritized to protect the near-term readiness of deployed units in harm's way. A return to sequestration-level funding with a force of 175,000 active component would equate to high risk. At this lower resource level, our units that deploy to combat would not be as well trained and would be slower arriving. This means that it will take longer to achieve our objectives and the human cost would be higher. This is what we mean when we say high risk.

General SPENCER. Yes. Individually, the training and professional development that would be lost as a result of sequestration can never be recovered. Readiness growth takes time and resources, readiness develops momentum slowly. Additionally, readiness in a small force can be lost very quickly when time and resources are not available. Institutionally, under the Balanced Budget Act, it took 2 years to recover readiness to a point somewhere near the pre-sequester level. Even so, still less than half of our fighter and bomber squadrons are currently full-spectrum ready. We can expect the same or worse for the foreseeable future if sequestration returns.

10. Senator AYOTTE. General Allyn, Admiral Howard, General Paxton, and General Spencer, how long will it take to recover?

General ALLYN. Under sequestration, the Army will not be able to bring its manpower, operations and maintenance, modernization, and procurement expenditures into balance until at least fiscal year 2023 and will require at least an additional 3 years thereafter to return to full readiness. Meeting Combatant Commander requirements will force tough decisions about how much "surge capacity" we retain, and how little dwell time between deployments our units continue to absorb. Increased demands from Combatant Commanders will elevate stress on the force and the risk to meet contingency response requirements.

Admiral HOWARD. The fiscal year 2016 Navy budget submission is designed to continue our readiness recovery, reset the force and restore our required contingency operations capacity by 2020 while continuing to provide a sustainable forward presence. However, under a return to sequestration in fiscal year 2016 and beyond, there is no path to full readiness recovery to execute the required missions of the Defense Strategic Guidance (DSG). A revision of the defense strategy will be necessary.

General PAXTON. We have yet to fully appreciate the cuts that have been made to date by sequestration. A return to BCA-level spending would further delay readiness recovery. Another sequester would exacerbate the fiscal challenges we already face today and force significant challenges upon the Marine Corps. The months-long sequester of 2013 adversely impacted the aviation depots leading to the release of artisans whose skills have not been replicated, leading to maintenance backlogs and today's degraded operational readiness. The specter of another sequester, especially one that is more than just months-long, would only lead to compounding the deleterious effects brought about by the 2013 sequester. The time needed to recover readiness would exponentially exceed the duration of sequestration, for an experienced and proficient generation does not grow overnight. Today, approximately half of Marine Corps' home station units are insufficiently resourced to achieve those readiness levels needed to execute wartime missions, respond to unexpected crises, and surge for major contingencies. There is no recovery under sequestration. It would take many years to recover readiness once sequestration ends.

General SPENCER. The Air Force's current plan calls for a recovery to 80 percent readiness by the end of 2023. However, this plan was contingent on full Presidential Budget (PB) 2016 funding, Overseas Contingency Operations funding moved to baseline, and a reduction of operations tempo to allow for a 1:4 deployment-to-dwell level. Recovery is likely to be delayed at least 5 years if sequestration returns in fiscal year 2016.

UNFUNDED NEEDS

11. Senator AYOTTE. General Allyn, Admiral Howard, General Paxton, and General Spencer, what is the greatest need for your Services in respect to rebuilding readiness?

General ALLYN. The Army's greatest need is budget certainty. Building proficient and ready units requires a well-synchronized training plan supported by available manpower and ready equipment. Without certainty in funding, it is impossible to fully develop and source a training plan beyond the short term. Further, a lack of budget certainty prevents the Army from developing a modernization plan because we are uncertain how much or how long funding will continue to enable fielding of modernized capability.

Admiral HOWARD. Time and stable budgets are the most critical elements of Navy readiness recovery. A decade of combat operations and the resulting high operational tempo require a period of time for reset. With the additional impact of the Continuing Resolution and sequestration in fiscal year 2013, we have experienced significant delays. Further budget uncertainty will create additional setbacks to restoring our readiness.

The fiscal year 2016 Navy budget submission is balanced to continue on a path towards readiness recovery while sustaining the most critical procurement and modernization necessary to achieve a ready Navy in the future. The Navy unfunded priority list forwarded by the Secretary of Defense reflects the additional procurement and modernization funding that would improve future readiness with respect to Navy's ability to execute the Defense Strategic Guidance. However, none of those requirements are a higher priority than the balanced approach offered in our fiscal year 2016 budget submission.

General PAXTON. The Marine Corps views rebuilding readiness through the lens of institutional readiness. Institutional readiness consists of five pillars: (1) Capability and Capacity to Meet Combatant Commander Requirements, (2) Unit Readiness, (3) High Quality People, (4) Infrastructure Sustainment, and (5) Equipment Modernization. Currently, institutional readiness is out of balance. Achieving and

sustaining balance across these pillars now and into the future is essential to rebuilding readiness. Balanced institutional readiness leads to the whole-of-force reconstitution after over a decade of unprecedented sustain conflict to meet current and future requirements. A budget that supports required end strength and equipment recapitalization and modernization is an essential component leading to balanced institutional readiness.

General SPENCER. The Air Force needs both time and resources to rebuild readiness. Currently, time is our greatest need to recover readiness. However, time available to train (generate readiness) is severely limited by ongoing rotational deployments. The next significant limitation to readiness growth is skilled manpower for maintenance and operations. In short, after years of force reductions, we have a supply-demand mismatch. Two possible solutions exist: reduce the number/length of deployments to sustainable levels or increase the Air Force capacity to meet rotational demand to permit readiness growth. On the resource side, any defense authorization below PB levels will prevent full recovery of readiness.

12. Senator AYOTTE. General Allyn, Admiral Howard, General Paxton, and General Spencer, what additional necessary capability are you lacking in the fiscal year 2016 budget?

General ALLYN. The Army's unfunded priorities list was provided directly to Congress by the Department of Defense on March 27, 2015.

Admiral HOWARD. PB–16 provides the minimum funding required to meet the missions articulated in the Defense Strategic Guidance and Quadrennial Defense Review. However, Navy had to accept risk in naval warfare systems' modernization, aircraft procurement, and air and missile defense capabilities to meet fiscal constraints. There are three warfare areas that could benefit from additional resources: 1) improve sensors and systems to defeat current and emerging air-to-air warfare and anti-ship cruise missile threats; 2) increase strike fighter, intelligence, surveillance and reconnaissance (ISR), and logistic aircraft capacity; and 3) improve undersea warfare sensors and fire control systems. A summary follows:

- Air-to-air Radio Frequency (RF) Kill Chain kits provide our aircraft the ability to counter sophisticated digital weapons and combat systems proliferated around the world today.
- Destroyer (DDG) combat system modernization will increase our capacity to meet Combatant Commander Ballistic Missile Defense (BMD) and Naval Integrated Fire Control-Counter Air (NIFC–CA) warfare needs (to defeat advanced missiles and strike/fighter aircraft).
- Surface Electronic Warfare Improvement Program (SEWIP Block II) will provide radar and communications signal intercept, and defeat anti-ship cruise missiles, enabling surface ships to operate in an anti-access environment.
- Submarine towed arrays are the most important sensors in our undersea warfare enterprise. Current inventory is inadequate to reliably meet global demand.
- Our legacy strike fighters (F/A–18A–D) are reaching end of life faster than planned due to use and wear. Improving the inventory of F/A–18F and F–35C aircraft will help reconcile a near term (2018–2020) strike fighter inventory capacity challenge, and longer term (2020–2035) strike fighter model balance within the carrier air wing.
- An additional MQ–4C (TRITON) would increase our capacity to respond to projected worldwide Combatant Commander ISR demand.
- C–40A aircraft fulfill a maritime logistics requirement, and provide short-notice high-priority cargo and passenger missions globally. Two additional aircraft will bring the fleet to the minimum wartime requirement of 17 aircraft to support execution of Combatant Commander operational plans.

General PAXTON. In addition to the fiscal year 2016 President's Budget request, the Department of Defense has submitted to Congress a consolidated list of the Services' unfunded priorities. The Marine Corps portion of this list totals $2.1 billion. Additional requirements include funding to enhance aviation readiness ($1.5 billion), funding for additional investments in critical training and weapon systems such as Networking on the Move, Javelin, and the Infantry Immersion Trainer ($412 million), and for high-priority construction projects ($167 million). These requirements do not supersede those laid out in the fiscal year 2016 President's Budget request.

General SPENCER. In the event congressional funding exceeds the level requested in the FY16 PB, the capabilities the Air Force would seek to acquire using the additional resources are identified in our fiscal year 2016 Unfunded Priorities List (UPL). Readiness is the highest priority on the UPL; this includes munitions, training, simulators, ranges, vehicle support, and equipment. The next priority is modi-

fications for legacy fleets and programs supporting Combatant Commander requirements.

ARMY BRIGADE COMBAT TEAMS

13. Senator AYOTTE. General Allyn, if sequestration returns, what will specifically happen to the readiness of our Army Brigade Combat Teams?

General ALLYN. Sequestration will reduce the resources available for training and maintenance of units thereby reducing the readiness levels of our Brigade Combat Teams (BCTs). Under sequestration, the Army will struggle to maintain sufficient readiness to meet all of its current known requirements. The lack of funding and the need to dedicate resources to units filling current requirements will result in a degradation of readiness in every other unit, eliminating the Army's ability to rapidly respond to a contingency or other crisis. We will have fewer BCTs ready to respond to emerging crises and unforecasted demands.

14. Senator AYOTTE. General Allyn, General Odierno recently testified that "The unrelenting budget impasse has also compelled us to degrade readiness to historically low levels. Today, only 33 percent of our brigades are ready, when our sustained readiness rate should be closer to 70 percent." What is the primary reason for this degraded readiness: insufficient training, manning, or poorly maintained equipment?

General ALLYN. Generally, four factors drive unit readiness: availability of Soldiers, availability of equipment; equipment serviceability; and unit training. Currently, Soldier availability and training are the leading factors of degraded readiness. The combined effects of sustained demand for Army capabilities, fiscal reductions, and the friction associated with re-organizing of Brigade Combat Teams (BCT) and the associated downsizing of the force, impact Soldier availability and the training time needed to restore proficiency. Unpredictable funding creates an additional, preventable level of risk to deliver ready forces.

15. Senator AYOTTE. General Allyn, if sequestration continues, what percent of units would have degraded readiness?

General ALLYN. If sequestration continues, the Army will only be able to build sufficient readiness to meet current known requirements. All other units will experience varying levels of degradation in readiness, ranging from significant to severe.

COMBAT TRAINING CENTER ROTATIONS

16. Senator AYOTTE. General Allyn, can you elaborate on how many Combat Training Center (CTC) rotations would be cut if sequester were to occur in fiscal year 2016?

General ALLYN. The Combat Training Centers (CTCs) continue to be our Army's premier training venue. If sequester occurs in fiscal year 2016, the Army does not plan on cutting any of the scheduled rotations. The Army recognizes the value of a CTC rotation to a Brigade Combat Team not only in terms of maneuver training, but training in processes such as deployment, field maintenance, mission command, and leader development—training that cannot be accomplished at home station. As a result, the Army has elected to accept risk in home station training and readiness in order to preserve the ability to train these complex skills. However, the cuts imposed on home station training (HST) as a result of the sequester will result in many units arriving at the CTC in a degraded state of readiness—which means they will depart the CTC-experience less ready than a fully resourced HST model delivers.

PUBLIC SHIPYARD WORKERS

17. Senator AYOTTE. Admiral Howard, Admiral Greenert has testified that to address the workload to be completed in our public shipyards, the Navy will need to fund an additional workforce up to 33,500 Full Time Equivalent (FTEs) workers by fiscal year 2017. Secretary Sean Stackley stated that shipbuilding is critical to our security. If sequestration were to occur, how would that impact this Navy plan?

Admiral HOWARD. If sequestration returns in fiscal year 2016, it will force deep cuts to the Navy Operation and Maintenance account, impacting our ability to hire the public shipyard workforce needed to properly maintain and modernize our existing fleet of nuclear powered aircraft carriers and submarines. The resulting shortfall in shipyard capacity would drive delays in maintenance completion, negatively impacting the readiness of our forces, particularly those needed for contingency response, and diminish the ability to achieve platform expected service life. Ulti-

mately, this puts our ability to provide the forces to support Combatant Commander requirements at risk.

It is also likely that continued sequestration would force us to forego or stretch procurement of ships and submarines. This would slow our progress toward achieving the 306-ship force required by the 2012 Force Structure Assessment and driven by the Defense Strategic Guidance. In addition, the resulting disruptions in the ship design and construction phases would have significant consequences for the health and sustainment of the shipbuilding industrial base, which relies on stability and predictability to cost effectively build the future fleet.

18. Senator AYOTTE. Admiral Howard, how crucial are these new hires to the Navy's readiness recovery?

Admiral HOWARD. Increasing the size of the workforce to meet the workload demand in the public shipyards is critical to ensure our ships and submarines receive required maintenance after many years of high operational tempo, achieve expected service life, and are modernized to keep pace with the evolving threat. Most of the work in the public shipyards involves nuclear-powered submarines and aircraft carriers, and there is very limited private sector capacity for this type of highly technical work. As a result, any shortfall in the public sector workforce capacity results in maintenance delays and deferrals, ultimately impacting Navy's ability to provide ready forces.

19. Senator AYOTTE. Admiral Howard, what is the work that will drive this demand?

Admiral HOWARD. The increasing workload in the public shipyards on our nuclear-powered ships is driven by a combination of midlife availabilities on our legacy ship classes and the first docking availabilities on our newer ship classes. Those include Engineered Overhauls on Los Angeles Class submarines, Engineering Refueling Overhauls on Ohio Class submarines, Extended Docking Selected Restricted Availabilities on Virginia Class submarines, and Planned Incremental Availabilities (PIA) and Docking PIAs on Nimitz Class aircraft carriers. The volume of this anticipated work is a function of these regularly scheduled yard periods and the growth work that has accumulated as a function of a decade of high tempo combat operations.

20. Senator AYOTTE. Admiral Howard, which shipyards will require this additional workforce?

Admiral HOWARD. All four public shipyards (Portsmouth, Norfolk, Puget Sound, and Pearl Harbor Naval Shipyards) require additional personnel to meet the projected workload in fiscal year 2016 and beyond

21. Senator AYOTTE. Admiral Howard, how will the increased need affect each of the four public shipyards?

Admiral HOWARD. Each public shipyard has unique requirements, based on their projected workload in fiscal year 2016 and beyond. The President's Budget for fiscal year 2016 supports these important increases, which began in fiscal year 2015. The total manpower levels by shipyard in fiscal years 2014–16, including both Direct and Reimbursable funded Full-Time Equivalents (FTEs), are as follows:

Shipyard	FY14 FTE Total	FY15 FTE Total	FY16 FTE Total	FY14 to FY16 FTE Difference
Norfolk	8,917	9,433	9,732	+815
Pearl Harbor	4,341	4,628	4,765	+424
Portsmouth	4,601	4,855	5,023	+422
Puget Sound	11,122	12,560	13,283	+2,161
TOTAL	28,981	31,476	32,803	+3,822

AMPHIBIOUS WARSHIPS SHORTFALL

22. Senator AYOTTE. Admiral Howard, of the current inventory of 31 amphibious warships, how many are prepared to embark marines and deploy right now?

Admiral HOWARD. We currently have two Amphibious Ready Groups deployed with assigned Marine Expeditionary Units. We maintain at least one additional Amphibious Ready Group for contingency response. Additional ships are capable of embarking Marines and/or their equipment and deploying as Amphibious Task Force (ATF) Lift. While specific numbers vary based on operational cycles, the total num-

ber of ships available for ATF Lift do not meet the full requirement of the Combatant Commanders.

23. Senator AYOTTE. General Paxton, what is the Marine Corps' requirement for amphibious warships?

General PAXTON. The Chief of Naval Operations and the Commandant of the Marine Corps have determined the force structure to support the deployment and employment of 2 MEBs simultaneously is 38 amphibious warfare ships. Understanding this requirement, in light of fiscal constraints faced by the nation, the Department of the Navy has agreed to sustain a minimum of 33 amphibious warfare ships. However, COCOM demand is more realistically defined at about 54.

It should be noted that, the 33 ship force accepts risk in the arrival of combat support and combat service support elements of the MEB, but has been determined to be adequate in meeting the needs of the naval force within today's fiscal limitations. This inventory level also provides the needed capacity for a forward presence and a MEB/Expeditionary Strike Group (ESG) to respond to a crisis or contingency within 25 days.

24. Senator AYOTTE. General Paxton, what is the impact of the shortfall?

General PAXTON. The Chief of Naval Operations and the Commandant of the Marine Corps have determined the force structure to support the deployment and employment of 2 MEBs simultaneously is 38 amphibious warfare ships. Understanding this requirement, in light of fiscal constraints faced by the nation, the Department of the Navy has agreed to sustain a minimum of 33 amphibious warfare ships. However, COCOM demands are more realistically defined at about 54.

Shortfalls in amphibious warship inventory have multiple negative effects. The 33 ship force accepts risk in the arrival of combat support and combat service support elements of the MEB, but has been determined to be adequate in meeting the needs of the naval force within today's fiscal limitations. This inventory level also provides the needed capacity for a forward presence and a MEB/Expeditionary Strike Group (ESG) to respond to a crisis or contingency within 25 days. Shortfalls also negatively affect our ability to train. Conducting amphibious operations with our joint services is not just a matter of putting Marines on Navy ships. Those units must have the opportunity to operate with each other during their workup to establish relationships, tactics, techniques, procedures, and build interoperability.

AIR FORCE MOBILIZATION AUTHORITY

25. Senator AYOTTE. General Spencer, Congress recently provided a new mobilization authority to give increased access to the Reserve components. To date, how many times has the Air Force made use of this new authority and what, if any, impact has this had on the readiness of Active component units?

General SPENCER. The Air Force has utilized 12304b to mobilize approximately 1350 airmen across a variety of mission sets in support of fiscal year 2015 Combatant Commander requirements. 12304b has primarily been used by the Air Force for pre-planned missions in support of a Combatant Commander when there is no other authorized mobilization authority (12302) available. The impact on the readiness of the Active Component is unknown at this time as the requirements filled by these mobilized reservists would have otherwise gone unfilled if the Reserve Component was not made available by mobilization. In other words, the Air Force did not have sufficient capacity in its Active Component force to fill all requirements levied upon it by the Combatant Commanders.

If the Air Force could change one aspect of the new authority it would be to relieve the Service of the requirement to provide prior notification of the use of 12304b in the "J-Books", and allow the service submission of the Program Objective Memorandum (POM) to OSD as sufficient notification. Due to the timing of the "supplemental" J-Book submission, the Air Force is not able to utilize the new authority for pre-planned Combatant Commander missions paid for out of the supplemental budget and still allow sufficient notification to the Reserve Component members to manage their employer and personal lives with enough time to deploy.

26. Senator AYOTTE. General Spencer, please provide deployment-to-dwell figures for Active and Reserve component units for each mission design series (MDS), i.e. type of aircraft, for 2012, 2013, and 2014.

General SPENCER. With a view towards regaining readiness by 2023, the Air Force manages our Combat Air Forces (CAF) fighter/bomber fleet at a 1:4 Deploy-to-Dwell (1:5 Mob-to-Dwell). All other MDS' are managed at 1:2 Deploy-to-Dwell (1:5 Mob-to-Dwell). Specific MDS' are listed below.

Combat Air Forces MDS	Component	FY12	FY13	FY14
B–1	Active	1:2.0	1:2.0	1:1.5
B–2	Active	N/A	N/A	N/A
B–52	Active	1:2.5	1:3.7	1:3.6
A–10C	Active	1:2.2	1:2.3	1:2.0
A–10C	ANG	1:20.0	N/A	N/A
A–10C	AFRC	1:30.0	N/A	1:7.5
F–15C	Active	1:17.6	1:7.3	1:4.4
F–15C	ANG	1:39.6	N/A	N/A
F–15E	Active	1:3.4	1:2.9	1:3.3
F–16C+/CM	Active	1:8.3	1:2.8	1:5.6
F–16C+/CM	ANG	1:14.6	1:22.7	1:21.5
F–16C+/CM	AFRC	N/A	N/A	1:8.6
F–16CJ	Active	1:4.2	1:2.9	1:2.8
F–16CJ	ANG	1:8.2	N/A	1:4.3
F–22	Active	1:6.4	1:7.0	1:1.6
HC–130	Active	1:1.1	1:2.8	1:2.0
HC–130	ANG	N/A	1:18.1	N/A
HC–130	AFRC	1:12.3	N/A	1:6.4
HH–60	Active	1:1.5	1:2.6	1:2.5
HH–60	ANG	1:7.9	1:10.3	N/A
HH–60	AFRC	1:7.1	N/A	1:7.0

CAF NOTES:

1. N/A means no contingency deployment for that MDS during that time frame.
2. CAF Deploy-to-Dwell ratio based on deployment of lead UTCs for each MDS.
3. Dwell is average for each CAF MDS deployment during specified fiscal year.
4. We do not track dwell for Low Supply/High Demand weapon systems such as E–3, E–8, EC–130H, RC–135, U–2, and SOF aircraft (includes Battlefield Airmen). Dwell is managed by individual crew position and can vary widely within a single unit.

Mobility Air Forces MDS	Component	CY12	CY13	CY14
C–17	Active	1:1.7	1:2.1	1:2.2
C–17	ANG	1:6.3	1:6.9	1:7.5
C–17	AFRC	1:7.5	1:10.3	1:11.4
C–5A/B/C	Active	1:2.3	1:4.7	1:5.3
C–5A/B/C	ANG	1:3.8	1:4.5	1:5.2
C–5A/B/C	AFRC	1:5.4	1:6.2	1:6.7
C–5M	Active	1:5.1	1:4.5	1:4.2
C–5M	AFRC	1:5.6	1:13.2	1:11.0
KC–135	Active	1:2.4	1:3.2	1:2.6
KC–135	ANG	1:5.7	1:6.0	1:6.5
KC–135	AFRC	1:5.2	1:5.3	1:6.8
KC–10	Active	1:2.2	1:2.6	1:2.3
KC–10	AFRC	1:5.9	1:10.0	1:13.1
C–130H	Active	1:3.3	1:2.7	1:3.3
C–130H	ANG	1:7.1	1:11.8	1:10.1
C–130H	AFRC	1:8.1	1:12.5	1:11.1
C–130J	Active	1:2.0	1:2.1	1:2.2
C–130J	ANG	1:57*	1:18.7	1:7.6
C–130J	AFRC	1:6.9	1:5.1	1:6.9

MAF NOTES:

1. * ANG units in transition from C–130H to C–130J.
2. MAF Deploy-to-Dwell: Ratio of time aircrews are on missions away from home supporting SECDEF-directed contingency taskings and TRANSCOM/HHQ-validated taskings vs. time at home station.
3. MAF Deploy-to-Dwell Calculation: Line qualified available aircrews divided by taskings minus one.

EQUIPMENT RESET

27. Senator AYOTTE. General Allyn, Admiral Howard, General Paxton, and General Spencer, what is the current status of our retrograde and reset efforts from Iraq and Afghanistan, and what equipment shortfalls would we face if we were forced to surge in the next 12 months?

General ALLYN.

Afghanistan Retrograde:

United States Forces-Afghanistan reported that as of 28 March 2015, there were ~6,900 pieces of Rolling Stock (RS) and ~10,000 Twenty-Foot Equivalent Units (TEU) of Non-Rolling Stock (NRS) in Afghanistan that includes both supply and ammunition stocks. Of this equipment, about 3,700 pieces of RS and roughly 1,250 TEUs of NRS belong to the Army. By the end of 2015, the current plan is to reduce these totals by approximately 25 percent from their current values through either retrograde, redeployment or divesture efforts. The vast majority of non-Army equipment is Contractor Managed, Government Owned (CMGO) equipment that will be divested of in Afghanistan. The Army currently plans to retrograde a total of about 2,900 pieces of RS and 1,000 TEUs of NRS and divest all remaining equipment.

Equipment shortfalls due to a surge would be contingent on the size and scope of the operation. The Army has Army Prepositioned Stocks (APS) and equipment strategically located in or near the theater of operation to support several contingency plans that may potentially mitigate equipment shortfalls and reduce strategic deployment of unit equipment.

Iraq Retrograde:

There are currently no major retrograde operations on going in Iraq. We are utilizing our Kuwait based APS equipment to support CENTCOM operations in Iraq.

Reset:

The Army programmed to reset ~41,000 major end items returning from Afghanistan in fiscal year 2015. However, ~4,600 of those items are still required to support the Resolute Support Mission (RSM) and will be reset once they are no longer required for operations.

Depending on the type of units and equipment required for a surge, the Army's programmed equipment Reset schedule may be delayed until the equipment is no longer required for operations and is again available for Reset.

Admiral HOWARD. Navy is resetting both ships and our ground Navy Expeditionary Combat Command (NECC) forces.

Reset of material readiness in carriers, surface combatants and amphibious ships, after over a decade of high tempo combat operations, requires $2.6B across the FYDP. The majority of the work should be completed by the end of fiscal year 2018. Some reset work will continue at lower levels through fiscal year 2020 because some of these platforms require the availability of a drydock to conduct lifecycle maintenance to achieve their expected service life (drydock maintenance is normally on an eight year cycle). The Navy OCO request for fiscal year 2016 includes $557M for this work.

Navy capacity to surge ships for contingency response remains constrained until this work is completed.

Retrograde for NECC equipment has been successfully executed with only a small percentage remaining (currently in transit). With OCO ($62M), Navy's fiscal year 2016 budget request supports reset requirements for all NECC Mine Resistant Ambush Protected (MRAP) and Medium Tactical Vehicle Replacement (MTVR) vehicles, including communications gear and improvised explosive device defeat system installations.

NECC forces could support a surge if required, but would be accepting risk related to the inventory of tactical vehicles until reset is completed in the beginning of fiscal year 2017. Upon completion of remaining equipment reset, NECC will be fully postured to support contingency response requirements when necessary.

General PAXTON. As a result of the continued support of Congress via OCO appropriations, the Marine Corps has been executing an aggressive ground equipment reset strategy to repair and return our OEF equipment to the Operating Forces as rapidly as possible. All Marine Corps equipment was withdrawn from Afghanistan in December 2014, and as of April 2015, all equipment has been returned to CONUS. To date, the Marine Corps is approximately 60 percent reset-complete and anticipates reset completion in fiscal year 2017.

Our reset effort is helping in two key ways; (1) Providing an opportunity to repair, replace or recapitalize war-torn equipment slated to remain in our inventory; and (2) producing positive readiness impacts for some of our key high-demand/low-den-

sity equipment items. For example, we expect to see measureable readiness increase in many of our radar, satellite communications and motor transport systems.

The Marine Corps is optimized and resourced for global crisis response, and we give priority to the equipping needs of deployed forces. To address equipping shortfalls in non-deployed units, the Marine Corps is undertaking a deliberate effort to right-size and balance our ground equipment inventory to support our future force structure and ensure equipment is optimally aligned to requirements. This "ground equipment optimization effort" will support reconstitution to properly scaled and balance force by fiscal year 2017.

General SPENCER. After years of effort, major Air Force retrograde actions are nearing completion. Still engaged in combat, the Air Force has leaned its footprint and is positioned to support its Afghanistan enduring commitment equipment levels. Regarding reset actions, we still face significant work ahead to realize a complete reset of equipment after years of sustained combat operations. Major Air Force weapon systems do not have typical one-time "reset" requirements. Our major aircraft and engines are sustained on an ongoing basis. Sustainment requirements are driven by various timing criteria including aircraft/engine cycles, life-limited parts, flying hours, etc. Such on-going sustainment activities underpin readiness. Our major reset areas such as aircraft procurement, ammunition and missile procurement, aerospace ground equipment, support equipment, basic expeditionary airfield resources, and vehicles continue to remain a high priority for the Air Force. However, depending on the nature of a surge, we would most likely exacerbate existing munitions shortfalls Air Force wide. Cross leveling between combatant commands would be required and could create risk to other operational plans. If the committee would like additional, more finite detail, we would be happy to provide a classified briefing upon your request.

NAVAL READINESS

28. Senator AYOTTE. Admiral Howard, in your written statement, you note that the Navy has only been able to keep one Carrier Strike Group and one Amphibious Readiness Group in the heightened readiness posture—just one third of the requirement. What have been the consequences of that shortfall?

Admiral HOWARD. CSGs and ARGs deliver a significant portion of our striking power, and we are committed to keeping, on average, three additional CSGs and three additional ARGs in a contingency response status, ready to deploy within 30 days to meet operation plans (OPLANs). However, if sequestered, we will prioritize the readiness of forces forward deployed at the expense of those in a contingency response status. We cannot do both. We will only be able to provide a response force of one CSG and one ARG. Our current OPLANs require a significantly more ready force than this reduced surge capacity can provide. Less contingency response capacity would mean higher casualties as wars are prolonged by the slow arrival of naval forces into a combat zone. Without the ability to respond rapidly enough, our forces possibly could arrive too late to affect the outcome of a fight.

29. Senator AYOTTE. Admiral Howard, is the Navy considering forward deploying any additional carriers to make up for the lost presence under the Optimized Fleet Response Plan?

Admiral HOWARD. The Navy continuously evaluates how best to position our naval forces overseas to meet evolving security environments, but we have no plans to forward deploy additional carriers at this time.

While carrier presence varies slightly from year to year, our overall carrier presence will increase from fiscal year 2015 to fiscal year 2016. Seven month deployments under OFRP are a sustainable goal that balances our requirement to generate ready forces, provides forward presence, gets us to stable maintenance cycles, and enables us to respond to contingencies.

30. Senator AYOTTE. Admiral Howard, how, if at all, is the Navy used to meet NATO missions?

Admiral HOWARD. The Navy provides support to a wide range of NATO missions. Specific rotational requirements are identified through the Global Force Management Allocation Plan (GFMAP). Additionally, other forces are offered in a "Notice to Move" (NTM) status. These forces are offered formally to NATO to be available within 30 days of an incident.

Specific examples of Navy support to NATO include:

- Surface combatants support to Operation Atlantic Sentry, which provides for the Ballistic Missile Defense (BMD) of Europe. This persistent presence is a

gateway for future endeavors, including Aegis Ashore, and establishing an organic NATO BMD capability.

- We provide surface combatant and Maritime Patrol Aircraft support to Operation ACTIVE ENDEAVOR, the U.S.-NATO counter-terrorism operation.
- Surface combatants provide presence in the Black Sea under NATO auspices. For example, USS *Vicksburg* is currently the command ship for Standing NATO Maritime Group 2 (SNMG–2) which provided presence in the Black Sea for nearly the whole month of March. SNMG–2 began operations in January, 2015, and will conclude this June.
- Commander, Naval Forces Europe is dual-hatted as a NATO Joint Force Command, Naples, coordinating NATO operations in Kosovo. Commander, SIXTH Fleet is also dual-hatted as Commander, Naval Striking and Support Forces NATO, in Lisbon, Portugal.
- We actively participate in NATO exercises: BALTOPS, TRIDENT JUNCTURE, MARINER, and MANTA. Additionally, we conduct bi-lateral exercises such as Joint Warrior, to strengthen our interoperability and tactics with our NATO partners.

Port visits and Distinguished Visitor embarks, such as USS *Theodore Roosevelt's* recent visit to the United Kingdom and embarks of senior government officials from UK, Finland, Sweden, France, and Greece, also deepen ties with our NATO partners.

31. Senator AYOTTE. Admiral Howard, how does that affect the carrier presence that is required for combatant commander missions?

Admiral HOWARD. NATO has not requested carrier presence in fiscal year 2016, and Navy is not sourcing any NATO carrier presence in the SECDEF-approved fiscal year 2016 Global Force Management Allocation Plan.

TRAINING AND SIMULATION

32. Senator AYOTTE. General Allyn, Admiral Howard, General Paxton, and General Spencer, in 2013, training simulation accounts were severely cut due to sequestration, yet they can provide significant cost savings where trainees and long-term servicemembers can learn lessons that don't cost thousands of dollars each time a mistake is made. How do each of your Services plan to integrate simulators into your readiness and training agenda?

General ALLYN. Live, Virtual, Constructive, and Gaming capabilities are integral components of the Army Training Strategy. Use of simulations is integrated into Army training in two ways. First, simulations are specified in our Unit Training Models and units use virtual, gaming, or constructive simulations to execute building-block training events. Units move progressively from simulations based events to "live" events. Similarly, in Army schools, specific simulations are required in executing Programs of Instruction. Second, Commanders routinely use simulations to enhance their training. For example, units train Mission Command using simulations to reduce lower-echelon unit participation to save on operations and maintenance dollars. Further, aviation units use the Aviation Combined Arms Tactical Trainer (AVCATT) to practice aviation missions in a virtual environment prior to expending flying hours.

Admiral HOWARD. Navy has long recognized the criticality of integrating Modeling and Simulation (M&S) technology into Navy's training and readiness plans. M&S technology is a "readiness enabler", and supports Navy's mission to man, train and equip our forces.

As a result, Navy formally established the OPNAV Simulator Training Requirements Group (OSTRG), which reviews investment plans for simulator, Fleet Synthetic Training (FST) and Live, Virtual, and Constructive (LVC) Training, Joint National Training Capability (JNTC) programs, and assesses current capabilities and limitations. OSTRG leverages the Fleet Training Integration Panel (FTIP), and meets bi-annually to achieve cross-community, multi-mission synthetic training integration, and proposes live training events for simulator-based training. Individual platform and integrated simulator/training requirements are codified in Naval Training System Plans. Furthermore, Warfare Area Simulator Master Plans, updated during bi-annual FTIP symposiums, formulate capability-based requirements and acquisition strategies to expand simulator training. These plans consider legacy systems as candidates for modernization and reflect the development of a full range of simulators to support synthetic training. The OSTRG and its members focus on cost-effective solutions and leverage new technologies to meet readiness performance standards.

Since PB–14, OSTRG and FTIP members worked to develop the first OPNAV Simulator Master Plan (OSMP). The goal of the OSMP is to provide ready, responsive, and adaptive forces at tactical and operational levels, through a training continuum that balances simulated and live training events to improve warfighting readiness while reducing Total Ownership Cost. The OSMP translates validated and Fleet-approved integrated training requirements into integrated simulator training roadmaps; and prioritizes and recommends sourcing solutions for Navy's simulator, FST and LVC training requirements in support of both platform and warfare area readiness.

General PAXTON. There is no doubt that simulators provide a unique opportunity to provide realistic training opportunities that offset some of the costs associated with real-world training. These systems allow for varied training experiences, can minimize ammunition usage, and decrease logistical costs. In fact, the Commandant's Planning Guidance for 2015 specifically states that development and use of simulators remains a high priority for the service.

> "We will continue to support the fielding of systems that enhance our proficiency and safety in operating weapons and equipment. Our investment in training systems will reflect the priority we place on preparing for combat and be fully integrated with training and readiness standards. I expect all elements of the MAGTF to make extensive use of simulators where appropriate."
>
> -Gen. Joseph Dunford

However, as with other modernization efforts, we have had to defer some simulator development initiatives in order to prioritize near term readiness. We are currently funding simulator development and testing through individual system programs and supporting contracts. Due to the programming cycle, Fiscal Year 2018 will be the first opportunity to fund enduring integrated simulator capability.

Specifically, the Marine Corps Training and Education Command's (TECOM) Modeling and Simulation (M&S) Master Plan, Squad Immersive Training Environment (SITE), as well as the Live, Virtual, Constructive-Training Environment (LVC–TE) identify service requirements for simulators and simulations. These requirements are being addressed by TECOM. In conjunction with this we are continuing our efforts to integrate aviation systems with ground simulations to provide opportunities to conduct training that tests the full structure and capabilities of the Marine Air Ground Task Force (MAGTF).

General SPENCER. The Air Force uses aircrew simulators in most cases to augment or supplement live fly training as simulators cannot replace all live fly training. We focus most of our simulator effort on providing training in emergency procedures, contested and degraded ops, mission rehearsal and area denial, all items that are best suited for training in a controlled and secure virtual training environment. Simulators are an integral part of the Air Force readiness training objectives. Without high fidelity aircrew simulators readiness would quickly be reduced to unacceptable levels.

33. Senator AYOTTE. General Allyn, Admiral Howard, General Paxton, and General Spencer, what cost savings can the Services leverage from using simulation technology when preparing our Armed Forces?

General ALLYN. The Army maintains a large variety of training simulators allowing units to train at basic skills such as marksmanship, driving, tank gunnery, and aviation. Some are networked to several others allowing battalion task forces to simulate large scale maneuvers at reduced cost and equipment OPTEMPO.

These training simulators save the Army money when compared to live training as they require less operations and maintenance funds (e.g. tank track, ammunition, etc.). However, the cost of acquiring and then maintaining simulators offsets a considerable amount of these savings—these systems are costly. Simulators are used to provide baseline and some sustainment skills, and to rehearse complex actions in order to reduce risk to Soldiers. Ultimately, however, Soldiers must execute their training in a "real-world" environment—such as with live-fire exercises. While simulations are vital in building Soldier, Leader, and unit proficiency, they cannot replicate the complexity and critical human factors that arise in live, combined arms maneuver exercises against a thinking adversary.

Admiral HOWARD. The Navy continues to explore simulation technology opportunities to ultimately reduce operations and maintenance costs while sustaining, or improving, force readiness. Simulators are integrated into individual and team training, both as part of formal courses of instruction and crew preparation for at-sea operations. Simulator investments play a pivotal role in improving training proficiency and delivery. Life cycle costs of simulation are less than the overhaul, and

preventive/corrective maintenance of the tactical equipment. Simulation can prevent personal injury as well as weapons damage, saving thousands of dollars as well as damage to personnel readiness.

Simulators normally operate at a fraction of the cost of operational equipment (e.g. operation of aviation simulators are normally 1/10 or less the cost of actual aircraft flying cost). In addition, simulators do not wear out or break high-valued equipment during routine training. This applies to all levels of training where simulators can be used. In some cases, lower fidelity devices can perform a large percentage of training tasks lowering total procurement cost of a training system.

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General SPENCER. First and foremost, our number one priority is to sustain and enhance force readiness. We use simulation technology to maintain, sustain, enhance, supplement, and in some cases, replace training conducted in a live environment. The use of simulation technology may or may not result in direct cost savings, but should result in a more ready force. Therefore, we do not have an additional cost savings estimate beyond those that have already been programmed and budgeted.

Training is a key to force readiness and training for combat and other operational missions is an extremely complex endeavor. Sophisticated threat systems and advanced operational capabilities are driving an increased emphasis on the use of simulation technologies (Live, Virtual, and Constructive-Operational Training (LVC–OT) capabilities). As threat environments become more dense and more highly contested, our ability to simulate them in the live training environment is becoming increasingly difficult. Additionally, our fifth generation weapon systems are so advanced that challenging them in the live training environment while protecting their capabilities and tactics from exploitation is likewise becoming more and more problematic.

LVC–OT capabilities address these issues by providing solutions for increasing the value of live operational training, and simulating the live environment using concurrent, high-fidelity, networked training systems. Leveraging simulation technology significantly improves our readiness at a cost that would be otherwise unaffordable. We are working diligently to maximize the value of every training dollar by optimizing our LVC–OT capabilities.

34. Senator AYOTTE. General Allyn, Admiral Howard, General Paxton, and General Allyn, if sequestration does occur, will training simulators be cut similarly to the 2013 sequestration?

General ALLYN. The Army will seek to optimize its investments in training by balancing operational training investments, institutional investments, and simulations investments. All three areas will be impacted significantly by sequestration much as they were in 2013.

Admiral HOWARD. A return to sequestration in fiscal year 2016 would necessitate a revisit and revision of the Defense Strategic Guidance. Required cuts will force us to further delay critical warfighting capabilities, reduce readiness of forces needed for contingency response, further downsize weapons capacity, and forego or stretch procurement of ships and submarines as a last resort. We will be unable to mitigate the shortfalls like we did in fiscal year 2013 because we are still recovering from operating account shortfalls that were deferred to later years in the fiscal year 2013 FYDP. Our PB–16 budget represents the minimum funding necessary to execute the defense strategy. Sequestration impact to training simulators would come if we had to stretch or eliminate building new facilities or reduce training associated with generating ready forces in order to husband dollars.

General PAXTON. Despite the unique training opportunities afforded by simulation systems, such opportunities would, as with all training efforts across the Marine Corps, be affected by a sequester in fiscal year 2016. The fiscal year 2016 President's Budget request represents the bare minimum at which the Marine Corps can meet the current Defense Strategic Guidance. The Marine Corps would be forced to reduce or delay home station operations and maintenance activities in order to protect near-term readiness, forward deployed forces, and our capacity to meet COCOM demands under sequestration. Though no decisions have been made regarding specific reductions under an fiscal year 2016 sequester, advanced skills training and service level exercises would likely be scaled back accordingly, along with advanced training technologies, simulation systems training, and related activities. We would also assume additional risk in our modernization accounts, reducing the amount of investment funding available to develop and procure new systems.

General SPENCER. In 2013 due to sequestration, the Air Force was required to make several reductions in simulator operations and support. While we did not remove simulators or completely shut down simulator operations, the Air Force cancelled large virtual exercises, reduced travel funding for units not co-located with a simulator, and curtailed simulator sustainment funding. We don't yet know the specific training areas that will be impacted by any future sequestration actions. During any sequestration, the Air Force will balance training resources to meet fiscal constraints.

COMBATANT COMMANDER DEMAND

35. Senator AYOTTE. General Allyn, Admiral Howard, General Paxton, and General Spencer, what are the current mitigation plans and strategies to meet combatant commander demand until full readiness is recovered?

General ALLYN. The Army currently meets the majority of combatant commander requirements for forces. The Army has identified a ceiling to the Joint Staff that identifies an upper limit for overall demand that still permits Service readiness recovery. Above this ceiling, additional requirements would put service readiness recovery at risk. In the Global Force Management process, the Army identifies which additional requirements would be above the ceiling, the risks to sourcing those requirements, and risk mitigation plans. For planned requirements, these mitigation options include cancelling or delaying modernization programs and taking risk in services and infrastructure. For unplanned or contingency requirements, mitigation requires balancing between repurposing units from other missions, meeting deployment timelines, and the overall readiness of deploying units.

Admiral HOWARD. While we continue to source to capacity, the reality is we do not have sufficient force structure to meet all Combatant Commander (CCDR) demand. CCDRs must mitigate risk through judicious employment of allocated forces.

Risk is mitigated through the Global Force Management Allocation Plan (GFMAP), by allocating forces to the highest priority missions, and in coordination with the CCDRs, Joint Staff, and other Services, to ensure global mission requirements are executed at an acceptable level of risk.

General PAXTON.

- For the Marine Corps to create dwell time necessary to build the institutional readiness our nation requires from its 911 force both now and in the future, we will have to change how we provide forces to meet Geographic Combatant Commander (GCC) requirements.
- In the near term, your Marine Corps will be ready to respond to the nation's call; however, our capacity to respond may be severely diminished.
- By reducing the capacity, but not the capabilities of our forward deployed MAGTFs, we can create some trade space in personnel and resources necessary to improve institutional readiness.
- Reductions in unit capacity alone may be insufficient to improve D2D significantly and more importantly to optimize unit readiness. While requiring further

study, anticipate each element of the MAGTF will require uniquely tailored solutions.

- By tailoring the MAGTF to the specific capabilities required by the Combatant Commanders, we can create the opportunity for the Marine Corps as a Service to regain readiness from over a decade of conflict. These readiness and recovery efforts will further allow the Marine Corps to provide a "ready force" to support the operations across ROMO.

General SPENCER. The Air Force is currently meeting combatant commander rotational demand with ready forces, and they are performing exceptionally well in Operations RESOLUTE SUPPORT and INHERENT RESOLVE. Unfortunately, this has come at the cost of likely sourcing the demands of the Defense Strategic Guidance with unready forces. We have successfully mitigated risk to rotational requirements at the expense of our broader National Military Strategy. We simply cannot mitigate all of the risk at our current capacity.

36. Senator AYOTTE. General Allyn, Admiral Howard, General Paxton, and General Spencer, have you established milestones or metrics to track the rebuilding of the readiness?

General ALLYN. Yes. The Army has developed a combination of metrics to evaluate our readiness recovery and force generation efforts. Those metrics consist of, but are not limited to, deploy-to-dwell ratios; aggregate demand for Army forces, including deploy-to-dwell, theater committed, or prepare to deploy units; combat training center unit preparedness results (or other major training event); and minimum floors of full spectrum readiness. By examining these and other variables, the Army accurately tracks readiness progress toward healthy, sustainable force generation levels.

Admiral HOWARD. Yes. Navy measures our current and projected operational output through the Fleet Response Plan Operational Availability (FRP Ao) metric. This measures "presence delivered" and "contingency response capacity" against a standard of sustainable levels of presence and the most demanding Combatant Commander Operational Plan for contingency response capacity. The CNO recently discussed the FRP metric of 2+3 Carrier Strike Groups (CSGs) as our goal which reflects a sustained global presence of 2 CSGs and 3 "ready to respond" within about 30 days. Across most of the Fleet, Navy will continue to be challenged through this year, particularly for contingency response capacity, and then slowly begin to recover FRP Ao levels through FY 2020 across the force.

Because our depot maintenance challenges are among the most critical aspects underpinning our readiness recovery, we are monitoring the hiring plans and output of both aviation depots and shipyards closely, adjusting as needed. We are investing not only in staffing, but also in workforce development, to achieve these goals.

General PAXTON. Yes. Service-level readiness systems and processes are informed by, and inform, the Chairman's Readiness System that codifies readiness reporting and assessment used to track the degree to which readiness is recovering or decaying.

Our metrics to monitor manning, equipment, and training levels, and assessment process provides near-term analysis of readiness of the Marine Corps' ability to execute operational plans and portend readiness to resourcing linkages.

The full weight of the Budget Control Act would preclude the Marine Corps from meeting its full statutory and regulatory obligations, and adequately prepare for the future. Under sustained sequestration for forces not deploying, the fuel, ammunition, and other support necessary for training would be reduced thus inhibiting our ability to provide fully-trained Marines and ready units to meet emerging crises or unexpected contingencies. We would see real impacts to all home station units, then our next-to-deploy and some deploy forces . . . this constitutes the internal decay, the beginnings of the hollow force we have fought so hard to avoid.

Prior to the onset of sequestration and operational requirements supporting the New Normal, the Marine Corps was on a trajectory to reconstitute to a ready force by 2017. Regrettably, this is no longer the case. We have not fully recovered from the turmoil caused by the last sequester. Full recovery is frustrated by the specter of another. Another sequester would prevent any opportunity to further recover readiness.

General SPENCER. The Air Force has employed a readiness recovery model that assesses the five key "levers" of Air Force Readiness (deploy-to-dwell ratio, and four resource levers—flying hour program, critical skills availability, access to training resources, and weapons system sustainment). Additionally, the model provides an analytical assessment of 20 leading indicators of readiness to provide a detailed understanding of the range of possibilities for resourcing and ops tempo over the planning horizon. This methodology helps quantify two key readiness realities; the readi-

ness generation process takes resources and time. While one lever cannot fix the problem independently, a shortfall in any single lever can create a severe readiness problem. Our readiness metrics are tracked through the Joint Service system called Defense Readiness Reporting System. This system communicates commanders' observations, concerns, metrics, and approaches to their combat readiness, from the field back to the headquarters staff. The aggregate findings from the field are shared with our legislators through the Quarterly Readiness Report to Congress. With that understanding, our requirements to achieve 80 percent readiness by the end of 2023 are PB-level funding of programs that support the four resource levers, in combination with improved deploy-to-dwell ratios for our force; through 2023.

37. Senator AYOTTE. General Allyn, Admiral Howard, General Paxton, and General Spencer, if sequester does happen, how many years would full readiness recovery be delayed, and how would you respond to the needs of combatant command?

General ALLYN. Under sequestration, the Army will not be able to bring its manpower, operations and maintenance, modernization, and procurement expenditures into balance until at least FY23 and will require at least an additional 3 years thereafter to return to full readiness. In short, the nation would be accepting considerable risk for no less than 7 years.

In order to meet the priority needs of combatant commands, the Army would focus resources on deploying units and decrement training resources for units not deploying. This will increase the risk for contingency operations and weaken overall leadership experience across the Army, but will ensure we can meet Combatant Commander near term requirements.

Admiral HOWARD. Under sequestration there is no path to full readiness recovery to execute the required missions of the Defense Strategic Guidance (DSG). Our PB16 budget submission represents the bare minimum necessary to execute the DSG in the world we face. A return to sequestration in fiscal year 2016 would necessitate a revisit and revision of the defense strategy.

In the short term, the required cuts would force us to further delay critical warfighting capabilities, reduce readiness of forces needed for contingency responses, further downsize weapons capacity, and forego or stretch procurement of force structure as a last resort. While sequestration causes significant near-term impacts, it would also create serious problems that would manifest themselves after 2020 and would be difficult to recover from. For example, even assuming a stable budget at PB–16 levels and no major contingencies for the foreseeable future, we estimate that Navy will not recover from the maintenance backlogs that have accumulated from the high operational tempo over the last decade of war and the additional effects of the fiscal year 2013 sequestration until approximately fiscal year 2018 for Carrier Strike Groups and approximately fiscal year 2020 for Amphibious Ready Groups, more than five years after sequestration in fiscal year 2013.

As we did in fiscal year 2013, if sequestered in 2016 and beyond, Navy will deliver ready forces forward to meet the highest priorities of the Combatant Commanders. Some lower priority deployments may have to be cancelled and contingency response capacity will continue at reduced levels.

General PAXTON. We are not able to fully assess the impact of a sequester or BCA funding levels. One of the greatest challenges with this current environment is the constant change and resultant uncertainty. We are providing our best estimates for all aspects of our Title X responsibilities, but we do know that we will have fewer units resulting in less capacity and high deployment to dwell ratios (Organize).

There will be reduced time to train, as well as reduced assets available for training (such as fuel, ammunition, and equipment readiness) (Train).

Reduced equipment availability and legacy equipment not on par with the modern battlefield (AAVs, 4th generation aircraft, outmoded radars and C4I) (Equip).

Over time, sequestered budgets will prevent the Marine Corps from meeting Combatant Commanders' requirements at an acceptable deployment to dwell ratio and prioritize training resources toward next to deploy units, leading to a less-ready force.

With respect to our response to a major contingency, all of the Marine Corps' operational units would be fully committed with no capacity for rotation of forces. Bottom line, those units directed to the operation would remain until the mission is complete regardless of the duration.

In the near term, your Marine Corps will be ready to respond to the nation's call; however, our capacity to respond will be severely diminished.

By tailoring the MAGTF to the specific capabilities required by the Combatant Commanders, we can create the opportunity for the Marine Corps as a Service to regain readiness from over a decade of conflict. This readiness and recovery model

would allow the Marine Corps' home station units to be the ready force that would respond to unforeseen crises and major contingencies.

General SPENCER. The Air Force is committed to meeting Combatant Commander requirements for all aspects of Air Power projection. To that end we are performing exceptionally well in Operations RESOLUTE SUPPORT and INHERENT RESOLVE. If sequester were to return, we would likely continue to perform at high levels in support of these and similar operations, to the further detriment of overall full-spectrum readiness. Under sequester funding levels, our recovery rate to achieve 80 percent readiness by the end of 2023 would slow significantly; delaying this goal by at least 5 years. Finally, Combatant Commander requirements extend well beyond counterterrorism and counterinsurgency efforts and the Air Force is committed to supporting Combatant Commander needs were we to go to war with a near-peer adversary in a high-end fight. We would have insufficient ready forces to meet that demand and the requirements of the Defense Strategic Guidance.

SPECIAL PURPOSE MARINE AIR-GROUND TASK FORCE

38. Senator AYOTTE. General Paxton, in December 2014 testimony, General Dunford testified that approximately 50 percent of Marine Corps units at home station were in a degraded state of readiness due to personnel and equipment shortfalls. He further noted that this lack of readiness is due, in part, to the increased requirements from the unexpected Special Purpose Marine Air Ground Task Force (MAGTF) crisis response teams in U.S. Central Command (CENTCOM) and U.S. Africa Command (AFRICOM). Did the Force Structure Review Group consider the Special Purpose MAGTF crisis response team requirements when determining the optimal number of forces required? If not, how will this new—and potentially enduring—requirement affect the Marine Corps' ability to meet personnel tempo goals and readiness requirements as the size of the force continues to decline?

General PAXTON. No, the Force Structure Review Group did not consider the SPMAGTFs for CENTCOM or AFRICOM when it was originally convened. However, the 186,800 force was designed to optimally fulfill a crisis response capability which these units are performing. In a fiscally constrained environment below 186,800, since we are committed to maintaining near term readiness and crisis response, the enduring requirement for these units will negatively affect the readiness of home station units which are preparing for contingency response in support of Major Combat Operations (MCO). If we were fully funded at the optimal 186,800 personnel end strength we would be able to fulfill our crisis response capability and improve our preparedness for contingency response because the increased dwell time built into this end strength allows sufficient time to train, equip, and man home station units.

39. Senator AYOTTE. General Paxton, what is the Marine Corps doing to ensure we're not 'robbing Peter to pay Paul' when you remove capabilities and readiness from Marine Expeditionary Forces to stand up Special Purpose MAGTFs?

General PAXTON. The current construct of a three-ship Amphibious Ready Group (ARG) and a Marine Expeditionary Unit (MEU) remains America's preeminent crisis response force providing deterrence and decision space across the range of military operations. However, amphibious war ship inventory and operational tempo constrain the number of ARGs available to support Combatant Commanders. In a changing security environment, forward deployed and forward engaged Special Purpose MAGTFs are employed to provide crisis response, security, and theater cooperation capabilities as required by the Combatant Commanders. Special Purpose MAGTFs are intended to fill the crisis response gap when the paucity of operationally available amphibious warships precludes the allocation of ARG/MEUs to the Combatant Commanders.

The Marine Corps' top resourcing priority remains those forward deployed and forward engaged Marines and Marine units, especially those in harm's way. To protect the readiness of those forward deployed and forward engaged units—such as Special Purpose MAGTFs and Marine Expeditionary Units—personnel and equipment are resourced from home station units subordinate to the three Marine Expeditionary Forces. Home station units constitute the ready force that would surge to unforeseen crises and major contingencies. The Marine Corps is committed to generating ready forces to respond to all operational requirements, while working to ensure all Marine Expeditionary Forces are capable of executing missions. However, another sequester would prevent any opportunity to recover the readiness our Nation deserves and lead to creating a hollow force we have fought so hard to avoid. In a major conflict, resource shortfalls resulting from sequester-level funding would

increase the timelines needed to achieve our objectives thus elevating the likelihood of mission failure and greater loss of life.

40. Senator AYOTTE. General Paxton, with approximately 50 percent of home station units, which are needed to respond to major crises, being declared "not ready", what is the Marine Corps' plan to restore these units to readiness?

General PAXTON. Home station units constitute the ready force that would respond to unforeseen crises and contingencies. As the Nation's ready force, the Marine Corps will continue to generate ready forces to meet current operational requirements, work to recover full spectrum readiness for home station units, and protect those aspects of institutional readiness that allow for the reconstitution of the whole-of-force after over a decade of unprecedented sustained conflict. Personnel shortfalls at the unit level are a principal detractor to recovering readiness. Actions taken to help restore home station unit readiness include manning assignment policies that improve (1) leader-to-led ratios, especially among the Noncommissioned Officer and Staff Noncommissioned Office grades; (2) required unit personnel fill levels essential for combat effectiveness, (3) seek to employ the force at a 1:3 deployment to dwell ratio (optimum) in the future, and(4) optimized readiness across the entire unit life cycle versus only the pre-deployment training period. The Marine Corps regularly examines balancing the requirements to meet current operational requirements against operational tempo that promotes readiness restoration of home station units.

41. Senator AYOTTE. General Paxton, what specific risks are the Marine Corps taking by having a total force less than the optimal force of 186,000?

General PAXTON. A discussion of required force structure to meet U.S. national security requirements must be viewed from the lens of the five pillars of readiness. At PB16 funding levels, the Marine Corps meets current crisis and contingency response force levels, but with some risk. We will meet the nation's requirements, the question is, how well can we prepare those troops for deployment? In order to make continuous and long term readiness a reality, we have to be able to train personnel and perform maintenance on equipment. Right now, we have about a 1:2 deployment to dwell ratio. That is, Marines are deployed for 7 months and home for 14. This allows a proper unit rotation to ensure that each time a unit deploys they are fully ready. If we are forced to take further cuts, that level will decrease closer to 1:1.5 or 1:1. What this means is that units have less time between deployments to conduct the required training prior to their next deployment.

JOINT LIGHT TACTICAL VEHICLE

42. Senator AYOTTE. General Allyn and General Paxton, how important is the Joint Light Tactical Vehicle (JLTV) program to the readiness of each of your Services?

General ALLYN. Joint Light Tactical Vehicle (JLTV) fielding will substantially improve Army readiness by closing capability gaps in the Army's light tactical vehicle fleet. Tactical mobility is a vital ground combat force enabler and enhances the effectiveness of combat and sustainment forces. The current High Mobility Multi-purpose Wheeled Vehicle (HMMWV) is not suitable in the current environment as armoring initiatives have overweighed the chassis, limiting its mobility. Additionally, the HMMWV lacks the requisite on-board power to support the current mission command systems. Current trends in military operations require forces to continue to develop expeditionary capabilities across the range of military operations. The JLTV provides the mobility Soldiers need, with the protection and on-board power needed in the future operating environment. The Mine-Resistant Ambush Protected (MRAP) vehicles used in Iraq and Afghanistan lacked the cross-country mobility JLTV will provide. MRAP's size and weight limited Army operations to road networks making our Soldiers' movements predictable and easier to target. JLTV will allow our Soldiers more flexibility for off-road operations, reducing their exposure to Improvised Explosive Devices and ambushes. This added mobility coupled with the increased protection integrated into the JLTV design reduces our Soldiers' risk. Finally, JLTV is designed to enable the integration of our current and future mission command. This will enable commanders to see the battlefield and synchronize combat power to enable mission success. The Army plans to prioritize early fielding to Infantry Brigades and Special Operations Forces.

General PAXTON. The JLTV is a central pillar of our ground combat and tactical vehicle modernization plan and critical to readiness of Marine Corps forces to deploy and to be employed in any clime and place. The JLTV program, and the capability it will provide, is second only in importance to our amphibious mobility moderniza-

tion within our vehicle portfolio. JLTVs will replace the portion of HMMWVs that are most at risk; those that perform a combat function and are most likely to be exposed to enemy fires. Those vehicles are assigned predominately to Ground Combat Element and Direct Support Logistics units, and perform mission roles as Heavy Weapons (Machine Guns) and Anti-Armor (TOW and Javelin) Weapons carriers and critical command and control and tactical logistics functions.

Initially, we will procure and field 5,500 JLTVs between fiscal years 2017 and 2022, to replace the highest risk portion of our 18,000 vehicle HMMWV fleet. In addition to providing protection equivalent to the base MRAP All-Terrain Vehicle (M–ATV), the JLTV will restore off-road performance and payload to the light vehicle fleet that was lost when 'frag kit' armor was installed on HMMWVs during Operation Iraqi Freedom. Frag kit armor does not protect against the underbody IED threat, a major vulnerability of the HMMWV, and the reason why it could not be used in recent combat operations. The JLTV will support the most demanding missions, including Joint Forcible Entry and crisis response operations from the sea. The JLTV will be transportable externally by CH–53 helicopter and will be capable of being stored and transported in the spaces formerly occupied by HMMWVs aboard amphibious and maritime prepositioning ships and surface connectors, such as the LCAC. JLTV competitive prototypes have also demonstrated fuel efficiency equal to a similarly equipped HMMWV, while moving, and a 20 percent less fuel use when at idle.

We are pleased with the performance of the JLTV program and the three highly competitive vendors, AM General, Lockheed Martin, and Oshkosh Defense, working with us during the program's Engineering, and Manufacturing Development (EMD) phase. We look forward to working with our U. S. Army partners later this summer as the JLTV program prepares for its Milestone C decision and the selection of one of the EMD vendors to produce JLTV, beginning in fiscal year 2016.

43. Senator AYOTTE. General Allyn and General Paxton, as the JLTV program ramps up, how will existing HMMWV (Humvee) vehicles be reallocated?

General ALLYN. As the four JLTV variants (Heavy Gun Carrier, Close Combat Weapons Carrier, General Purpose, Utility/Shelter Carrier) are fielded to units, the Army will reallocate the most modern HMMWVs across all Army Components to replace older model HMMWVs. The Army will then divest those older model HMMWVs.

General PAXTON. Our intent is to replace the entire HMMWV fleet. Between 2017 and 2022 we will procure the first of the 5,500 JLTV's to replace the aging and overburdened HMMWV fleet. These 5,500 will fulfill a portion of the overall requirement we have for roughly ~18,000 vehicles. JLTVs will replace the portion of HMMWVs that are most at risk; those that perform a combat function and are most likely to be exposed to enemy fires. Those vehicles are assigned predominately to Ground Combat Element and Direct Support Logistics units, and perform mission roles as Heavy Weapons (Machine Guns) and Anti-Armor (TOW and Javelin) Weapons carriers and critical command and control and tactical logistics functions.

The current Ground Combat Vehicle Strategy (GCTVS) outlines our plan to replace the remaining HMMWV fleet with JLTV, however we will need to make investments in the ACV during the 2020's to ensure that this platform remains prepared to carry us into the future. By sequencing our JLTV buy around the peak years of the ACV program, and modernizing a portion of our AAV fleet we will be able to achieve our long range goals within the projected limits of future budget restrictions. However, if the budget is fully sequestered in fiscal year 2016 or beyond, it will jeopardize both the timing and resources required to undertake this strategy and greatly affect our ability to achieve our requirements in both vehicle fleets.

44. Senator AYOTTE. General Allyn and General Paxton, after JLTV is fully implemented, how many HMMWV's will remain in each Service's inventory?

General ALLYN. The JLTV begins fielding in fiscal year 2018. Based on Force Structure projections for that year, fielding 49,099 JLTVs will leave 67,301 HMMWVs distributed across the Total Army.

General PAXTON. Our intent is to replace the entire HMMWV fleet. Between 2017 and 2022 we will procure the first of the 5,500 JLTV's to replace the aging and overburdened HMMWV fleet. These 5,500 will fulfill a portion of the overall requirement we have for roughly ~18,000 vehicles. JLTVs will replace the portion of HMMWVs that are most at risk; those that perform a combat function and are most likely to be exposed to enemy fires. Those vehicles are assigned predominately to Ground Combat Element and Direct Support Logistics units, and perform mission roles as Heavy Weapons (Machine Guns) and Anti-Armor (TOW and Javelin) Weapons carriers and critical command and control and tactical logistics functions.

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QUESTIONS SUBMITTED BY SENATOR TIM KAINE

SEQUESTRATION—SECOND AND THIRD ORDER EFFECTS

45. Senator KAINE. General Allyn, Admiral Howard, General Paxton, and General Spencer, in multiple hearings we have heard testimony from the Service Chiefs on some of the negative effects of sequestration-level budget caps. In fiscal year 2013, the Services took varied approaches to implement sequestration cuts. The Army cancelled major training exercises, the Air Force grounded aircraft, and the Navy deferred maintenance. Deferring costs into future years can create second and third order negative such as creating training and readiness deficits and the loss of capabilities. We have not heard many details about these second and third order effects. Additionally, because of the focus on counterinsurgency (COIN) training to prepare for deployments to Iraq and Afghanistan, our military now has an entire generation of officer and enlisted personnel who have never conducted full-spectrum training. If sequestration remains in fiscal year 2016 and the Services again halts training for pilots, while they will continue to be paid, if they cannot fly—not only will they lose proficiency—but their morale suffers and can either lead them to leave the military or lead to behavior and family problems. Can each of you provide examples of the inefficient use of resources, such as time lost, increased long-term costs, and the second and third order problems those conditions create for training and readiness deficits?

General ALLYN. If we return to sequestration in fiscal year 2016, the Army will experience increased risk through degraded readiness to both our organizations and our installations.

Reductions to individual training and education will create a backlog that will take years to correct and create gaps at critical points in leader development—especially mid-career officers and NCOs. Unit training for approximately 80 percent of the Force will be curtailed, impacting basic warfighting skills and readiness posture, and inducing shortfalls across critical specialties such as aviation and intelligence. The Army will generate fewer Brigade Combat Teams (BCTs) to the readiness levels required to support rapid combat deployment as we balance the readiness levels of BCTs with other critical enablers such as Combat Aviation Brigades and Combat Sustainment Brigades. The remaining BCTs will be resourced only to minimum Individual/Crew/Squad levels. This will stretch the time required to flow forces into a war-fighting theater, allowing our adversary more time to prepare and inevitably leading to greater U.S. casualties.

From an installation perspective, our Army is still feeling the effects of sequestration in fiscal year 2013 when over 3.2 billion dollars of requirements were deferred to fiscal year 2014, to include significant Military Construction (MILCON) and Sustainment, Restoration and Modernization (SRM) projects. As you know, sustaining facilities is more cost effective than restoring them and our data shows that for every 1 dollar we purportedly 'save' on sustainment we incur 1.33 dollars of costs in restoration. By 2013, the Army already had a total restoration backlog of over 15 billion dollars. At current levels of funding, it will take approximately twenty-six years (2039) to return all of our installations to standard. A return to sequestration will only exacerbate this delay in providing our Soldiers and their Families with the mission essential facilities their selfless service warrants.

Likewise, a return to sequestration will compel the Army to defer vehicle maintenance. Under sequestration in fiscal year 2013, commands reduced OPTEMPO to make additional resources available to address the deferred maintenance workload. Additionally, the Army reduced the maintenance requirements from "10/20 standards" (all routine maintenance is executed and all deficiencies are repaired) to a Fully Mission Capable (FMC) plus safety standard, decreasing the quantity of reliable and deployable equipment.

Admiral HOWARD. Ship and air depot maintenance backlogs are good examples of the second and third order effects of sequestration. The impacts of the growing ship

depot maintenance backlogs may not be immediately apparent, but will result in greater funding needs in the future to make up for the shortfalls each year and potentially more material casualty reports, impacting operations. For aviation depot maintenance, the growing backlog will result in more aircraft awaiting maintenance and fewer operational aircraft on the flight line for squadrons training for deployment. This will lead to less proficient aircrews, decreased combat effectiveness of naval air forces, and increased potential for flight and ground mishaps.

In addition, sequestration in fiscal year 2013 led to decreases in the workforce and overall productivity in the depots/shipyards due to hiring freezes at a time when the Navy should have been increasing the workforce to meet a growing workload and replace normal attrition. These outcomes were further exacerbated by workforce overtime restrictions which prevented recovery of production schedules. A third order effect was an increase in workforce attrition from accelerated retirements or pursuit of other employment. While difficult to measure motivation, the anecdotal evidence suggests that furloughs, lack of overtime and an uncertain future were key contributors to an increased loss of experienced workers. The end results were delayed and more costly shipyard maintenance availabilities, and aviation depots were unable to execute the necessary workload to keep the required numbers of aircraft on the flight line.

General PAXTON. A return to sequestration—or to BCA caps—would exacerbate current fiscal challenges and force us to assume greater risk in our capacity to meet long-term operational requirements. The Marine Corps' current resource level represents the bare minimum at which it can meet the current Defense Strategic Guidance. Though we are committed to generating ready, forward deployed forces, at BCA levels we will accept significantly greater risk in the next major theater war. This is a "one major combat operation," reduced-capacity force; essentially, we would be all in with no rotations, no surge capacity, and significantly reduced pre-deployment training. There would also be significant reductions in aviation and ground combat units, further reducing our available infantry battalions. Coupled with recent reductions in critical combat support capabilities such as artillery, tanks, and amphibious assault vehicles, such reductions would result in wars that last longer and extract a higher human cost.

At BCA levels we would be unable to meet our ongoing operational commitments and would forgo participation in many of our planned security cooperation exercises. Though we intend to preserve the Guam/DPRI effort as much as possible, a sequester would lengthen the timeline for completion.

In terms of lasting implications, sequestration caps would also require us to adopt massively inefficient business and operational practices that end up costing much more over the long term. For instance, delaying modernization in order to protect near-term readiness greatly risks driving up acquisition costs. Any interruptions during program acquisitions—schedule slips, loss of efficiencies, and potential Nunn-McCurdy breaches—would ultimately increase total program costs. Deferred modernization would have implications for our equipment maintenance programs as well. We would be forced to sustain legacy systems longer than planned, and to shift focus away from cheaper, more efficient green technologies, toward older, more inefficient and expensive technologies. We would also reduce regular, scheduled maintenance on ground equipment (such as depot-level vehicle overhauls) as a further near-term cost saving measure. However, the net result of this combination of obsolete technology and reduced maintenance will drive up operations and support costs over the long term.

We would see similar effects to our facilities. Long-terms infrastructure standards would be reduced, resulting in a score of Q3 or "Poor" on the Facility Conditions Index. Base operating functions such as utilities and services would be depressed to minimum levels, and energy efficiency projects would be eliminated. Over time the cumulative effects of deferred or canceled maintenance will accelerate the deterioration of buildings and drive up long term costs.

Finally, the return of sequestration would have costly implications for our workforce, particularly personnel at our maintenance centers. Because our depots are required to plan around the Services' maintenance funding levels, cuts to their maintenance budgets require corresponding reductions in staffing levels at the depots. This risks the accumulation of a maintenance backlog that must be worked down with (more costly) overtime. It also jeopardizes the retention of depot skilled artisans, thus permanently reducing our throughput/surge capacity. Our aviation units are experiencing these effects firsthand. The fiscal year 2013 sequester forced mass layoffs at aviation depots, which are now struggling to meet maintenance demands for our aircraft. The number of aviation assets available for training and missions has thus been reduced, and the readiness of our aviation units has dropped accordingly.

General SPENCER. Meeting the current and expanding demand for forces against a shrinking capacity has required the Air Force to make extraordinary choices in order to continue to supply air power. Examples of this problem manifest themselves in areas like remotely piloted aircraft (RPA) manning, fighter pilot manning, and maintenance support to flight operations. RPA pilot numbers are decreasing and RPA pilot training has been significantly constrained since 2007 due to the requirement to utilize RPA instructors for surge combat operations and not to conduct student training. The reduction of Air Force fighter cockpits limits the capacity to season junior fighter pilots, delays matriculation, and limits the experience level of our future fighter pilot leaders. Finally, reductions and limits to total Air Force manning have resulted in a lack of experienced aircraft maintenance expertise needed to keep aging legacy aircraft flying and to bring new weapons systems to active duty. Second and third order effects include an RPA community that is losing operators faster than it can train replacements, and a 5-year decline in the acceptance of the pilot retention bonus. There are no short-term solutions for these shortfalls. Full Presidential Budget (PB) 2016 funding, Overseas Contingency Operations funding moved to baseline, a reduction in deployment requirements, and time are necessary to develop the experienced Airmen required to repair Air Force readiness.

46. Senator KAINE. General Allyn, Admiral Howard, General Paxton, and General Spencer, what kind of impact would not only stopping basic training proficiency, but losing the opportunity to conduct advanced training, and what kind of impact that would have on our future generation of leaders?

General ALLYN. As codified in Title 10 US Code (Subtitle A, PART II, Chapter 39, Section 671), Soldiers may not be deployed without completing basic training. Initial Military Training (basic combat training and initial skills training) transforms volunteers into Soldiers with the requisite warfighting and technical skills to positively contribute to their unit. Without this foundational, institutional training, Soldiers would require burdensome, time-consuming training at their first unit of assignment. Additionally, standardization of initial training, when conducted at first unit of assignment, would be extremely difficult to ensure and lead to an increased risk of casualties in the event of a contingency. Delaying or halting the various advanced training courses offered to mid-career leaders will create a significant gap in professional development. This gap will force the Army to choose between placing leaders in positions of increasing responsibility without the appropriate level of professional education or delaying their promotion until such a time as the training can be completed.

Admiral HOWARD. Stopping basic training proficiency and pre-deployment advanced training would gravely impact the Navy's mission. We continually operate in a rotational deployment cycle, and the Combatant Commanders expect deployed Navy units to be ready to execute any core mission when and where directed. Therefore, full spectrum pre-deployment training is paramount.

If we return to sequestration, growing numbers of future leaders would develop experience gaps at key stages in their careers. Although Navy will prioritize pre-deployment training, sequestration will slow the training cycle. Non-deployed units will conduct advanced training "just-in-time" to complete deployment certification, and their post-deployment training to sustain readiness may not be funded. This reduces the total number of training opportunities at each career level. Joint partner participation in our certification exercises would also likely be reduced, and other cancelled or down-scoped advanced training exercises would limit the quantity and quality of additional training opportunities beyond pre-deployment certification.

General PAXTON. We are able to meet our current training requirements. However, in order to make continuous and long term readiness a reality, we have to strike the right balance between deployment for operations and training time here at home. Right now, we have about a 1:2 deployment to dwell ratio. That is, Marines are deployed for 7 months and home for 14. This allows a proper unit rotation to ensure that each time a unit deploys they are fully ready. If we are forced to take further cuts, that level will decrease closer to 1:1.5 or 1:1. What this means is that units have less time between deployments to conduct the required training prior to their next deployment.

More specifically, home station readiness is at risk when personnel and equipment are sourced to protect the readiness of deployed and next-to deploy units. This is a logical decision when validated operational requirements exceed resource availability. Home station units are expected to be in a higher state of readiness since the Marine Corps is charged to be the Nations' force in readiness. The way they preserve this readiness is through training. By way of example, 5 of the last 6 infantry battalions assigned to Marine Expeditionary Units were not prepared until 30 days before deployment. This is sufficient for planned deployments, but becomes

problematic and dangerous as conflicts extend or the need to respond to unexpended crises arises.

To the point about our future leaders, it is essential that we have the ability not only to train leaders in tactical and technical skills at Professional Military Education (PME) courses, but also that those leaders have an opportunity to train with their subordinates during unit training. Cuts to either facet damage long term leadership development because leaders do not get the individual development they require and subordinates are not provided the opportunity to learn through interaction with seasoned and effective leaders. This creates a compounding downward spiral of competence and experience that we can ill afford.

General SPENCER. The loss of both basic and advanced training is reflected in the steady decline of overall Air Force readiness. The reality is that our current generations of Air Force Airmen have been heavily involved in low intensity or counter-insurgency conflicts for the past 14 years. Our Air Force, to include our leadership, is better than it has ever been at close air support, mobility, and special operations in low intensity operations. However, this has come at the expense of full spectrum readiness and the ability to fully support the Defense Strategic Guidance. For example, by 2012, 10+ years of cumulative skill atrophy have driven B–1 crews to routinely train for low-level attack missions at double the desired tactical altitude as a result of insufficient training proficiency and readiness. Simply put, the B–1 community sacrificed a distinct tactical and operational advantage due to fundamental aircrew safety and readiness concerns. A similar example exists in every Air Force community. Lost training has extended the matriculation of our future Air Force leaders. Lost opportunities to train and practice our "high-end fight" garner gaps of experience in our future leaders and insert unseen risk resulting in errors that will be swift and catastrophic.

PATH TO FULL-SPECTRUM READINESS

47. Senator KAINE. General Allyn, Admiral Howard, General Paxton, and General Spencer, several of the Military Services have identified 2020 or 2023 as a target to restoring full-spectrum proficiency and address the degraded state of non-deployed readiness. Meanwhile, the Navy has an optimized fleet response plan to achieve consistent and long-term presence around the globe. In the event sequestration could be avoided—could each of you please describe in specifics how you plan to restore full-spectrum readiness and what the end-state looks like?

General ALLYN. The Army's readiness recovery goal is to build readiness for current operations and ensure enough operational depth is ready to sustain larger contingency operations.

The Army's "get-well" date is heavily influenced by two factors: demand for Army forces and funding availability. Assuming no change to current global demand and the fiscal year 2016 President's Budget (PB) funding levels are sustained, the Army forecasts achieving fiscal balance no earlier than fiscal year 2017 and returns to proficiency no earlier than fiscal year 2020. However, any increase in demand or reduction in funding will extend this recovery period. Fundamentally, we deliver full spectrum readiness through a combination of fully-resourced Home Station Training, culminating in a unit's successful completion of a decisive action Combat Training Center rotation. If fully resourced at current force levels, it would take two years to cycle all our active Brigade Combat Teams through this training regimen.

Admiral HOWARD. The Optimized Fleet Response Plan (OFRP) is the Navy's framework for readiness recovery. It is a disciplined process which preserves the time necessary to conduct required maintenance and modernization of our capital-intensive force. It also protects the time to conduct full spectrum training. Multiple lines of effort are being aligned to deliver the full readiness impact of OFRP. Achieving the desired end-state first depends on restoring the capacity of our shipyards and aviation depots. Our success will result in completion of maintenance and modernization on schedule; ready units that are available at sustainable levels from year-to-year to support Combatant Commander global presence requirements; and additional operational availability providing full contingency response capacity that is routinely sustained until the next maintenance cycle begins. Furthermore, to sustain full-spectrum readiness over time we must continue on a stable path to procure new platforms and ordnance, while also modifying existing platforms at a pace that sustains our warfighting advantage.

General PAXTON. Should sequestration be avoided and its deleterious pecuniary effects put aside, the Marine Corps recognizes that non-pecuniary actions and time would be required to restore full spectrum readiness. The Marine Corps is the Nation's ready force, a force capable of responding to crises and contingencies anywhere around the globe at a moment's notice. To fully reconstitute the whole-of-force

after over a decade of sustained unprecedented conflict and fiscal challenges, the Marine Corps would continue taking actions that address readiness concerns across the Future Years Defense Plan. Those actions include: (1) *Balance readiness between deployed and home station units.* Forward deployed and engaged units will remain a priority for resourcing. However, to help lessen the burden of high operational tempo and improve overall readiness, the Marine Corps will employ deployment-to-dwell ratios that improve home station unit readiness. Personnel shortfalls at the unit level are a principal detractor to recovering readiness. Actions taken to help restore home station unit readiness include manning assignment policies that improve leader-to-led ratios, especially among the Noncommissioned Officer and Staff Noncommissioned Office grades; ensuring required unit personnel fill levels essential for combat effectiveness are protected; and that readiness recovery is optimized across the entire unit life cycle versus only the pre-deployment training period. (2) *Reconstitute the force to New Normal and upcoming challenges.* To meet current requirements and preserve readiness recovery, the Marine Corps will continue to mature its capstone concept and vision for designing and developing the force now and into the future. (3) *Equipment Reset.* Ground equipment supporting Operation Enduring Freedom has retrograded to the U.S. Much of this equipment has completed the required post-OEF repairs and subsequently has been redistributed to units. The Marine Corps is on track to complete repair and redistribution of all OEF wartorn equipment in fiscal year 2017.

For the Marine Corps, full spectrum readiness equates to Service-wide capability of operating, effectively and efficiently, across the range of military operations, and achieving mission objectives at any time or place. All Marine Corps units would be capable of responding to a broad spectrum of conflict scenarios. Full spectrum readiness allows the service to meet current and future requirements. Full spectrum readiness entails the ability to simultaneously meet (1) current operations supporting the Combatant Commands, (2) emergent crises and major contingencies, (3) the demands of the institution that underpins the ability to effectively and efficiently fulfill the Service's statutory and regulatory obligations.

General SPENCER. The Air Force is the smallest in its history and lacks the capacity to meet both the rotational Combatant Commander requirements and the required dwell time necessary to train in-garrison. With FY16 PB funding and a transition to deployment cycles that allow sufficient time to build and maintain full-spectrum readiness, the Air Force will be able to build readiness in the short, medium, and long term. Short term improvements will be derived from executing a robust flying hour program that emphasizes full-spectrum training. Mid-term gains are expected from accomplishing delayed maintenance and upgrades to weapon systems and support equipment. Long-term gains will come from investments in our Airmen. It takes time to recruit and train our Airmen to be journeymen, supervisors, and leaders who are ready to execute the full-spectrum of missions required of our Air Force. If 80 percent readiness is achieved by the end of 2023, the result will be a highly capable Air Force, able to meet the two largest pillars of the Defense Strategic Guidance with ready forces.

SEQUESTRATION RELIEF FOR OTHER U.S. SECURITY AGENCIES

48. Senator KAINE. General Allyn, Admiral Howard, General Paxton, and General Spencer, the new National Security Strategy released last month, states that our national security relies on more than just the work of Department of Defense (DOD). Sequestration is having as harmful an impact on our diplomatic and international development tools, Homeland security, law enforcement, and intelligence activities as well. Would you agree that we should provide sequestration relief to DOD and all the non-DOD contributors to our national security like the State Department, the Intelligence Community, the Department of Homeland Security, and the Department of Justice to name a few?

General ALLYN. There are several instruments of national power that we commonly refer to as "DIME" which stands for diplomatic, information, military, and economic. We are only one component of this—the remaining agencies provide the bulk of the other national capabilities. We believe that only through a whole-of-government approach can our national security objectives be met.

As such, it is our belief that even if sequestration relief were provided to the Department of Defense, the nation's ability to achieve its objectives would remain at risk without funding relief across the whole-of-government.

Admiral HOWARD. The Navy continues to oppose sequestration for the entire federal budget because it implements harmful automatic cuts with no regard for priority. The Navy is globally deployed to provide a credible and survivable strategic deterrent and to support the mission requirements of the regional Combatant Com-

manders. In executing our operations, the Navy relies on joint and interagency support from other DoD and non-DoD organizations. Any negative impacts to the organizations we partner with can have an impact on our ability to execute operations and the Defense Strategic Guidance. A return to sequestration would jeopardize the Navy's readiness and damage our national security.

General PAXTON. "While I do not dispute that national security is a whole-of-government effort, I cannot authoritatively comment on the potential impact of sequestration on any organization, other than the U.S. Marine Corps."

General SPENCER. Yes. Non-DoD agencies should be similarly considered for relief from sequestration. Any increase in defense spending should be matched at some level for the non-defense discretionary spending that contributes to our national security.

49. Senator KAINE. General Allyn, Admiral Howard, General Paxton, and General Spencer, if sequestration-level budget caps remain in fiscal year 2016, how would you characterize the impact of lost capability or capacity from these other agencies to meet the requirements of our Nation's security needs?

General ALLYN. The Army, and indeed the Department of Defense, cannot solely defend national security or meet the nation's strategic objectives in a way consistent with our values. The military is only one of the instruments available to the nation for achieving its objectives and securing its interests. Loss of capability and capacity in these other areas would certainly make our job more difficult and hinder the Nation's ability to meet its security objectives.

Admiral HOWARD. The Navy continues to oppose sequestration for the entire federal budget because it implements harmful automatic cuts with no regard for priority. The Navy is globally deployed to provide a credible and survivable strategic deterrent and to support the mission requirements of the regional Combatant Commanders. In executing our operations, the Navy relies on joint and interagency support from other DoD and non-DoD organizations. Any negative impacts to the organizations we partner with can have an impact on our ability to execute operations and the Defense Strategic Guidance. A return to sequestration would jeopardize the Navy's readiness and damage our national security.

General PAXTON. "While I do not dispute that national security is a whole-of-government effort and that sequestration could have an impact on the ability of other government organizations, I cannot authoritatively comment on the potential impact of sequestration on any organization, other than the U.S. Marine Corps."

General SPENCER. The Air Force relies heavily on the support of both DoD and non-DoD entities and will find it difficult to complete its mission if our agency partners lose capability or capacity. The support we receive through these relationships extends to all domains and strengthens our ability to conduct full-spectrum operations in support of our national interests.

50. Senator KAINE. General Allyn, Admiral Howard, General Paxton, and General Spencer, in your view, what would be the impact of sequestration-level budget cuts to Federal support services commonly used by soldiers, sailors, airmen, marines, and their families?

General ALLYN. The Army collaborates and coordinates with non-DoD agencies such as the Department of Agriculture, Health and Human Services, American Red Cross, Department of Labor and the Department of Veterans Affairs to achieve common Soldier and Family readiness goals. Non-DoD services and programs are an integral part of the Soldier and Family readiness system. Therefore, the readiness of Soldiers and Families who use non-DoD programs will inevitably be impacted by any reduction in outside agency programs or services.

From a strictly Army standpoint, Soldier and Family programs would be unavoidably impacted if we are funded at the Budget Control Act levels. We can protect the highest priority programs such as Exceptional Family Member Program, Survivor Outreach Services, Child and Youth Programs, Family Advocacy, and Financial Readiness for Soldiers and Families. However, there will be increased risk to programs such as spouse employment, Army OneSource, library services, and Family and Morale, Welfare and Recreation programs. Reductions will affect staffing, operating hours, and range of services, resulting in a potential degradation to readiness, resiliency, and quality of life.

Admiral HOWARD. Sequestration in fiscal year 2016 would have serious impacts to readiness overall. Because our Sailors are our most important asset and we must invest appropriately to keep a high-caliber all-volunteer force, we would try to minimize the impact to Sailor support, family readiness, and education programs. However, other support services may need to be reduced or delayed because of the significant funding reductions, which could negatively impact their morale and readi-

ness. Furthermore, across-the-board sequestration cuts to non-DOD organizations such as the Consumer Financial Protection Bureau and the Department of Labor may also negatively impact the support services to our people.

General PAXTON. It is unclear how sequestration would affect the budgets and programs of other Federal programs. In regard to Marine Corps quality of life programs used by Marines and their families, recent budget reductions have already caused curtailment of many non-core programs, such as Family Care, Family Readiness, and Semper Fit and Recreation. We are currently protecting core programs, such as Behavioral Health, Sexual Assault Prevention, and Wounded Warrior care, as well as support services for Marines returning from Afghanistan and transitioning out of the Marine Corps. However, under prolonged sequestration-level budget cuts, even these programs could be put at risk.

Fundamentally, sequestration will exacerbate the challenges we have today including readiness of our Marines and their families including impacting the five pillars of readiness: high quality people, near unit readiness, capability and capacity to meet combatant commanders' requirements, infrastructure sustainment, and modernization. We have maintained near-term readiness at the cost of our long-term investments. The Budget Control Act has presented many readiness challenges and a sequestered budget would further exacerbate readiness issues.

General SPENCER. Under constrained budgets and impending sequestration, if not repealed, it is becoming more challenging to maintain diverse quality of life programs and services at adequate levels. The Air Force is committed to "Taking Care of People" and strives to maintain installation services and family programs to help build and maintain ready, resilient Airmen and their families. To help mitigate budget impacts, the Air Force has prioritized Airmen and family support programs from an enterprise-wide perspective. Our fitness, child and youth care, food services, and some family support programs (outdoor recreation, libraries, youth centers, etc.) are programmed to continue in the FY16 PB request. Funding below the PB request will force commanders to make difficult decisions to prioritize these support activities against operational and mission requirements.

51. Senator KAINE. General Allyn, Admiral Howard, General Paxton, and General Spencer, in your view, do reductions to federal support services hurt education and health care in local communities and ultimately risk the quality of life and readiness of our servicemembers and their families?

General ALLYN. Through DOD funding, the Army is maintaining a viable Voluntary Education Program IAW DoDI 1322.25 requirements. If funding to non-DOD Agencies (community and state schools) were reduced, it could have some impact on Soldier education by increasing costs not covered by the DOD programs.

Members of the Army and their families live and work in the communities surrounding our installations. While some members of the military live on installations with access to DoD schools, an increasing number (~80 percent of dependent Servicemembers children) do not. Instead, they use public or private education in the local community. Our members have access to military healthcare facilities in many locations but we still rely on local private and public sector healthcare services to augment our capabilities. Degradation of healthcare or education services within a community would impact the quality of life and readiness of our service members and their families.

Admiral HOWARD. Since the majority of our Sailors and their families live in the local communities surrounding the installations, if local community services are negatively impacted by reductions, our Sailors and families will likely share the same consequences with the local community. We have no data or feedback from regions or installations to substantiate negative impact on local community services.

General PAXTON. In specific regard to military and family quality of life support programs, we have taken cuts in areas of Family Care, Family Readiness, and Semper Fit and Recreation. As we move forward, we will evaluate our programs and develop a plan with a bias toward decentralizing decision-making and resource allocation. Funding will focus on sustainment of core readiness and higher headquarters requirements, such as Behavioral Health, Sexual Assault Prevention, and Wounded Warrior care. Marines and their families have and may be impacted by reductions in noncore programs due to accessibility of programs, establishment or increase of fees to use resources (e.g., youth programs, pools, etc.), and hours of operations (e.g., fitness facilities). However, the Marine Corps has made all efforts to find savings without resulting in direct impacts to our Marines and families and those impacts being minimal in areas of noncore programs. Funding reductions that impact support services do risk Marine and family quality of life and readiness, but it is not clear the impact on education and health care in local communities.

General SPENCER. Federal support services for education and health care, combined with Air Force programs, comprise the package of services that military families rely upon. Funding reductions for these programs result in less support to service members and their families. Many Air Force members and their families rely on public education and medical services available through local communities so reductions in federal support to these services adversely affect quality of life for service members.

AIRCRAFT MAINTENANCE THROUGHPUT ISSUES

52. Senator KAINE. Admiral Howard and General Paxton, with the delay of the F–35, legacy aircraft like the F/A–18 Hornet A and D models, must undergo service-life extension programs (SLEP) to cover the gap in aircraft coverage. In addition to sequestration-level budget caps, there have been reports of obsolescent parts, a shrinking to non-existent vendor industrial base, maintenance backlogs, and higher than planned failure rates as the aircraft age. Could you please explain how even if Congress were to give you additional funding, it may not fix the aircraft maintenance throughput issues, and how you either need relief from sequestration, decreased op-tempo, or more people?

Admiral HOWARD. The Fiscal Year 2016 President's Budget request provides funding to align F/A–18A–F depot throughput to projected capacity.

To improve F/A–18 depot capacity, the Department is attacking the major barriers to production—manpower and material. This includes an aggressive hiring and training plan for artisans and engineers, and improved parts availability and staging for high flight hour (HFH) maintenance events based on common repair requirements. Additionally, the Navy has collaborated with Boeing in identifying several areas to improve overall depot throughput, such as employing Boeing Engineering Support and incorporating Super Hornet modifications at its Cecil Field facility. The strategy is proving successful as depot production levels are improving, but requires time to fully mature. With the requested funding, and under this plan, the Department anticipates continued improvement in depot throughput to meet annual production requirements by fiscal year 2017 and full recovery by fiscal year 2019.

A return to sequestration in fiscal year 2016 is a recurring concern as the Department requires a stable budget to meet these objectives. Sequestration and the compound effects of the 2013 government shutdown drove manning shortfalls for both artisans and engineers and hampered the Navy's ability to respond to unplanned work found during HFH inspections. Any further reductions in the depot maintenance, engineering and contractor support budgets will impede the depot throughput improvement strategy. Moreover, a return to sequestration will affect recent initiatives including the F/A–18E/F service life assessment and extension programs (SLAP/SLEP). Current efforts for Super Hornet SLAP/SLEP include fatigue life analysis, stress predictions, and inspection and modification development. These analyses will inform future work and ensure material kits are developed to better support life extension efforts, but are required prior to the first aircraft reaching its 6,000 hour limit, expected in CY2017. A return to sequestration would have a compounding effect that will further increase risk in our strike fighter inventory management strategy and reduce the availability of warfighting assets.

General PAXTON. The Marine Corps, along with all of the other services, is facing with issues with our current aircraft and keeping them relevant and ready while transitioning to new airframes in each of our aviation communities. The specter of sequestration-level budget caps frustrates the Marine Corps movement towards recovery and will reintroduce many of the problems from the first round of sequestration. Our Aviation Depots were not protected and we experienced a loss of skilled artisans and personnel. We are still rebuilding the workforce that we lost. It is critical that we do so to improve the throughput issues experienced with the SLEP and other engineering challenges we are experiencing with all of our type/model/series of aircraft: CH–53E, AV–8B, MV–22, H–1, and the more widely recognized F/A–18A–D. If given any additional funding, we would protect and grow manpower at our Depots to help with our Current Readiness challenges and increase our throughput.

In the near term, we are pursuing commercial alternatives as additions to our Depots to also increase throughput. This will directly translate to increased current readiness for all of our type/model/series of aircraft. We would continue to invest in our current fleet of aircraft to ensure their relevance on the battlefield as we continue to upgrade every aviation community. Finally, we would continue to fund our vital transition plan by purchasing more new aircraft in our current programs to complete our transitions sooner and divest of our current fleet faster, helping our Future Readiness.

The Marine Corps stands behind the fiscal year 2016 President's Budget and the Marine Corps' Unfunded Priorities List. This will help us keep all of our aircraft relevant and ready while continuing to build our F–35 fleet in addition to our other transitioning platforms. A return to sequestration would only exacerbate our issues with our aircraft, their modernization, and the SLEP programs necessary to make our way to aircraft like the F–35, CH–53K, and all other transitioning airframes.

SIMULATION TRAINING

53. Senator KAINE. General Allyn, Admiral Howard, General Paxton, and General Spencer, the Chief of Nacal Operations' (CNO) Navigation Plan from 2015–2019 calls for focus on critical afloat and ashore readiness, including the "developing and fielding of live, virtual, and constructive training, to provide more realistic training at a reduced cost." For example, there is a 3–D software program called the Multipurpose Reconfigurable Training System (MRTS) that enables a sailor to view and access all parts of an engine found aboard Virginia class submarines. The Marine Corps uses combat convoy simulators at their bases in Quantico, California, North Carolina, Hawaii, and Japan. If we are unable to reverse sequestration, how can the Services leverage simulators to maximize full-spectrum training proficiency in the face of fiscal constraints?

General ALLYN. The Army currently has the appropriate mix of live, virtual, and constructive training. The three complement each other allowing Soldiers to practice basic skills and in some cases to practice complex maneuvers prior to live execution. It is important to remember that virtual and constructive training cannot replace live training. Simulation allows for greater repetition and practice, but does not qualify a Soldier or unit as trained.

While simulations do save some training dollars, they are not a low cost solution. Simulating training requires complex and maintenance-intensive systems. The Army will always seek to optimize its investments in training resources, but there must be balance as some skills cannot be practiced in a simulator and units must execute live training to be proficient.

Admiral HOWARD. There remains a fine balance between the requirement for live, hands-on training and the complementary training capability provided by simulation. But even in a fiscally constrained environment, Navy is making the necessary investments to effectively leverage the live, virtual and constructive (LVC) training continuum to deliver more cost effective and higher quality training than live training alone can provide. New platforms, such as LCS, use simulation as the focus of their training, saving some of the expense of underway training operations, while we continue to invest in the Fleet Synthetic Training (FST) program, linking multiple Navy units, U.S. Joint Forces, and partner nations across the globe to practice operationally relevant scenarios. Current and planned investments will support our future training needs while continuing to improve the overall quality of tactical training.

Leveraging the successes we have achieved with FST and its connected tactical ship and aviation trainers, we are also applying simulation more frequently to maintenance training. The MRTS cited in your question is a good example. We are creating a virtual Virginia Class Submarine diesel engine room with considerable savings versus an alternative brick and mortar solution.

General PAXTON. There is no doubt that simulators provide a unique opportunity to provide realistic training opportunities that offset some of the costs associated with real-world training. These systems allow for varied training experiences, can minimize ammunition usage, and decrease logistical costs. In fact, the Commandant's Planning Guidance for 2015 specifically states that development and use of simulators remains a high priority for the service.

> "We will continue to support the fielding of systems that enhance our proficiency and safety in operating weapons and equipment. Our investment in training systems will reflect the priority we place on preparing for combat and be fully integrated with training and readiness standards. I expect all elements of the MAGTF to make extensive use of simulators where appropriate."
>
> -Gen. Joseph Dunford

However, as with other modernization efforts, we have had to defer some simulator development initiatives in order to prioritize near term readiness. We are currently funding simulator development and testing through individual system programs and supporting contracts. Due to the programming cycle, Fiscal Year 2018 will be the first opportunity to fund enduring integrated simulator capability.

Specifically, the Marine Corps Training and Education Command's (TECOM) Modeling and Simulation (M&S) Master Plan, Squad Immersive Training Environment (SITE), as well as the Live, Virtual, Constructive—Training Environment (LVC–TE) identify service requirements for simulators and simulations. These requirements are being addressed by TECOM. In conjunction with this we are continuing our efforts to integrate aviation systems with ground simulations to provide opportunities to conduct training that tests the full structure and capabilities of the Marine Air Ground Task Force (MAGTF).

General SPENCER. The Air Force is committed to ensuring force readiness in the most effective manner. Our combat and mobility communities, each have unique assets and therefore, different solutions. Some events/sorties can be replicated in the virtual world, while others cannot. In addition, for both communities, live training encompasses more participants than merely the aircrew. Maintenance, logistics, and airfield operations functions, to name a few, are active participants of the total flying activity and must be used every day to ensure combat power is available when and where the nation needs it. Current aircrew simulators do not exercise the entire logistical chain.

Air Combat Command utilizes simulators as an integrated component of a daily comprehensive live and virtual training construct. In conjunction with a command-wide realignment of the Ready Aircrew Program (RAP—the annual training specification) that occurred in 2010–2011, simulator training now constitutes 27 percent of total fighter RAP training, 40 percent of B–1 RAP training, and 50 percent of Command and Control, Intelligence, Surveillance and Reconnaissance RAP training. Given the quality and capacity of the combat simulators, there are not additional events/sorties that could be transferred to the virtual environment.

Air Mobility Command (AMC) offset over $700 million in live fly hours in fiscal year 2014 through the employment of Live, Virtual, and Constructive (LVC) capabilities. AMC has established a Distributed Mission Operations capability with networked connectivity for C–17s with other MAJCOMs and Joint partners to allow for expanded training opportunities in more realistic environments. AMC will expand upon current capabilities by connecting tanker (KC–10, KC–135, and KC–46) and additional airlift assets (C–130s and C–5s) over the next 5 years. In addition, AMC is pursuing a networked, virtual air refueling capability for their tanker and airlift systems to allow for additional migration of refueling training to the simulators (initial capability in fiscal year 2018).

DEPARTMENT OF DEFENSE AUTHORIZATION FOR APPROPRIATIONS FOR FISCAL YEAR 2016 AND THE FUTURE YEARS DEFENSE PROGRAM

WEDNESDAY, APRIL 22, 2015

U.S. SENATE,
SUBCOMMITTEE ON READINESS
AND MANAGEMENT SUPPORT,
COMMITTEE ON ARMED SERVICES,
Washington, DC.

REFORM OF THE DEFENSE ACQUISITION SYSTEM

The subcommittee met, pursuant to notice, at 2:39 p.m. in room SR–232A, Russell Senate Office Building, Senator Kelly Ayotte (chairman of the subcommittee) presiding.

Committee members present: Senators Ayotte, Ernst, Kaine, and Heinrich.

OPENING STATEMENT OF SENATOR TIM KAINE

Senator KAINE [presiding]. If I can get everyone's attention. We are in the middle of six votes. We just cast vote two. I am going to go ahead and get the hearing started. Senator Ayotte and I will ping pong a little bit, as will committee members. But if I could have the witnesses take their seats and bring you all in, the meeting of our subcommittee is now called to order.

This is a Senate Armed Services Committee (SASC) Readiness and Management Support Subcommittee hearing on the very important topic of defense acquisition system reforms. It is a matter that is deeply important to all committee members. I know that the chairman of the committee, Senator McCain, has a keen interest in this, and you will see us taking it up not only in Readiness but in the larger committee.

I am very honored to work with Senator Ayotte together on the Armed Services Committee and this particular subcommittee.

You are the key executives, service acquisition executives, who say grace and have control over this very, very important part of what we do. I certainly know from close family and friends in the military how much they rely upon the acquisitions that you make to help them perform their missions. So this is about a process of understanding reforms that are already underway. We do not need to do things that get in the way or cut across efforts that the Service and the Department of Defense (DOD) are already working on.

But we do know that there are a number of challenges in the management of acquisition programs. How do you develop the most technologically advanced solutions to some of our challenges, complex weapons systems, under both the constraints of budget with sequester and other budget constraints and also with a diminishing defense industrial base? Consolidations and other activities in the broader economy are shrinking that base.

How do we balance risks? We want to try to promote flexibility and speed but also try to balance some of the financial risks that can come with flexibility and speed, and what is the right balance there?

What is the right level of oversight either by the Secretary of Defense's (SecDef's) office of the Service branches or by Congress over the Services themselves? Appropriate oversight is needed. Excess oversight slows us down and impedes our effectiveness.

Then a huge issue that I feel—and I talk to my own people about in northern Virginia and elsewhere. What is the right way to make sure we have the best acquisition workforce within the DOD? This is a huge issue. I as Governor once faced a challenge of taking a massive organization, our State's department of transportation, that had been built up to be basically project providers and project managers, but over time the industry changed and what they really needed to be was contract managers for outside organizations doing a lot of the work. The skill set is not exactly the same. You have got to have the right skill set to manage acquisition programs, and that is also complicated by furloughs and sequesters and some of the budgetary constraints we are under.

So you are grappling with all of those things, and we want to hear about them.

As I said, Chairman McCain has repeatedly made plain that he knows that we can improve acquisition programs and we have to do it. You will not find a more passionate advocate against the foolishness of sequester than Chairman McCain, but he always says we are going to do our best job of convincing others to release foolish budgetary ideas like sequester if we do our best job of convincing everybody that when we have the resources, that we are going to use them in the best possible way in acquisition programs and elsewhere.

So how do we get a system that is more agile that keeps up with the accelerating pace of technological change? How do we continue progress that you have already made as a result of the Weapon Systems Acquisition Reform Act of 2009 that the DOD is doing?

So there is ongoing debate about the various role of different Governmental agencies, and we are looking forward to hearing from you what the appropriate level of oversight is.

With that, I want to go ahead and move forward. Chairwoman Ayotte will be here presently. She was going to cast one more vote and come, and then as I say, you will see us moving back and forth. But this is the opening of a discussion on a matter that I think is going to play some importance as we work this month and next on the National Defense Authorization Act (NDAA) for this year. I thank the chairwoman for calling this hearing. Thank you for attending. I would like to ask each of you to go ahead and give

your opening statements. Maybe I can just begin with Secretary Shyu.

STATEMENT OF HON. HEIDI SHYU, ASSISTANT SECRETARY OF THE ARMY FOR ACQUISITION, LOGISTICS, AND TECHNOLOGY

Ms. SHYU. Chairman Ayotte, Senator Kaine, and distinguished members of the Subcommittee on Readiness and Management Support, thank you for this opportunity to provide comments on our collective efforts to make the defense acquisition process more effective and responsive to our national security needs.

Defense acquisition is a highly risk-averse, compliance-based process with a checklist mentality that has become unduly cumbersome. Prior to my service to the Government, I spent 33 years working in the defense industry. I would like to provide you some insight and share some of my program management experience in industry and compare and contrast that to that of a Government Program Manager (PM). I was able to develop a sophisticated radar system in record time with authorities that simply a Government PM does not have. So I would like to expand upon that.

When I was in industry, I controlled my budget. The Government PM, on the other hand, does not really control his or her budget. On an annual basis, there is budget perturbation that occurs without regard to program impacts. So it is very difficult to sustain a program based on an annual basis it is perturbing.

I had the ability to hold reserve budget at my level to mitigate unanticipated risks. There is no way you will have 100 percent visibility on all potential risks that could happen in the life of a program. But I was able to pivot. Within the Government, you are unable to hold a reserve budget because it is deemed early to need.

The requirements—we fully understood the requirements that are desired, and we were able to do the trade space to identify its impacts of performance versus cost versus schedule versus technical risks. On the Government side, what I have seen requirements are derived or changed without the full knowledge of cost, schedule, of technical risk to the program.

Let us talk about stakeholders. In industry, the functional staff—that means engineering, finance, manufacturing, contracts, you name it—are actually incentivized to help the PM to achieve the cost, schedule, and budget. In the Government, there are many, many stakeholders. They are all stovepiped with different interests directly impacting programs. So what happens is, however, none of them are responsible for program cost, schedule, and performance. Just the PM.

Let us talk about tests. When I was in industry, I was able to coordinate testing plans with the testers. In the Government, an operational tester can add additional tests without consideration of programmatic impacts.

Documentation. I was able to move fast because I can tailor documentation to my program needs. In the Government, there is an extensive amount of mandatory documentation that you have to compile before you can go through a milestone.

Senator AYOTTE. Let the record show she showed a pile with her hands.

[Laughter.]

Ms. SHYU. Taller than me.

Financial incentives. I am able to hire employees, incentivize them to work overtime with overtime pay, with stock options, with bonuses. I do not have such flexibility within the Government.

Hiring. I used to get very upset in industry when it took me a month—when the human resource person took a month to hire somebody. Here I am delighted we can hire the person in 8 to 9 months.

So I think the best way I can talk about the process that we have in industry versus the Government, I would give you an analogy that is simple to understand. Over here, I have an acquisition bus. The PM, as you know, is in the front. That is bus driver. All of the stakeholders within the Army, as well as the Office of the Secretary of Defense (OSD) and Cost Assessment and Program Evaluation (CAPE) and Comptroller and Congress, by the way, is on this bus. Everybody on this bus has a separate steering wheel and a brake, but no acceleration pedal.

So what happens when a program gets into trouble? The best analogy I can give is the bus is turned upside down. So what happens in industry? Everybody would jump in to bail out the program manager because you are bleeding cash. There is a financial incentive to reduce loss. So everybody helps out the program manager. You will throw the best and brightest across the company to help out.

In the Government, what I have seen the 4 and a half years of being in the Government, they will shoot out the windows, the tires, and the kneecap of the bus driver. Why? It is an opportunity to actually take the program manager's money and use it for their stovepipe purpose.

So compared and contrasted to, it is so starkly different. So it is this fundamental lack of program manager authority that is commensurate with the responsibility, as well as the failure to properly align the various stakeholders? responsibilities for the program's success that has contributed most heavily to the critical shortcomings in the acquisition process in my opinion.

I urge Congress to empower the PMs with authority needed. Help them guide the program successfully to completion in a manner that is similar to industry, which I could move very rapidly. More documentation does not enable agility.

So, Mr. Chairman, members of the subcommittee, thank you for your steadfast and strong support of the outstanding men and women of the United States Army, Army civilians, and their families. I look forward to your questions.

[The prepared statement of Ms. Shyu follows:]

THE PREPARED STATEMENT BY THE HON. HEIDI SHYU

INTRODUCTION

Chairman Ayotte, Senator Kaine, and distinguished Members of the Subcommittee on Readiness and Management Support, thank you for the opportunity to address the committee on reform of the Department of Defense (DOD) acquisition system. Having acted as the Army Acquisition Executive since 2011, following 33 years in the defense industry, it is a privilege to offer my perspective on the unique challenges facing defense acquisition.

Acquisition reform has proven elusive. From 1960 to this decade, at least 27 major studies of defense acquisition, all proposing various reforms, have been conducted

by the Department, the Congress, the White House, think tanks, and each of the individual services. Nearly each effort has attempted to define legislative solutions, create new processes and propose additional oversight to challenges that are, in many respects, endemic to defense acquisition.

The objectives of reform are all too familiar: tackling cost and schedule growth in our acquisition programs, addressing unrealistic program requirements, streamlining a process that is bureaucratic, ponderous and slow, and addressing the need for a skilled and professional acquisition workforce. However, there are limits to what acquisition reform can achieve based on certain enduring realities of our business. The first is that the defense acquisition system is full of inherent technical risk. We design, develop and integrate novel technologies in unique ways unknown in commercial business. Second, unlike the private sector, the incentives and responsibilities of various Government stakeholders in the acquisition system are diffuse and often inconsistent. Third, prior efforts at reform have mostly resulted in greater oversight, added bureaucracy and the associated prolixity of statutes and regulations, slowing down the process substantially.

While we must continue to improve on our past record, the reality is that there are no easy fixes that allow us to deliver incomparable warfighting capabilities while eliminating all sources of risk. The need for oversight must be weighed against the need for flexibility of our acquisition processes. As the Department has recently emphasized, our desire to reduce risk must be balanced by the need to maintain our technological advantage. Most importantly, we must recognize that improved acquisition outcomes depend on mutual accountability among the various stakeholders that affect the success of our programs. These considerations cannot be overlooked as we work together to craft a more responsive and effective acquisition system.

EMPOWERING OUR PROGRAM MANAGERS

During my time in the defense industry, I saw firsthand the agility and empowerment that program managers are given to do their difficult jobs. The largest single difference in Government, which also accounts for the proliferation of studies directed at these issues, rests in the sheer number of stakeholders that influence Department acquisition programs. While program managers are accountable for program outcomes, they are only nominally in control of their programs—the program manager is subject to the influence of many other organizations with discrete authorities and priorities. As we embark on another reform effort, we must acknowledge the program manager's reliance on programmers and budgeting teams to plan and execute program resources, and on the requirements developers for achievable system requirements.

Too often, previous efforts at reform have attempted to engineer the decision-making process by adding layers of oversight to avoid repeating past mistakes. Stakeholders are thus incentivized to legitimatize their role in the process rather than add value to acquisition programs. Effective reform must ensure a common vested interest in program success, with an emphasis on mutual accountability for program managers, functional oversight stakeholders, and other Service components who play a role in acquisition.

Over the past 60 years, nearly every acquisition reform study has emphasized the need for technically feasible requirements that trade off desired capabilities to meet cost and schedule constraints. Requirements which are not achievable within cost, schedule, and technical realities are doomed for failure before the acquisition process even begins. In industry, this process is dynamic and fostered by the company's financial incentive to meet cost and schedule objectives. Our requirements generation process often develops in isolation, based on operational desires removed from engineering and resource constraints. The results are requirements based on ideal aspirations versus "good enough" operational utility. To improve program outcomes, we must also address the requirements process, which mostly takes place well before a program is started.

These ingredients for program success are not currently in the program manager's control. However, these aspects of the process must be considered as changes are made to our processes affecting program managers.

STABLE AND PREDICTABLE FUNDING

Despite our efforts to improve acquisition, budgeting decisions outside of the acquisition process can greatly disrupt prudent planning to achieve cost efficiencies and incentivize contractors. Our budgets are subject to numerous factors outside the program manger's control, including Congressional authorization and appropriation, and Department and Service funding prioritizations. Furthermore, the threat of se-

questration continues to disrupt the Department's overall budget process, with the resulting changes having effects on the industrial base.

In industry, a program manager controls his or her own budget, and is able to hold reserve funds to account for unexpected risks. In our process, program managers have little such control despite evidence that stable funding has a directly proportional effect on program health and performance. A management reserve account for program managers would provide some buffer against the annual funding perturbations common to our programs.

REDUCING DOCUMENTATION

Previous efforts at acquisition reform have generated numerous documentation requirements in an attempt to ensure effective oversight. I am encouraged by Congress and the Department having the shared intention to make headway on the documentation burden this fiscal year. The Department and Congress have collaborated on efforts to identify redundant and duplicative documentation requirements that stem from statutory requirements over several years. Statutory callouts of particular types of documentation, such as manpower estimates, has led to the generation of standalone documents which must be created and staffed separately. This creates additional, unneeded documentation since the substantive information is already adequately captured in existing documents such as the acquisition strategy.

The Department submitted seven legislative proposals which will address the examples cited above and others, and proposes some revised language to clarify existing misinterpretations. Additionally, these proposals recast certain oversight stakeholders as advisors to the acquisition decision-maker, and emphasize the overall streamlining of the decision making process. This will avoid further dispersion of responsibility and authority over acquisition, and help balance oversight needs with the need to maintain flexibility and agility in the process. When we align incentives towards program success, we can preserve the ability to move fast while maintaining effective oversight—as seen in classified programs.

The Department is also undertaking its own reforms to improve internal acquisition processes, most notably the introduction and implementation of Better Buying Power, now on its third iteration. As part of this initiative, the Army is leading a cross-Department of Defense team to identify and eliminate unproductive paperwork. On average, program managers across the Department are required to develop more than 40 separate documents and reports for program milestone reviews. The review and approval of these documents can take up to 18 months, adding significant time to acquisition programs. The cross-departmental team will formulate recommendations to reduce unnecessary or low-value-added documents, while still providing sufficient oversight of key program decisions. As finite resources, the time and attention of program managers are best utilized to manage programs effectively versus oversight compliance, and I support the recent efforts that recognize the need to balance effective oversight with flexibility in the acquisition process.

PEOPLE AND TALENT MANAGEMENT

Lastly, the acquisition community must have the ability to attract, train, and retain a qualified workforce, both uniformed and civilian. Originally recommended by the Packard Commission and inaugurated by Congress via the Defense Acquisition Workforce Improvement Act (DAWIA), a professionalized acquisition workforce is perhaps the largest factor within the process that contributes to success. Such a workforce is necessary to balance the technical demands of developing sophisticated weapons systems while exercising the business judgment needed to ensure value received for public resources. The Army requires access to an experienced and energetic workforce of systems engineers, logisticians, contracting personnel, and many other critical skill sets essential to ensuring successful acquisition execution.

Again, I draw on my industry experience for an idea of best practices. Industry is better able to attract and quickly hire the necessary technical expertise to successfully execute high risk programs, offering financial incentives and awards to its high-performing employees in the form of overtime pay, stock options, and bonuses. Such financial incentives are often unavailable for Government program managers. The Government hiring system is laborious and slow, and our ability to attract talent has diminished due to hiring freezes and furloughs.

I thank Congress for the tools and resources provided to date, and I fully support the intent to make permanent the Defense Acquisition Workforce Development Fund (DAWDF) and the expedited hiring authority. I propose that more flexible talent management tools are needed, particularly those that will allow us to assess critical skill sets within our workforce and promote accountability.

ROLE OF THE SERVICE CHIEFS

Under the current system, the Service chiefs hold no formal role within the acquisition process, but still exercise significant authority over the capabilities ultimately developed and procured. Numerous studies have already examined the need for achievable and affordable requirements, as well as stable and predictable funding for program success, thus, the Service chiefs are well-positioned to address the most urgent and influential issues that ultimately affect acquisition success.

The operational knowledge and leadership possessed by the Service chiefs are invaluable to the type of tradespace analyses typically done in industry: an examination of capability gaps against projected resources and overall priorities, which can then be used to generate achievable requirements and ensure protection of the resources needed to meet those gaps. The Service chiefs can also engage in the larger strategic decisions about what capabilities the Army needs and what resources should be put against those needs, balancing the overall readiness and training requirements of the force at large. These are essential roles that Service chiefs can execute without modification to existing authorities.

I do not believe that Service Chiefs require greater decision-making authority regarding program decisions, such as technological maturity, production readiness, risk mitigation planning, and industrial base considerations. The Service Chiefs rarely have the technical expertise or industry experience to make such decisions. Service Chiefs, and their significant operational expertise, is best leveraged on requirements and the overall priority given to our acquisition efforts.

CONCLUSION

I am heartened by the committee's stated interest in making the acquisition process better serve our Army and ultimately our Soldiers. Acquisition reform cannot focus only on oversight of program managers or revamping the decision-making process, but must address how the system manages risk. We must collectively continue to work to ensure that the requirements for what we procure are informed by cost, schedule, and performance tradeoffs as well as technical risks, and accept that some risks cannot be eliminated entirely.

The security challenges of tomorrow will be met with the equipment we develop, modernize, and procure today. We cannot allow our own process to hinder the agility we so desperately need to maintain our operational overmatch. I applaud the committee for expressing interest in relieving our burdens and streamlining the process. We should measure success by our ability to deliver to the Warfighter the capabilities needed to accomplish the mission, and despite all of our current challenges, we continue to field the best equipment to the best Army the world has ever known.

Madam Chairman, Members of the Subcommittee, thank you for your steadfast and strong support of the outstanding men and women of the United States Army, Army Civilians, and their Families. I look forward to your questions.

Senator KAINE. Thank you, Secretary Shyu.

Secretary Stackley?

STATEMENT OF HON. SEAN J. STACKLEY, ASSISTANT SECRETARY OF THE NAVY FOR RESEARCH, DEVELOPMENT AND ACQUISITION

Mr. STACKLEY. Yes, sir. Senator Kaine, Senator Heinrich, thanks for the opportunity to appear before you today.

Let me start by saying that I concur wholly with Secretary Shyu's characterization of the challenges particularly that the program manager faces inside of our acquisition system. Now, I would provide a slightly different perspective in terms of how we are going about dealing with some of these challenges.

First, it cannot be lost on this subcommittee that as we talk about acquisition and the need for improvement, that in fact we deliver extraordinary capability to our warfighter today. The challenge is that we do so at great cost, and it is a cost which is proving increasingly difficult for the Nation to bear.

Foreseeing the budget challenges of our current day, Secretary Gates gave guidance and warning back in 2010 remarking, given America's difficult economic circumstances and perilous fiscal conditions, military spending on things large and small can and should expect closer, harsher scrutiny. As a matter of principle and political reality, the Department of Defense cannot go to America's elected representatives and ask for increases each year unless we have done everything possible to make every dollar count.

Shortly after Dr. Carter, who was then the Under Secretary of Defense, issued his directive on how we buy what we buy, which today we know as Better Buying Power.

So today in building our budget, every program, things large and small, is subject to answering four most basic questions. What will it cost to buy it? What will it buy us in performance? What can we afford? What can we do to make it more affordable? Simply put, we must change the cost equation.

We have gone about adhering to this by using five basic principles.

First, get the requirements right. Requirements definition is the most critical phase in determining the outcome of a major weapon systems program. Requirements that are well informed by a thorough assessment of technical feasibility and a realistic cost estimate are inherently at lower risk of overrun or delay during execution.

Two, because today our Services' requirements exceed our budgets, the Department of the Navy has made affordability or a cost requirement alongside performance in defining a system in order to drive capability trades needed to reduce the cost of our programs. Properly define and seamlessly transition from requirements to design to build, test, and field to do so within agreed budgets and schedules based on realistic estimates necessitates total alignment between requirements and acquisition, and it all begins with getting the requirements right.

Second, perform to a stable plan. Our most successful programs are underpinned by stable requirements, stable designs, and stable budgets. Stability translates into predictable, reliable performance, unit cost reduction, improved material purchasing and workforce planning, retention of the skilled labor, and the ability for industry to invest in facility improvements, all resulting in more efficient production and a more affordable program. Further, program stability enables the use of multiyear procurements to further reduce the cost of our acquisitions. Alternatively, uncertainty, delay, or changes to requirements or the budget or the acquisition plan all destabilize a program ultimately leading to cost growth and schedule delay.

Third, in Secretary Gates' words, make every dollar count. It is essential that we pursue efficiencies by procuring at efficient rates, leveraging investments across multiple programs, maximizing competition, employing open architectures, reducing overheads and bureaucracy, and sustaining a constant effort to pursue cost reductions, and change practices that would meaningfully reduce program cost or risk without substantively impacting key requirements regardless of what phase the program is in. In short, return to the basics of what our systems should cost.

Fourth and most importantly, build a skilled and experienced acquisition workforce. To meet our objectives, we must be smart buyers and, two, tough customers, and to be so, we must possess a skilled and experienced acquisition workforce. The Department, with strong support from Congress, is taking measures to strengthen this workforce, and we must stay the course. This is the single most important fundamental in achieving strong performance in defense acquisition.

Fifth, foster a healthy industrial base. In the end, improvements to acquisition rely upon performance by industry. The critical skills, capabilities, and capacities inherent to our weapon system developers inarguably underpin our dominant military position. Accordingly, in the course of considering policy to improve acquisition, the effect of such policy on the industrial base must be closely weighed. From research and development to production, implicit to each of these principles we must pick up the pace. Time is money, and time is stripping much-needed capability from the hands of our sailors and marines. We demonstrated the ability to accelerate capability in response to urgent needs. The Mine-Resistant Ambush Protected Vehicle (MRAP) was a great example. Production increased 100-fold in a year's time, saving countless lives while meet the most urgent need of the warfighter. While the rules and process may differ, we need to bring a similar sense of urgency to major program acquisition to deliver a capability not at the speed of bureaucracy but at the speed of technology. We must pick up the pace.

In closing, I would like to return to Secretary Gates' remarks at the Eisenhower Library. What is required going forward, he said, is not more study, nor do we need more legislation. It is not a great mystery what needs to change. What it takes is the willingness to make hard choices. In order to remain the most capable military in the world, we will always face hard choices. Making the right choices—that returns me to the need for a highly skilled, experienced acquisition workforce.

Thank you, Mr. Chairman—Senator Kaine and Senator Heinrich, for the opportunity to appear before you today. I look forward to your questions.

[The prepared statement of Mr. Stackley follows:]

PREPARED STATEMENT BY THE HON. SEAN J. STACKLEY

Madam Chairwoman, Senator Kaine, and distinguished members of the subcommittee, thank you for the opportunity to appear before you today to address acquisition reform initiatives. The acquisition process, as difficult as it is, produces the most capable military weapon systems in the world, by far. This achievement is only made possible by the combined efforts of the Congress, the nation's industrial base, the Department of Defense's (DOD's) acquisition workforce, and, of course, our men and women in uniform who test, train, deploy, and ultimately take these weapons to war. The great challenge before us all is to produce the needed capability at a more affordable cost, and at a pace that preserves the technological edge that our military has possessed for nearly three-quarters of a century. The Department of the Navy (DON) is committed to meeting that challenge and these remarks are provided in that context.

To consider what improvements could be made in acquisition today, it is important to understand the environment in which it operates. Within the DON, we are responsible to the warfighter and taxpayer to manage and execute upwards of $60 billion per year for Navy and Marine Corps development and procurement. Clearly, our first priority is to meet the needs of our Sailors and Marines deployed around

the world today, fighting today's war. At the same time, we are also responsible to bring forward significant advances in capacity and capability that the Navy and Marine Corps will rely upon to maintain naval superiority well into the 21st century. This must be accomplished in an environment characterized by constrained budgets, increasing system complexity, limited competition, a shrinking industrial base operating within a tough economy, and increasingly burdensome requirements associated with the administration, oversight, and reporting of our major weapon systems programs. It is also important to understand the essential nature of weapon systems procurement—neither the DOD nor the defense industry exercises a classic role of buyer or seller in the free-enterprise system. As a result, it can be difficult to attract new entrants into a unique, high-entry-cost, and often less understood market in the U.S. And finally, this large Government bureaucracy that envelops Defense acquisition discourages risk and thwarts rapid or even timely delivery when, in fact, the very nature of weapon systems development is risky, and the very pace oftechnology and of the threat, demand a faster, appropriate response. Given this environment, which is not prone to agility, primary emphasis must be placed on the need for experienced, knowledgeable acquisition professionals who know how to work in the unique defense marketplace, who understand the technical dimensions of extraordinarily complex systems, and who can navigate the bureaucracy and produce excellent outcomes in spite of it all.

With the above in mind, history and experience have demonstrated that programs succeed when they adhere to basic principles: (a) get the requirements right; (b) perform to a stable plan; (c) make every dollar count; (d) rely on an experienced acquisition workforce; and (e) foster a healthy industrial base.

GETTING THE REQUIREMENTS RIGHT

Arguably, requirements definition is the most critical phase in determining the successful outcome of a major weapon systems program. Requirements that are underpinned by a thorough assessment oftechnical feasibility and a realistic cost estimate are inherently at lower risk of cost or schedule overrun, or performance shortfalls, during program execution. Conversely, the preponderance of 'failed programs' can trace their undoing to poor understanding of the technical requirements (including what are often referred to as 'derived requirements'), cost, and risk intrinsic to such programs' operational requirements. Our mandate—to properly define and seamlessly transition from requirements to design, to build, test, field, and sustain and to do so within agreed budgets and schedules based on realistic estimates—necessitates unity of purpose and unity of action between the Requirements and Acquisition organizations each step along the way. And it all begins with and hinges upon getting the requirements right.

Expert knowledge is required to understand the link between operational requirements and technical requirements; and the development, design, and production challenges that must be overcome to achieve these technical requirements; and the time and resources that will be required. This expert knowledge should be the inherently Governmental responsibility assigned to the Acquisition Workforce (AWF). Accordingly, it is critical that the acquisition arm, which will be accountable for delivering to the technical requirements defined for a weapon system, is embedded in the requirements definition process to provide the Department its best assessment of technical feasibility, cost, and risk in the course of defining those requirements.

Understanding the cost and risk of a program's requirements are not, however, sufficient. As Secretary Gates remarked in his speech at the Eisenhower Presidential Library in 2010, "Without exercising real diligence, if nature takes its course, major weapons programs will devolve into pursuing the limits of what technology will bear without regard to cost or what a real world enemy can do."

Accordingly, because today our Services' requirements exceed our budgets, the DON has directed that cost—or more appropriately, affordability—must be defined alongside, and managed with the same discipline and rigor, and if need be, drive tradeoffs across such traditional requirements as the speed, power, range, or payload of a weapon system.

The DON has designed its acquisition process, commonly referred to as the Navy Gate Review process, to ensure there is no gap between the Requirements and Acquisition organizations so that the Navy understands the relationship between requirements, technical feasibility, and cost. The process requires the Navy/Marine Corps operational requirements leadership and acquisition leadership to agree, and repeatedly affirm that agreement throughout the development, acquisition, and sustainment of a system. A misalignment between requirements and acquisition is always costly and sometimes fatal—inducing unnecessary costs associated with redesigning, retesting, schedule delays, and even cancellation. The DON uses Gate Re-

views to eliminate that misalignment early in a program, and to check alignment regularly.

Each 'gate' is co-chaired by the Service Chief or senior military requirements officer and Service Acquisition Executive (SAE). In all, there are six gates. The first three are chaired by the Service Chief (co-chaired by the SAE) and ensure that warfighter requirements are well understood and can be translated into technical requirements that the acquisition community can affordably achieve in the commercial or defense marketplace. The last three gates are chaired by the SAE (co-chaired by the senior military requirements officer) and ensure the technical specification, statement of work, and Request for Proposal have accurately translated the warfighter's requirements into an acquisition approach that is executable, affordable, and agreeable across acquisition and requirements leadership.

Within the Department of the Navy, this acquisition method reinforces the authority and strengthens the ability of the Service Chiefs to set and manage operational requirements, to realistically budget for these requirements, and oversee execution pursuant to their responsibility to man, train and equip the force. Likewise, it reinforces the authority and strengthens the ability of the SAE to manage the technical requirements, to construct the acquisition strategy to achieve these requirements, and oversee execution pursuant to his/her responsibility to the Service Chief to deliver the warfighting capability on-cost, on-schedule and within performance parameters.

PERFORMING TO A STABLE PLAN

Good acquisition outcomes are more probable when a Program Manager can manage to a plan with a foundation of stable requirements, technical baselines, and budgets—which is an expected benefit of the Gate Reviews described above. Alternately, instability causes added cost in rework/time, and a chronic inability to accurately estimate program costs. Perpetual instability produces an historical record of higher-than-necessary cost estimates which, in tum, are used as baselines to estimate future programs which, in tum, are used to inform budget submissions—establishing a repeatable cycle of spiraling, self-fulfilling cost growth.

Good examples of program stability that enable *performing to a stable plan,* include the DDG51, *Virginia*-class, F/A–18E/F, MV–22 Osprey, Mobile Landing Platform, and Next Generation Enterprise Network (NGEN). In each case, the Navy/USMC made strong efforts to establish well-defined and stable requirements that allowed industry to more accurately understand the Government's requirements, and then produce cost-effective proposals. Program stability also permits the use of additional cost-saving contracting measures not available where stability is absent, such as multi-year contracting and shorter construction cycles.

A chronic counter to program stability, however, is the bureaucratic environment in which Program Managers operate. In this context, the 'bureaucracy' is viewed by the Program Manager as the accrued effects of individual stakeholders across the broad Government who have, or believe they have, a role derived from the myriad of regulations and policies embodied in the FAR, DF AR, FMR, DOD 5000, Services 5000, JCIDs, etc., in decision-making, administering or overseeing some element of that program.

In pushing the boundaries of science and technology to deliver leading edge capability, the risk, complexity and cost of our weapon systems have grown significantly. The response has been decades of well-intended legislation, regulation, and policy designed to reverse cost trends and avoid past mistakes. The result being that Program Managers spend increasing amounts of their time fighting back the destabilizing effects of an increasingly bureaucratic oversight system that is too risk-averse, and less time performing to a stable plan. The unplanned, unpredictable, and often intrusive bureaucracy the Program Manager faces undermines his or her ability and therefore, accountability, to execute a plan too often interrupted or modified by well-meaning individuals outside of the chain-of-command, who may have positional authority, but otherwise are not themselves responsible, accountable or incentivized to ensure a Program Manager is successful. Further attempts to improve Program Manager accountability should be mindful of this reality.

Budget instability destabilizes programs and reduces the likelihood a Program Manager can control program outcomes. The great uncertainty, delay (Continuing Resolutions), and frequent changes to budgets through the annual authorization and appropriations process counter our efforts to effectively execute to a plan. Sequestration, alone, threatens to undo all of the Department's gains in productivity brought about by 'Better Buying Power' initiatives. A timely, predictable defense budget (ultimately, a multiple year budget) would directly increase the productivity of Defense acquisition; provide needed stability to the industrial base; and improve both Gov-

ernment and industry's ability to manage outlay risk and invest in R&D, facilities, and people. It would also reduce Government deadline pressures to meet artificial obligations or expenditure benchmarks that impact effective contract negotiations. Reducing these pressures would allow the time necessary to achieve the best deal for the Department.

Budget stability is also critical for managing through challenges in program execution. There is a compelling need to establish a Management Reserve (MR) account to address the execution risks inherent to every major program. Absent an MR account, each program is left to establish and protect its own MR, which at best, results in inefficient resource allocation. At worst, those programs unable to provide for such reserve within the program's budget suffer program breakage as funding shortfalls emerge in the course of program execution. An MR account to be administered by the Services could be established with unobligated funds and be used by the Services to address individual program risks or urgent needs that have emerged in an execution year.

MAKING EVERY DOLLAR COUNT

As stated earlier, the DON's requirements exceed the DON budget. While it is left to the budget cycle to balance the two, it is essential that, corporately, efficiencies are achieved by procuring at efficient rates, leveraging investments across multiple programs, and maintaining year-to-year stability in programs. In short—making every dollar count.

Program by program, the DON remains committed to competition—at the prime and subcontract level—through early prototyping, spiral development, open architectures, fixed price contracts, and effective use of incentive fees. Competition or competitive rivalries can take many forms. Head-to-head competition is not appropriate for everything the Department buys, nor is it always an available option, but in almost all cases, it is a Program Manager's best friend.

The DON has successfully applied multiple and various forms of competition, beginning with competing against the budget itself—ensuring each dollar spent is necessary to meet a requirement. Beyond that, the DON has recently applied direct, full and open competition to major programs to include Next Generation Jammer, Consolidated Afloat Network Enterprise System (CANES), NGEN, Presidential Helicopter, and Amphibious Combat Vehicle (1.1). Taken together, the savings generated relative to pre-award independent cost estimates have been significant and allowed the Department to direct those savings to increase procurement where we fall short of the warfighting *capacity* requirement.

In cases where there is a fragile and limited industrial base, the DON has competed profit between two primes; competed quantity; competed different solutions which satisfy the same requirement; combined acquisitions in a competitive manner; and tied successful cost-proposals in limited competitions to anticipated additional quantity. Various competitive forms have allowed the Department to make every dollar count.

Open architecture has proven to be a necessary component to achieve repeatable and sustained full and open competition and to level the competitive field, allowing small business to compete head-to-head with large business. The DON's previous open architecture success in the Submarine Acoustic Rapid COTs Insertion Program established a business model that has been replicated in other DON programs, including AEGIS Combat System modernization, F/A–18, Littoral Combat Ship, Air and Missile Defense Radar, CANES, NGEN, and MK 48 Torpedo Programs, to name a few. The DON's experience with open architecture has emphasized an important principle that affects acquisition reform—DON "ownership" of the system interfaces/protocols/definitions is necessary for success, placing added emphasis on the need to hire and retain outstanding technical talent.

Further, there is a need to ensure that total ownership cost, including energy considerations, carries weight in the formulation of major acquisition strategies and source selection criteria. These fundamentals are emphasized in Department policy, including policy that emphasizes program decisions that favor DON corporate interests, though such policy may at times appear at odds with individual program preferences.

The Program Manager is expected to execute within the framework of established requirements and budget. During execution, it is important to sustain a constant effort to pursue cost reductions and bring forward recommended changes to specifications, scope, requirements, policy, acquisition strategy, or management practice that would meaningfully reduce program cost or risk without substantively impacting key requirements—regardless of what phase the program is in. The DON's Program Managers are tasked, not merely with understanding the basis of estimate for

their programs' costs, but equally or more importantly, to understand what drives those costs and to formulate a strategy to reduce those costs in accordance with the program's best estimate of its "should cost"—again, making every dollar count.

RELYING ON AN EXPERIENCED ACQUISITION WORKFORCE (AWF)

An experienced Acquisition Workforce is the single-most important fundamental in achieving strong, repeatable performance in Defense acquisition. GAO has reported that "the principles and practices that programs embrace are determined not by policy, but by [Program Managers'] decisions." The business of Defense acquisition consists of tens of thousands of individual decisions made daily—requirements, technical, contracting, financial, supply, etc.—and the more experienced and qualified the AWF, the better the decisions. The best acquisition outcomes are produced by the most experienced acquisition people—in technical knowledge and business acumen. As the Undersecretary of Defense for Acquisition, Technology and Logistics (USD(AT&L)), Frank Kendall, stated to the Senate Homeland Security and Governmental Affairs Subcommittee on Contracting Oversight on April 30, 2014: "Maybe we've been changing the wrong things. Defense acquisition is a human endeavor, and my view is that we have focused too much on organizational structures, processes, and oversight mechanisms, and not enough on providing people with the skills and the incentives they need to be successful."

The AWF requires highly-educated and highly-skilled professionals in the following areas: Scientists & Engineers; Contracts Officers; Program Managers; Cost Estimators; Financial Managers; Logistics Managers; Auditors; Acquisition Attorneys; Information Technology Professionals; and Construction Engineers and Architects. It requires highly talented and dedicated military and civilians who are the "Special Forces" of the federal civilian workforce. To recruit and retain the best and brightest for this work so that the DOD AWF becomes the premier technical and business workforce in the world, requires changes to human resource authorities, accommodations, and compensation.

The idea of building and retaining a highly capable AWF as the cornerstone of improving the Defense acquisition system is not new. Indeed, echoing similar findings of the Blue Ribbon Defense Panel in its report to the President in July 1970, Dr. Ron Fox states:

> "Were there a more attractive Government career in DOD acquisition management, it would then be possible to minimize the conflicts associated with frequent turnover of military personnel and widespread military retirements to industry, while preserving the rights of individuals to careers in acquisition management. The basic goal of any legislative remedy must be achieving and maintaining outstanding competence and integrity to the Defense acquisition system."

The same statement is true for the civilians who make up the AWF.

The professional Acquisition Workforce, however, is increasingly difficult to sustain. The AWF operates in a human capital system that was not designed with the 21st century professional employee in mind. It is archaic and lacks agility to hire and retain an elite workforce. Further, the A WF remains subject to the same undistributed Government personnel reductions as with any other part of the federal workforce and, today, is operating in the shadow of the FY 2013 furlough and FY 2013 Government shutdown. The prospect of the same scenario looms in the current budget cycle. None of these facts are attractive to prospective hires or the current acquisition professionals the Department must retain.

Congress has recognized the Department's need for a large, robust, highly qualified AWF, and provided much-needed legislative relief with the passage of Section 852 in the 2008 National Defense Authorization Act (NDAA) and Section 219 in the 2009 NDAA, and support for the Department's desire to expand the Acquisition Demonstration Project to more of DOD's AWF. These provisions, which have been amended several times, provide helpful authorities for AWF hiring, training, and retention, as well as budget authority dedicated to rebuilding the Department's in-house Science and Engineering foundation. These provisions are important and the DON is grateful to the Congress for their support. But for the 21st century AWF, more agility will be needed to hire and retain quality people with elite skills.

FOSTERING A HEALTHY INDUSTRIAL BASE

In the end, improving acquisition outcomes relies upon performance by industry, so it is appropriate to understand the issues affecting industry's performance. Industry needs experienced engineers, skilled tradesmen, capital to invest, and fair opportunities for stable production and repeatable profits over the long-term. On the

other hand, Defense acquisition needs sustained competition, repeatable cost performance, and repeatable product performance.

The difficult reality is today's defense industrial base is fragile, less competitive, has limited U.S. growth opportunities, and continues to face an uncertain defense and national budget environment. The result is a somewhat smaller, less competitive defense industrial base comprised of large consolidated prime integrators with multiple tier suppliers. The primes are often compelled to invest outside of defense to maximize shareholder value. Without more stability and predictability in defense budgets, there is less defense market investment and innovation, and less product affordability without more companies in the market to improve competitive pricing.

Attracting new entrants into the defense industrial base to offset the loss of innovation and competition has proven challenging as well. Barriers to entering the defense market remain chronically high as the overhead cost of entering and operating in a unique, uneven, and overly bureaucratic market discourages prospective entrants—both large and small commercial compames.

These industrial base (and supply chain) realities come at a time when Combatant Commanders, via the requirements process, need and expect the Defense acquisition enterprise to respond with significantly more speed, agility, and innovation. No longer are the small, rogue non-state actors the only ones able to supply warfighting units with material capability faster than the U.S. Defense acquisition system can respond. Even a country the size of China can now produce capability seemingly much faster than its U.S. counterpart because, in part, it is unburdened by

U.S. Defense acquisition laws, regulations, and policies. The unfortunate mismatch is that warfighters are expecting the acquisition system to respond at the speed-of-technology at a time when agile and more affordable medium and small businesses find it increasingly difficult to penetrate the Defense acquisition bureaucracy.

As our industrial base and its supply base continue to undergo reshaping as a natural response to U.S. and global economic conditions, it is vital that weight be given to these factors when considering any new legislation or policy affecting Defense acquisition.

FINAL THOUGHTS

Defense acquisition is a large enterprise of complex, interdependent systems-of-systems, engineering disciplines, procurement rules, budget rules, organizations and processes. Oversight and governance of the enterprise is necessary and is expected, but it is crucial to strike the right balance in order to achieve affordable outcomes. The penalty for too much oversight is ever-increasing costs and impediments to execution that have no ceiling. The penalty for too little oversight is the costs and risks of rework for unforced errors. Oversight and governance requirements have added multiple layers of prescriptive processes, authoritative organizations and extensive reporting and documentation requirements. In short, the sheer size and overlapping nature of the bureaucracy runs counter to objectives of efficiency, productivity, and performance.

Lessons learned from highly successful programs highlight that the right balance is attainable by applying the fundamental disciplines already known and available to each Program Manager (like those expressed here), then exposing the products of that discipline to simplified oversight by an appropriate but limited number of *highly experienced managers, engineers, and business executives* who serve at the Service Secretariat and OSD levels in policy oversight capacities. The fundamentals expressed in this statement have proven to produce successful acquisition outcomes. The DON recommends the subcommittee work with USD(AT &L) in the current effort to identify and roll back legislation that has produced unnecessary and redundant, regulatory and reporting burdens on Program Managers which have the effect of thwarting the steady application of these fundamentals.

Senator KAINE. Thank you, Mr. Secretary.

Secretary LaPlante?

STATEMENT OF HON. WILLIAM A. LAPLANTE, ASSISTANT SECRETARY OF THE AIR FORCE FOR ACQUISITION

Dr. LAPLANTE. Senator Kaine, Senator Heinrich, thank you for holding the hearing.

I too endorse strongly my colleagues here, both the bus analogy, as well as everything that Mr. Stackley said. It is an honor to be

here with them today. These are two remarkable public servants. They are actually role models for a lot of folks in the Government, as well as in academia and industry, and they are exactly the kind of people that we need in the Government. So I just want to call them out.

This is an important hearing. We have a solemn duty to the taxpayer and the warfighter to get this right. But this is a well-studied topic. I was on the Defense Science Board. At one point we had a moratorium against doing acquisition reform studies. It lasted for about 2 years, but then we got back into it again. It is important that this ground, though, be looked at and continually improved. I welcome what this committee is doing, as well as its counterpart in the House, to help us here.

I want to mention one thing about agility. Senator Kaine, you mentioned agility as a fundamental issue that we are trying to get. I had the privilege of co-chairing a study on adaptability and agility for Secretary Gates back in 2010. What you fundamentally find out in agility and adaptability is the metric is speed. Speed is the fundamental metric. If you do things fast, do it fast, failing fast is better than doing things slow that may or may not succeed.

The second thing you can do if you cannot do it very fast, if it is a modular type approach laid to a big platform, then build in hooks, build in open architectures, ability for you to pivot as the threat changes, as technology changes, as the warfighter learns things. So agility has to be fundamental to how we do acquisition. So I am a very strong believer in that. I think it echoes what my colleagues here have said.

I also think I am going to spend a few minutes here in the opening remarks just the level-set everybody. In science, it is usually good to get definitions on the table because a lot of times you find out people are not talking about the same thing. So if you bear with me, I am going to go through a few definitions and come back to this issue of people.

So, first, let us take your plain, generic acquisition program. Most of the time what the means is we have three phases to that program. We develop it. We procure it, and then we sustain it. Now, in the Government for the complex weapons systems that we deal with, we do not have the luxury—we wish we did—to go to a parking lot and buy something off the parking lot. We have to develop it. We have to pay industry to do the research and development. That means get to a mature design, get the test articles done, do the developmental testing where you learn where the problems are, get ready for production, get all ready to go. That is the first phase. That is Research, Development, Test, and Evaluation (RDT&E) money. The skill set for that is usually a very sophisticated, deep understanding of engineering.

The second phase is procurement. You are now in the production line. There it is usually a different color of money, different type of contracting, typically a fixed-price type contracting. There you are after learning. You are after cost reductions.

Then the third phase. The third phase is sustainment. Actually it turns out most people believe, who have looked at it, 70 percent of the lifecycle cost of the program is actually in the sustainment. So what you do in that first phase or that second phase, even if

it might be a little bit more expensive, might actually save you money if you think it through for the third phase. Now, what is sustainment? Sustainment is about performance-based logistics, understanding the depots, understanding how we spend our operations and sustainment. I have found in my time in the Government that you can have an expert in sustainment, 20–25 years, and you can have an expert in acquisition, 20–25 years, I have not found hardly one person who is an expert in both.

Okay, so that is just the standard three-phase acquisition. What else are we not talking about? Services. The Department of Defense last year spent $156 billion in the acquisition of services. Services can be anything from cutting the lawn to launching our most precious national security payloads into space. Those are all services. Different skill set. Right? Totally different skill set. Different management.

Okay. Then the third category, which Secretary Stackley mentioned. He mentioned MRAPs, rapid acquisition. Over the last 15 years, we have had a proliferation of rapid acquisition offices. Most of them are responding to rapid urgent operational needs (UONs) we call it. That is a totally different model as well. Usually it is an 80 percent solution. Usually the sustainment part is often put aside. Very different skill set. Very different contracting.

So imagine what all of that has in common. Very little, except one thing: people. The experts you need in each part of that system have to be customized to where they are. That is what you were getting at, Senator, right at the beginning about your experience. So that is important to this, is the people.

So I just want to make sure we are all level-set on that because oftentimes when I hear people talking about acquisition, I am not sure which phase or which aspect they are talking about.

There are promising signs. There are good things going on that should be built upon. I am always a believer in looking at what is going well and building upon it. The Better Buying Power initiatives that Secretary Carter announced that Secretary Kendall initiated is paying off. The "should cost" savings that all three of our services are having are real and they are incredible. They are not cost avoidance. People sometimes say it is cost avoidance. No. Very specifically, they are real savings. That is paying off.

We also do have outreach to nontraditionals. We are running experiments in the Air Force with non-traditional ways to bring in academia or small businesses. Open architectures, which I mentioned earlier, for adaptability are a great way to bring in non-traditional companies and players into our system. We are trying things in the Air Force. I know the other Services are—outside the acquisition 5000, doing something that is called "other transactional authority." We are doing an experiment next month on one of our systems to try to get folks under contract within a week if they impress us with one of their algorithms. So there are lots of these little experiments going on that I think we need to watch, pay attention to, encourage.

I would just look forward to working with the committee as we work on this. Thank you very much.

[The prepared statement of Dr. LaPlante follows:]

PREPARED STATEMENT BY DR. WILLIAM LAPLANTE

I. INTRODUCTION

Chairman Ayotte, Ranking Member Kaine and distinguished members of the Subcommittee, thank you for the opportunity to discuss reform of the defense acquisition system. Modernizing our weapons systems is paramount to the success of the Armed Forces. The Air Force Acquisition Enterprise is exceptionally capable and we are aligned to deliver the world's best and most advanced weapons and other capabilities both now and in the years to come.

I'd like to start by commending the United States Senate Permanent Subcommittee on Investigations for their October 2014 report, *Defense Acquisition Reform: Where Do We Go From Here?* This compilation of essays from a comprehensive range of defense acquisition professionals has been crucial to our own internal studies and reviews on what actions to take as we move forward. Particularly, the report from Dr. Paul Kaminski, currently the Chairman of the Defense Science Board and Chairman and CEO of Technovation among other Boards, and previously the Under Secretary of Defense for Acquisition, Technology & Logistics and a retired Air Force officer, speaks to me. He simply states that "No combination of statutes, regulations and policies can *ensure* that major weapons systems are delivered on time, at a reasonable cost, and provide the needed capability. The acquisition system depends upon good people making good decisions involving complex issues." This declaration helps us shape the context of the improvements we continuously challenge ourselves to seek: They will not happen overnight, they require a cohesive team in agreement of the desired outcomes, and we need the collective thrust of the enterprise initiatives and sufficient stable funding to support the people as they turn the change from idealism to reality.

I would also like to highlight House Armed Services Committee (HASC) Chairman Thornberry for his recently introduced acquisition legislation. Among other things, the legislation would streamline many of our processes and improve efficiency of the acquisition system. The Department of Defense, in conjunction with the Services, provided input to Chairman Thornberry's legislation, which generally complements the Better Buying Power (BBP) initiatives and supports reducing unnecessary bureaucracy and red tape.

Congress has been a terrific partner in helping us achieve greater acquisition successes. Of note, the Competition in Contracting Act (CICA) of 1984 which stressed competition, and was further accentuated by Weapon Systems Acquisition Reform Act's (WSARA) emphasis on life cycle competition and prototyping to reduce development risk, contributed to many of our successes. The 1990 Defense Acquisition Workforce Improvement Act, which established qualification standards for the workforce, as well as the more recent National Defense Authorization Act for Fiscal Year 2011 Defense Exportability Features (DEF) to improve our ability to increase foreign military sales, also helped us get where we are today. These laws are all examples of improvements to the process aided by Congressional direction.

However, as Dr. Kaminski states, laws upon laws will not improve the acquisition process. While we believe these laws were created with the best intentions, as our processes increase in complexity, many of the statutory requirements continue to grow, resulting in duplicative and often overly cautious requirements whose burdens outweighed their values.

We have made tremendous improvements in recent years to our acquisition system; although, we still have work to do. Since my nomination as Assistant Secretary of the Air Force (Acquisition), I've challenged the acquisition community to achieve five priorities: Get programs right, increase transparency to external stakeholders, own the technical baseline, continue our efforts on BBP, and build our systems towards a future Air Force. All of these initiatives contribute to a stronger, cost conscious acquisition community. Within the Air Force and Department of Defense, initiatives including the Acquisition Improvement Plan (AIP) (2009), Better Buying Power (BBP) 1.0 (2010), BBP 2.0 (2012), Bending the Cost Curve (2014), and now BBP 3.0 (2015) also contributed to our successes.

We are far from reaching our fullest potential. We agree with the GAO's conclusion in their February 2015 report, *DOD Should Streamline Its Decision-Making Process for Weapon Systems to Reduce Inefficiencies*, which stated that the DOD can eliminate many reviews and information requirements that are no longer necessary, and streamline processes so that decision makers only review the most essential information. While we always ensure our Air Force programs receive appropriate oversight from external stakeholders, fewer documentation requirements would allow our Program Managers (PMs) to devote more time to managing programs, rather than completing duplicative and overly burdensome paperwork. With more time de-

voted to actual program management, costs and schedule could improve without sacrificing technical performance.

The Air Force is committed to the Integrated Life Cycle Management (ILCM) of its weapon systems. To that end, we must address product support equities during every phase of the life cycle for all our programs. In order to ensure product support equities are in the forefront of our acquisition process, we have established a new Deputy Assistant Secretary (DAS) for Logistics and Product Support, SAF/AQD, working directly for SAF/AQ. This office is headed by an SES, two-Star equivalent, life cycle logistician with extensive experience in the sustainment community.

The establishment of SAF/AQD properly aligns Logistics and Product Support oversight across the Air Force ILCM enterprise. As you are aware, 10 USC 2337 mandates that all weapon system programs be supported by a Product Support Manager (PSM) reporting directly to the PM. The PSM's primary responsibility is to plan and develop the weapon system product support strategy. The Air Force has implemented PSMs in all of its Acquisition Category I and II program offices, and they are accomplishing excellent work. Our PSMs are integral members of the program office team and are directly advising the PM on logistics and product support issues.

Prior to the establishment of SAF/AQD, SAF/AQ lacked a senior logistics and product support advocate. SAF/AQD fills that gap and ensures SAF/AQ staff has a Senior Executive Service level logistician advocating for logistics and product support equities, as well as subject matter experts providing policy and oversight to our PSMs in the field. Additionally, SAF/AQD has the responsibility for ensuring the Air Force complies with all statutory depot maintenance requirements. This will ensure that SAF/AQ will fully consider ILCM for each of our weapons systems, including decisions that affect the future viability of our organic depots.

The Air Force's commitment to improve acquisition of our major programs is paying off. In 2013, the Air Force had no Nunn-McCurdy breaches. In 2014, the AF's sole Nunn-McCurdy breach was to the AWACS Block 40/45 program. This breach did not occur due to poor program performance, but to a reduction in the quantity of aircraft from 31 to 24 that was driven by the fiscal constraints resulting from the Budget Control Act. In fact, total program costs for the AWACS Block 40/45 program went down, but the reduction in quantity drove our unit costs above the Nunn-McCurdy threshold. Furthermore, the Air Force has had no Nunn-McCurdy breaches in 2015.

We have a number of initiatives underway to lead us into the next era of acquisition excellence:

One of my initiatives is to "Own the Technical Baseline (OTB)." OTB is essential to our future and means the Government program team, independent of the prime contractor, has the wherewithal to make proper decisions to achieve successful acquisition outcomes. A few examples include a deep understanding of system and subsystem designs and architectures; the ability to conduct end-to-end performance models of the system combined with a continuous technical effort to update and validate system models using testing and engineering data; and the ability to understand and actively mitigate technology and system integration risks. In some ways, our emphasis on OTB seeks to overcome the residual undesirable effects of the acquisition workforce downsizing during the 1990's "acquisition reform" era. This was a time when there was significant outsourcing of Government capabilities and decision making to the prime contractor with a "thin" Government program office.

A related initiative is to build the future Air Force by reinvigorating development planning (DP) and experimentation. Put simply, DP is a range of activities to understand the Air Force's future warfighting needs and reconcile those with available and potential capabilities, concepts, and emerging technologies. DP will result in a credible body of knowledge to inform strategic decisions and guide future capability developments. The umbrella of DP includes requirements analysis, cost versus capability trades, modeling and simulation, rapid prototyping (both virtual and hardware), and experimentation. Experimentation is absolutely critical because it provides a means for technologists and operational personnel to conceive and co-evolve new capability concepts along with the doctrine to effectively implement them. Experimentation will enable us to rapidly and efficiently explore uncertain futures whether emanating from the emergence of disruptive technology, new capabilities using existing systems and technologies in a new way, or the evolution of security threats from anywhere across the globe. Historically, the Air Force is credited with using DP and experimentation to drive innovation and plan its future; we are going back to our roots to re-establish this across the enterprise to produce truly innovative capabilities.

Affordability, which is an Office of the Secretary of Defense (OSD) initiative, challenges Air Force Core Function Leads to look at each program and determine if the

Air Force can afford it throughout its lifecycle. Affordability is different in that we look at our entire portfolio across at least 30 years and evaluate if we will allocate resources far longer than the typical five year outlook. If a program is determined to be unaffordable, we restructure, we re-scope, or we cancel it. We are still in the early stages of this initiative, but we believe it is a strong approach in controlling costs and suppressing our appetites for what we cannot afford.

We are also encouraging programs to make often difficult trades in cost and capability. Where can a program reduce or eliminate a requirement without impacting the warfighter's capability, in order to save costs? These questions are never easy, but they force us as a team to determine where we are willing to decrease some functionality to save costs without sacrificing capability, and enable the Air Force to be strategically agile and deliver capabilities on time.

The Air Force also remains committed to Should Cost, which was first introduced in BBP 1.0. Should Cost is a management tool designed to proactively target cost reduction and drive productivity improvements into programs. I am pleased to announce that the Air Force's FY14 Realized Savings were $1.4 billion. While that is a tremendous start, I continue to challenge all Program Executive Offices (PEOs) and PMs to seek out additional Should Cost opportunities, reaping as much as possible from our current portfolio.

While we have found good success in containing cost in recent years, we have been challenged in our efforts to improve schedule performance. This is a priority for Air Force Acquisition. Our root cause analysis of the growing development cycle times we are experiencing points to the following primary contributors: Underestimation of technology risk, underestimation of software development and integration complexity, testing challenges and delays, and contracting delays. We are applying lessons learned to our new programs to avoid repeating the same miscalculations. To correct for this trend we are pursuing two strategies: Continued emphasis on sound program execution practices and implementation of Strategic Agility and Adaptability principles.

Emphasis on sound program execution is not a concept exclusive to good day-to-day program management or effective execution reviews. To be sure, these are important; however, it also requires that we initiate programs with sound acquisition strategies, fixed, well-defined and affordable requirements, properly resourced program baselines, and deliberate measures to mature critical technologies and to reduce technology and program risks.

Strategic Agility and Adaptability principles are foundational to the Air Force Strategy released last summer. The emphasis is on fielding systems more rapidly and building resilient systems that are inherently resistant to predictive failure. Hallmarks of agility/adaptability are: Modular systems, the use of block upgrade approaches to system fielding, and the use of open system architecture designs. These techniques help to shorten development cycle times, allowing for increased performance beyond legacy systems with the rapidly fielded "A-model" design of the system. Such systems are designed for later modular upgrades/enhancements (block upgrades) to the initial baseline design. The Air Force has identified Advanced Pilot Trainer (T–X) and Joint Surveillance Target Attack Radar System Recapitalization as strategic agility pilots that will utilize these approaches, much as Long Range Strike Bomber is already doing.

The Air Force has been on an upward trend in competition the last two years, with an increase from 36.8 percent in fiscal year 2012 to 43.5 percent in fiscal year 2014. Early fiscal year 2015 results indicate a probable leveling of the rate of improvement. Air Force major impediments to improvement in competition include the lack of re-procurement data for our aging weapons systems and the extent of country directed foreign military sales (FMS) procurements. The Air Force continues to explore opportunities to enhance competition by exploring cost effective acquisition of technical data, potential breakouts of component parts, or encouraging more subcontract competition. I expect Program Executive Offices to seek competition at every opportunity and have recently instituted quarterly reports on competition status of upcoming program contracting awards. This initiative resulted in reporting and tracking of 120 weapon system requirements totaling $60 billion, with approximately 85 percent of this value planned for competitive award over the next 3 years. Since the initiative began, we project approximately $2.17 billion has shifted to the competitive environment, with more requirements moving closer to transition in the fiscal year 2016 timeframe. For example, our new Evolved Expendable Launch Vehicle (EELV) space launch strategy allows for competition between United Launch Alliance and new entrants to the EELV program as soon as the commercial launch companies can be certified for national security launches. This strategy should help to control costs and ensure multiple sources for critical launch capabilities.

In 2014, Air Force leaders initiated the Bending the Cost Curve (BTCC) Initiative to address the escalation in weapon system costs and development times. To accomplish this BTCC amplifies the Better Buying Power principles by encouraging innovation through active engagements with Industry and the acquisition workforce to identify, evaluate, and implement transformational reforms. Unlike Better Buying Power, which is a broader set of practices and techniques for the workforce to employ, "Bending the Cost Curve" is a targeted initiative to encourage innovation and active industry partnerships to improve the way we procure our systems and to drive down cost. What began as a series of discussions with industry has evolved into an ever growing set of targeted actions aimed at addressing the most critical challenges within the acquisition process.

There are three things that differentiate BTCC from other acquisition reform efforts pursued in the past: a robust and proactive collaboration with industry, a focus on prompt, tangible actions, and an emphasis on measurable results. I believe that by being able to achieve our goals, we needed an improved dialogue with industry, so we can better understand how processes, procedures, and some of the choices we make can inadvertently contribute to rising costs, the stifling of innovation, and slow processes.

Ensuring a clear and unambiguous chain of authority has been a focus of the Air Force for some time. We ensure streamlined Air Force management structures characterized by short, clearly defined lines of responsibility, authority, and accountability. Acquisition execution responsibility and authority flows from Mr. Frank Kendall, the Defense Acquisition Executive, to me, as the Service Acquisition Executive (SAE), to the PEO straight to the accountable PM. Close program schedule monitoring in the acquisition strategy allows us to ensure no one outside the acquisition execution chain exercises decision-making authority on programmatic matters. Our PMs know they are accountable for credible cost, schedule, and performance reporting and analysis to the MDA, and have responsibility and authority to accomplish objectives for the total life cycle of the program.

PMs assigned to Major Defense Acquisition Programs (MDAP) sign tenure agreements for four years or the closest milestone. This tenure may be tailored based on the PEO's recommendation in order to accommodate the particular needs of the program, such as significant milestones, events, or efforts. The PM is held accountable since his or her tenure does not end until those unique requirements or efforts are accomplished, which also affects their performance reports used for promotion and future assignments. In the unfortunate event of a Unit Cost Breach, there is an assessment of the current management team to ensure they are qualified to lead the program going forward. IAW 10 U.S.C. 2433 and 2433a, for Major Defense Acquisition Programs, the Secretary submits to Congress recertification that the management structure for the program is adequate to manage and control program acquisition unit cost or procurement unit cost. The same management review takes place prior to recertification of Major Automated Information Systems experiencing critical changes IAW 10 U.S.C. 2445c.

BBP 3.0 reinforces current Air Force efforts. To ensure the Enterprise is not getting in the way of PM accountability, we have performed a review of all acquisition documents and the organizations outside the acquisition execution chain who review them for coordination and approval. We are following the accountability and responsibility of the BBP 3.0-specified action to re-validate the need for organizations to coordinate or approve the documents. This revalidation, which I will personally approve upon completion, can potentially streamline the number of individuals and organizations in the approval process; thereby, reducing unnecessary schedule delays. In addition, we are automating the document review process using the Electronic Coordination Tool (ECT), which allows us to control review times. We currently use ECT to route a program's acquisition strategy for review and will systematically load other acquisition documents into ECT.

Contractor accountability is dependent on contract type and clauses spelled out in each contract. Contractors are held monetarily accountable by absorbing overruns on fixed contracts. Contractors can also lose out on incentives built into contracts for failure to deliver. The PMs provide a Contractor Performance Assessment Report (CPAR), which is essentially the contractor's report card. The CPAR assesses a contractor's performance and provides a record, both positive and negative, on a given contract for a specific period of time. Each CPAR is based on objective facts and is supported by program and contract management data. CPAR results are a component for evaluating contractors during source selection for others contracts. We are taking the CPAR further by instituting the Superior Supplier Incentive Program (SSIP) mentioned in BBP 3.0 at the Air Force level, which is a public accountability rating for contractors. We provided SSIP ratings for industry partners earlier this year and will update the ratings in the June timeframe.

The Air Force is committed to streamlining the acquisition process to remove non-value added bureaucratic and administration requirements. We continuously review the requirements for all of our SAE Oversight Reviews to ensure we are not putting too much of a burden on the PEO and PM and taking away from their responsibility to manage the execution of the program. From these reviews we have eliminated any mandatory requirement to pre-brief the headquarters staff and SAE. We have also looked at the possibility of combining reviews when it makes sense and is appropriate. We have eliminated any requirement for PMs to travel to the Pentagon for briefings, and conduct most of our meetings via VTC. That eliminates travel time and expenses, and reduces the time required by the PM to devote to the review. We have also taken advantage of the statutory and regulatory requirements to conduct annual Configuration Steering Boards (CSBs) by encouraging programs, in addition to covering the required areas for CSBs, to bring forward any other program issues or concerns that would benefit from a discussion by the SAE and CSB members. Another area we have addressed is to ensure that all members of our Oversight Reviews are prepared to resolve issues at meetings rather than merely discussing the issues without resolution. We have accomplished this by establishing timelines that allow the briefings to be reviewed at least a week prior to the meeting and ensuring that feedback from the Headquarters staff is provided back to the SAE, PEO and PM for their awareness in preparation for the meeting.

With regard to program documentation, we annually review the documentation requirements for programs nearing Milestone reviews. We have developed a document coordination matrix that identifies the organizations that need to be included in the coordination and approval process for every information/document requirement. The annual review ensures that the list of organizations needed to coordinate and approve does not grow beyond those organizations that have a statutory or regulatory responsibility for the information contained in any document. This practice has helped expedite our coordination process where we have a current goal of achieving Headquarters Air Force coordination/approval within 30 days of receipt of the document.

Where it is appropriate, I am a strong advocate for delegating acquisition authority to the lowest possible level. Not only does it create efficiencies, but it also empowers our leadership. Existing policies and processes for planning and executing acquisition programs provide multiple opportunities for the Service Chiefs to be involved in managing acquisition programs and to vector programs towards meeting cost, schedule, and performance targets. My regular interactions with General Welsh, including Quarterly Acquisition Program Reviews and Key Acquisition Program updates, provide him insight into how acquisition strategies and solutions are meeting the requirements of the operational forces and improve his ability to attest to requirements affordability and reduce program requirements. Further, we are working with OSD (AT&L) to delegate Milestone Decision Authority to me on Acquisition Category ID programs where appropriate, which will increase our efficiency and streamlining requirements.

Executing these priorities and in indeed, all of our efforts to achieve and maintain acquisition excellence depend on the abilities of our acquisition professionals to solve problems, manage complexity and exercise sound judgment in concert with the requirements and budget communities. So we've adopted the same continuous improvement philosophy to our acquisition workforce.

This is not a new focus for us. The Air Force has been a leader in managing its professional acquisition workforce, with an Acquisition Professional Development Program that predates the Defense Acquisition Workforce Improvement Act of 1990 (DAWIA).

The Air Force deliberately develops military and civilian acquisition professionals according to well defined career path models which serve as a guide for professional experience opportunities, education, and training. These career models provide ample opportunity and experience for acquisition professionals at all ranks, and provide a defined path to greater rank and responsibility within the acquisition workforce.

In 2002, we made a major enhancement to our talent management processes with the implementation of formal processes for "Force Development." The development of acquisition workforce members is enhanced by the use of Career Field Development Teams consisting of senior leaders from within each Career Field. Using published career path models as a guide, the Development Teams (DTs) provide tailored developmental guidance to individuals based on their past record of training, education and experiences. This action gives them a specific path or vector for greater progression and opportunity in the Air Force. The DTs also nominate officers and civilians for developmental education, including Professional Military Education,

and identify military and civilian candidates for command and Materiel Leader positions within the acquisition workforce.

The Air Force also has established career field management teams at the Headquarters Air Staff level that provide strategic direction and daily oversight of the career fields, as well as managing the Developmental Team process. Under this Air Force construct, each acquisition career field is under the functional management and oversight of a senior functional leader at the Assistant Secretary of the Air Force or Headquarters Air Force level. Talent management is a major responsibility of our general officer/Senior Executive Service level senior functional leaders as well as my Military Deputy and Principal Deputy.

The creation by Congress of the Defense Acquisition Workforce Development Fund (DAWDF) in the fiscal year 2008 NDAA represents a landmark improvement in our ability to develop and continually improve the capabilities and professionalism of our acquisition workforce. DAWDF enabled us to accelerate rebuilding the acquisition workforce after drawdowns in the '90s, and it has finally put significant, stable funding behind the training and development programs established under DAWIA. Thanks to DAWDF, we've been able to address training gaps more quickly, and we are enjoying increased training throughput capacity that has eliminated bottlenecks in the Defense Acquisition University courses that our members depend on for professional certification and currency. As a result, we've been able to increase our DAWIA certification rates significantly, from 49 percent at the end of fiscal year 2010 to 73 percent in December 2014.

We've also used DAWDF to address professional currency needs and gaps in acquisition technical training, building application skill courses at the Air Force Institute of Technology that complement and build on the foundational certification training provided by DAU. Examples include courses in Cost Estimating, Test and Evaluation, Developmental Planning, Human Systems Integration, Technical and Manufacturing Readiness, as well as project management and business acumen. DAWDF has also enabled us to build a robust Tuition Assistance program focused on acquisition professionals, enabling them to further their education in acquisition-related fields—a tool for increasing professionalism as well as retention.

An original focus of DAWDF was to grow and rebuild the acquisition workforce. The Air Force aggressively used DAWDF to accelerate growth hiring under our Acquisition Improvement Program and achieved the Secretary of Defenses growth target in 2012. Through the combination of growth hiring, insourcing and position recoding, our workforce has grown from 24,417 in fiscal year 2008 to 34,404 at the end of fiscal year 2014. We continue to protect and sustain that growth (an increase of over 1500 positions) over the Future Years Defense Program. An important and related initiative that promises to improve acquisition manpower management long term is our partnership with the Air Force Deputy Chief of Staff for Manpower, Personnel & Services to develop manpower models that improve our ability to predict the current and future manpower requirements for acquisition program offices.

Our retention is generally very strong, but we have challenges in certain hard-to-fill locations and shortage career fields. We've secured DAWDF funds to offer retention incentives (e.g., Student Loan Repayment and Retention Allowances) to our civilian acquisition professionals when/where needed (e.g., mid-grade contracting officers and engineers). We continue to use DAWDF to improve recruiting capabilities at our acquisition centers and to ensure adequate numbers of recent college graduates are hired to renew the force. We've been able to extend our outreach and increase the availability of recruiting incentives (like Student Loan Repayment) to attract and retain talent. Overall, our reliance on DAWDF is increasing as O&M budgets shrink, and I strongly support initiatives to make DAWDF permanent.

While we are devoting considerable attention to developing business acumen, critical thinking and technical skills across the acquisition workforce, senior leader succession planning is a special focus. With the assistance of the Air Force Materiel Command and Air Force Space Command as well as my Military Deputy and Principal Deputy, I am directly involved in the management of all Key Leadership Positions and the talent management activities related to the assignment of qualified PMs and Deputy Program Managers to our ACAT I and II programs. Our recommendations are approved by the Chief of Staff and Secretary of the Air Force. Our Materiel Leader and Senior Materiel Leader qualification process incorporates additional acquisition-specific standards and is fully integrated with the Chief of Staff's Command Screening Board used to screen candidates for operational group and wing command billets.

The Air Force has implemented several steps in recent years to improve PM tenure. Most recently, we updated our Materiel Leader/Senior Materiel Leader assignment polices to mandate MDAP PM/DPM tenures of 4 years or the milestone closest to 4 years. In addition, we've charged our PEOs with the responsibility to provide

the Chief of Staff and the Service Acquisition Executive a recommended tenure, based on the particular needs of the program, at the time DPM candidates are matched to a program.

Following Mr. Kendall's OSD leadership under BBP, we've identified key leadership positions and ensured we have rigorous processes for qualifying and selecting candidates to fill these roles. I believe we have the processes, tools and resources in place to ensure members of the acquisition workforce are fully qualified to meet their responsibilities. And I can tell you that senior acquisition leaders in the Air Force consider their talent management responsibilities one of their most important duties.

As part of our efforts to improve the hiring process and reward top performers for their performance, with OSD (AT&L) support, we're working to expand the Acquisition Personnel Demonstration Project ("Acq Demo") which brings pay and performance management flexibilities, to the major acquisition centers and contracting organizations. This personnel system has been shown to facilitate more flexible hiring and pay setting, incentivize performance through contribution-based compensation, and promote retention of a high-performance workforce. SAF/SB (Small Business) and the 11th Contracting Squadron at Joint Base Andrews transitioned in 2014. Four additional organizations are scheduled to transition during fiscal year 2015, and more in fiscal year 2016. I strongly support making "Acq Demo" and Expedited Hiring Authority permanent—these authorities have been very valuable improvements to our hiring process for acquisition professionals.

I would also like to note that the GAO "sustained" protest rate for the Air Force has been consistently low. In FY14, our sustained rate was less than half of 1 percent (.044). Although we cannot totally preclude bid protests, we have implemented major initiatives which have been successful in reducing them. We enhanced our training for source selections, and ensure the entire team receives extensive training prior to evaluation of proposals. We emphasize the selection of proper evaluation criteria and ensure proper documentation throughout the source selection process, to ensure the decision is well-supported and can withstand scrutiny. We increased our oversight at various stages of the acquisition, and selectively offer Extended Debriefings to unsuccessful offerors for the more complex, higher-value contracts. These debriefings provide greater transparency to the underlying factors and conclusions than the traditional debriefings. I believe these efforts to date have been instrumental in reducing our sustained protest rate.

II. CONCLUSION

In conclusion, I hope I have been able to convey to you some of the tremendous improvements we have been able to make to the acquisition system, although, we still have work to do to reach our fullest potential. I will continue to challenge the acquisition community to achieve the five priorities I discussed earlier: Get programs right, increase transparency to external stakeholders, own the technical baseline, continue our efforts on BBP, and build our systems towards a future Air Force. I continue to appreciate the support Congress has provided the acquisition community and look forward to working with this Subcommittee to ensure that we reach our highest goals.

Senator KAINE. Excellent.

We are going to stand in a quick recess so Senator Heinrich and I can—I have not voted in number three. Senator Heinrich, I am not sure you have either. We will stand in recess, and we will likely start back up with questions. I suspect the chairwoman will likely arrive first because I think she has voted. Senator Ernst, you just voted on the second or third?

Senator ERNST. Actually it was the third.

Senator AYOTTE. If you would like to begin with questions. We just finished opening, and Senator Heinrich and I have to go vote. So we will do that and return. Great. Thank you all.

Senator ERNST. Thank you everyone for being here. I appreciate it. A lot of activity on the floor today.

First, I will go ahead and get started. I will go back and review some of the information that you have given already today.

But, first, to Secretary Shyu, if you would please, I have been looking into a number of different areas regarding program and

project management. This is an issue that we had actually discussed in visiting with the Government Accountability Office (GAO) last week in the Homeland Security and Governmental Affairs Committee. For years, the GAO has categorized the Department of Defense's program management as high risk. It shows up year after year on the infamous list with still very large problems and processes that need to be fixed and improved. What specific steps are you taking to improve program management at DOD, and is there any way that we as legislators can assist in that process?

Ms. SHYU. What we do to ensure the skills of our Program Managers are adequate, we actually have different levels of courses that Program Managers have to take.

The other thing that we do—there is actual structure. So you do not jump in as early level being the most senior Program Manager. There is different lower level program management than the senior level Program Managers. So within the acquisition process, we actually do train our Program Managers.

They are mostly military with some civilians also as Program Managers, but primarily the ways that we train them are from Defense Acquisition University (DAU) courses that they take. Also, internally we bring them up for assignments into the Pentagon so they can sit and listen and see, observe how programs are being reviewed. So there are many different ways we are actually training our Program Managers.

Senator ERNST. I appreciate that.

Then any comments from either of you gentlemen?

Mr. STACKLEY. I would simply add I was a career Navy officer. My last job in the Navy was as a Program Manager. Course training is interesting, but the greatest experience you get is on the factory floor, rolling up your sleeves, being hands on the project. That is irreplaceable when it comes time to actually be in charge of a major weapon system. So we are ensuring that in our pipeline for program management the first tour coming out of grad school will be an industrial tour so they can get that hands-on experience and continually put it to work as they climb the ladder and become more competitive for the program management.

I sit on the panels. I review the panels, and I approve the Program Managers. I will tell you it is very competitive. We have stellar Program Manager candidates, civilian and military. The challenge we have got is depth and breadth to fill that base that needs to be there for the overall acquisition workforce.

Senator ERNST. Very good.

Secretary?

Dr. LAPLANTE. Thank you, Senator.

I would add to that that the best indicator of whether a Program Manager is going to be successful at a program is whether they have been successful before at a program. So what we have to do is do what Secretary Stackley said, which is give them experience early so that they can, in a safe environment, learn the ropes so that when they get up to the bigger environment, they have already been a Program Manager.

When I came into this job 2 years ago, I came in from academia and Federally Funded Research and Development Centers (FFRDC) community. The stereotype I had heard ringing in my

ears, particularly in the Air Force, was that we would take pilots and switch them from being a pilot one day and they could go in and be a Program Manager. That was kind of a stereotype, but I was surprised at what I found. The average acquisition professional running a program in the Air Force has 17 years of acquisition experience. They start as a second lieutenant and they go up to 17 years. They have actually experienced more than 17 because they have done a tour somewhere else to give them experience.

The second thing is they are competitively selected, the same thing as Secretary Stackley said in the Navy. We always can do better, but I was shocked at how different I saw the Program Managers and the Program Executive Officers (PEOs), which is one level above it, which is typically 25 years of acquisition experience.

I also do not understand when people say, well, there is not an acquisition career field for the military. My military deputy, Lieutenant General Ellen Pawlikowski, is an acquisition professional. She is now going to be a four-star Air Force Material Command (AFMC) commander next month, the top of her game. There is a career path. So I think that maybe they are not explaining the situation as well as we could. There are challenges there, but there is a lot of attention put into training our Program Managers.

Thank you.

Senator ERNST. Yes, and I appreciate that very much.

You mentioned there are different ways to gain experience, whether it is on a factory floor, actual hands-on experience, whether it is civilian courses. I was just going to jump in and mention an identifier or Military Occupational Specialty (MOS). I do recognize that it takes a lot of time developing those skills.

But at the same time, it seems that the DOD has had some significant trouble in keeping Program Managers. Once they gain that skill, they seem to move on into other areas. What can we do to improve that, keep those people that have gained those skills in that area in program management?

Mr. STACKLEY. I think we all have some comments to that one.

Let me first describe that. Yes, you are correct. In terms of a military career path, when you reach Program Manager for a major weapon systems program, you are a senior O6. In order to continue on, you either need to be promoted or you might have some runway left in your career to move on to a graybeard type of position.

What we are exploring is how do you, in fact, retain those senior military to stay past that Program Manager position. What would encourage them? In fact, it takes an appeal, frankly, to an individual's—it is a patriotic appeal. Now, that you are at the peak of your career, now that you are at the height of your experience, and now that you have completed your major command tour, we are going to ask you to go ahead and continue on to serve because we need your experience. We need to continue that experience in military in uniform in the Government. That is a challenge. So what we are trying to identify is are there opportunities that would make it less of a challenge, make it more attractive for an individual, post major command, to continue to serve.

Senator ERNST. Are there any specific suggestions?

Mr. STACKLEY. I can just give you one example. So I know the Naval Academy and I believe West Point has a similar program

where they actually take on senior O6s and put them in a permanent military position. In that case, it is as an instructor, but what they are able to do is continue to accrue benefits that come with military service, and in certain cases in the past, what you have had is O6s that actually gain benefits beyond their rank by continuing to serve. In certain cases, it is non-monetary. In other cases, it is monetary benefits. So we are trying to see what makes sense, work with the Service Chiefs and see if there is a program in the making there that makes for select individuals, not across the board, but select individuals that you want to retain for the long haul.

Senator ERNST. Very good.

Yes, ma'am.

Ms. SHYU. I would like to expand upon that. I absolutely concur with Sean.

I will give you a couple examples that actually happened. For example, it is actually the senior O6 that runs the more complex, what is called the Acquisition Category (ACAT) 1D programs. We have had very senior O6's retire, then come back in as GS–15, and also be a Program Manager. So that is a way we can entice them to come back even after they retire as a great Program Manager to hiring them back in as a civilian.

The other thing is a lot of the outstanding Program Managers get promoted to program executive officers to run an entire PEO. So this is a way they can then mentor all the PMs underneath a PEO.

Dr. LAPLANTE. I would just add to that. One thing that when I came into Government that even though intellectually I knew it, but what broke my heart was seeing the people like we were just talking about—let us say a very, very talented senior O6 or in some cases a one- or a two-star who the country has invested 30–35 years in, has incredible knowledge—retire. It just breaks your heart.

So programs like what Sean was mentioning about perhaps the academies—now, one question there is, okay, let us say you get on the academies. Can they still be a Program Manager? You know, that is a question.

I have another case right now, which I do not want to give the specifics on because we are still working it. Clearly we have a star. We have an absolute star in one of the most important programs you could imagine. We are trying to keep this person as a highly qualified expert, the Highly Qualified Expert (HQE) program. I am hoping it will work. But what you find even with the HQE program is it is not nearly as easy to do as you might think, and then you still know that you are going to have to appeal to the patriotism of this individual and their family to take this job and stay as a civilian. We may pull it off; we may not.

But we have got to do something about that because you would not do that outside. You take your best program managers and put them on your hardest programs. You do not sit there and say, wow, they are at the peak of their game, go find another job, thank you very much. So we need to figure out a way to do this.

Thanks.

Senator ERNST. I would agree. Really bottom line, we need to make sure that we are working with these programs to make sure that our taxpayers are, of course, getting the best bang for their buck as they can while making sure that our service men and women have exactly what they need through these programs.

Do you find that a number of these qualified, wonderful individuals are being drawn away into private industry? Are the benefits and salaries that they might receive as a GS–15 competitive with what they would see in the private industry? No. I think I knew the answer to that before asking.

But we have invested a lot of time, energy, money in these individuals to make sure they are appropriately trained. It would be nice to use that expertise in these programs and the management. Secretary, any thoughts there?

Ms. SHYU. You are absolutely right. I think the example we have had is we have some great colonels, senior colonels, who did not make it to the GO level. That does not mean they are not great because there is a pinnacle. Very few get selected to the GO, but they are outstanding program managers with lots of years experience. So we have had the opportunity to hire them back. So we have done a pretty good job of hiring back. Again, this is because they want to serve. They can make a lot more money in industry. I can tell you that from experience, being there.

Senator ERNST. Yes.

Ms. SHYU. It is because their heart is in the services. They want to continue to serve. So that is where we leverage their desire to continue to serve and bring them back as a civilian and keep them in the program management side.

Senator ERNST. Fantastic.

Mr. STACKLEY. I cannot add too much except to say that there is no single solution here. Secretary LaPlante described flag potentials. We have 18 acquisition flag officers in the Department of the Navy, and those are the best and brightest. We have a number of post-major command Program Managers that are continuing to serve. They have been enticed and they are continuing to serve. We found the right job for the right individuals because they love to serve. As Secretary Shyu described, we have others that in fact retired and have come back as a civilian and are civilian program managers. Again, it is a great win-win for the Department and the individuals.

Then there is the larger number that after they complete their major command, they move on. They move on. Then what we look to do is, frankly, we look to have them to continue to serve except in a different capacity out of uniform and see if those skills can continue to contribute to what we are doing in acquisition, which is trying to develop and field the best weapons we can for our sailors and marines.

No single solution. It is a case-by-case basis, and we work with the individuals. One thing about the acquisition workforce is you get to know all of your Program Managers personally and you work with them to find the right best fit for that individual and what the Department needs.

Senator ERNST. Great. Thank you.

Dr. LAPLANTE. I have just a couple, two quick things. The Highly Qualified Expert program I think is potentially one we could use more.

Second is the program called IPA—it is a personnel assignment, Interagency Personnel Assignment. My experience is we are using it much less than we used to, and I have views why. So there are flexibilities like that that we can investigate to bring highly qualified people in.

Remember during World War II there was the "dollar a year men" is what they were called, very wealthy people. I heard a recent term for them called "post-economic people" that come into the Government. Of course, we all want to be post-economic. But we have to do something to get the highly motivated, talented people in this country to get into the Government.

Thank you.

Senator ERNST. Thank you. Again, I just want to reiterate thank you very much for being here today. We do have some challenges out there with acquisition. We want to make sure that we are retaining good qualified people in that program management. Whatever we can do to benefit our taxpayers is greatly appreciated, as well as making sure that we are protecting our men and women in uniform. So I thank you again.

I turn the floor back over to the chair.

Senator AYOTTE [presiding]. Well, thank you, Senator Ernst, for holding down the fort, and thank you, Senator Kaine, for doing the same. As you know, we are voting on the floor.

I want to thank all of our witnesses for being here.

I am just going to submit for the record my opening statement and just go right to questions for all of you.

[The opening statement of Senator Ayotte follows:]

OPENING STATEMENT OF SENATOR KELLY AYOTTE

Good afternoon everyone. This hearing of the Subcommittee on Readiness and Management Support will come to order.

The subcommittee meets today to receive testimony on the state of the defense acquisition system and to discuss necessary reforms. I would like to thank the Ranking Member, Senator Kaine, for his support on this very important issue.

We are joined this afternoon by the three Service Acquisition Executives: The Honorable Heidi Shyu, the Assistant Secretary of the Army for Acquisition, Logistics and Technology; the Honorable Sean Stackley, Assistant Secretary of the Navy for Research, Development and Acquisition; and the Honorable William A. LaPlante, Assistant Secretary of the Air Force for Acquisition.

I would like to thank each of you for your efforts to acquire the best equipment, supplies, and services for the men and women in uniform from your respective service.

The purpose of this hearing is to discuss reform of the defense acquisition system. This topic could not be more important.

When our troops deploy to war, we have a responsibility to provide them the very best equipment. That is what our troops deserve and their loved ones expect.

When our acquisition system fails to deliver the best possible equipment in a timely manner, tragically, the costs are often measured in the lives of our troops.

Providing the best weapons and equipment to our service members can be the difference between our troops returning home safely or not at all; and the difference between our forces achieving victory or suffering defeat.

Reform of the acquisition system is necessary to maintain America's technological and military dominance. The current, inadequate acquisition system is leading to the erosion of America's defense technological advantage, which the United States could lose altogether if the Department continues with business as usual.

We know that the growing national security threats to our country require that we end defense sequestration once and for all and base our defense spending on the threats we face and the military we need—not arbitrary budget caps.

But if we are going to convince skeptics that we must spend more on defense to protect our country against growing threats, the Pentagon must simultaneously redouble its efforts to end wasteful acquisition programs and unacceptable cost overruns. Every dollar wasted on an acquisition program is a dollar we don't have to provide our troops the equipment they need.

If the Department's calls for increased defense spending is going to have credibility with the American people and their representatives in Congress, the Department must strive to be better stewards of the tax dollars it is given.

Much has been done. But by most accounts, despite countless studies, plans, and reports—and some progress—the Pentagon's acquisition system remains broken.

We see too many cost overruns and too many schedule delays. We see too many instances in which taxpayers dollars are poured into programs that are never fielded. The taxpayers justifiably expect better. We can and must do better.

To address these problems, the Committee has solicited input from industry associations, defense suppliers, and acquisition experts. I would like to request unanimous consent that those responses be a part of the hearing record.

It is also appropriate that we hear from the services. The Subcommittee is interested in your assessment of the reform measures adopted over the last several decades and your views on the need for further improvements to the defense acquisition system.

In particular, the subcommittee is interested in your recommendations on how your Service can: control costs; increase competition; innovate in a much different industrial environment than existed in the Cold War, access commercial technology; achieve accountability for results; streamline the process; and improve the acquisition workforce.

I look forward to hearing our witnesses' assessment of these issues, and I would now like to call on our Ranking Member, Senator Kaine, for any opening remarks. Senator Kaine . . .

I wanted to ask a question about lessons that we have learned from prior acquisition failures. Each of the services have had their share of programs plagued by major cost overruns, schedule slippages, and performance shortfalls. For example, we have seen important programs like the Air Force's evolved expendable launch vehicle managed badly resulting in a 270 percent unit cost growth.

We have had the Expeditionary Combat Support System (ECSS). I am not picking on the Air Force, but that is another Air Force one. That increment one program took over 9 years and expended over $1 billion before it was canceled and shut down. We never had an acquisition program baseline on that one.

Another example. The Marine Corps ground air task-oriented radar program has seen 175 percent growth in research and development costs and 151 percent unit cost growth. An expert panel chartered by the Navy last year found that the program cannot achieve its current reliability requirements within the program's planned cost and schedule and that the requirements do not reflect Marine Corps operational needs.

We can go on and on. As you know, there are too many examples like that where our constituents say to us, listen, we want to defend the Nation. We want to support our military, but you all better address these issues.

So rather than getting updates on each of those, would you each share with the subcommittee what you have learned from your Service's acquisition failures and tell us how those lessons are informing your efforts to improve how your service conducts acquisition going forward.

Dr. LAPLANTE. I can start with at least one of the examples you said representing the Air Force. You asked me at my confirmation hearing—you may not remember this—about ECSS.

Senator AYOTTE. You have a better memory than me. Apparently I have been on this program——

Dr. LAPLANTE. No. It is a good one to be on because it is a great——

The Air Force has done this process that I think is really a useful thing. They started it 2 years ago. I cannot take credit for it. But it was, you know, when you have an accident, a crash, there is a safety investigation. Remember we had this last year with the F–35. We are doing the same thing when we have an acquisition crash. So the first one that was done was an independent review of the ECSS program, the one you mentioned. The second one was a small business program that had a problem.

I will just tell you what the lessons learned from ECSS. The Senate Armed Services Committee has also studied ECSS.

First of all, to make a long story short, I think it is one of the reasons why the position that Peter Levine has been nominated for was created, was to prevent things like ECSS.

The lessons learned on that came down to about six root causes, and they are very fundamental: not understanding the data of the business system that you were talking about using; not doing the business processes, because the whole reason you do an IT system modernize is you are trying to modernize your business processes. You are supposed to change your culture. That was not done. The analogy that the reviewer of this report did for ECSS said imagine like it is like the Big Dig in Boston. If you have been to Boston, maybe you know this. Remember for many years it was if you went into the airport up there. Well, the easiest part of doing probably that project was going to a map and drawing a line and saying would it not be great to have a tunnel from here to here. That is the vision. That is the 'to-be.' That was done in ECSS.

Here is the part that was not done. What do we have today? What is the traffic using today? What do the cars look like? What is the volume? That is the data. How are the users using the system? Here is most important. What is the transition plan? How are we going to get workers to work in the next 5 years while we build this thing? The today and the transition plan were not done. So these are fundamental errors.

What we did in the Air Force after this report is we took those same lessons learned and went with our Deputy Chief Management Officer (DCMO), the new position, and went program-by-program and said do we have any of those same root causes. When we started to see them, we were addressing them.

So it was a big learning experience, and I would recommend anybody who has not read that report—it has been provided to Congress. Very interesting reading.

The second one—I will not go into any more detail—was a personal beacon that we had a failure. It was actually a small business and it came down to—I am going to over-summarize it—systems engineering. The Government program office did not do the systems engineering on that. It was something we call the technical baseline. We are trying to build back into our program offices

the ability to be a smart buyer. So those are two examples I will bring up.

Senator AYOTTE. Thank you.

Mr. STACKLEY. Yes, ma'am. I am going to go back to about a decade ago where there were a number of major programs in the Department of the Navy that had significant failures in terms of cost and schedule performance. It brought to light, as you did the forensics on each of these, that we failed in step one of the process which is understanding the requirements and what we refer to as getting the requirements right. So this is not challenging the operational requirement. This is when you set the operational requirement having acquisition right side by side and identifying that in order to meet this performance, it is going to require this level of technology. Here is the risk that goes with it. Here is the cost that goes with it. So when you lock down the requirement, you understand maturity, feasibility, cost, and risk, and then you hold that firm as you move forward in the program.

So with that in mind, we basically went back and rewrote our acquisition governance process to a thing that we call the "gate review process" where today the requirements in the acquisition community are lockstep, side by side, around the table in each step of a program, starting with the definition of the requirement, moving from that definition of the requirement to transition to specifications to a request for proposal right down to contract award and execution of the contract so that there is no separation between requirements and acquisition throughout the process. You keep control over not just the requirements but also the cost and schedule to meet those requirements.

So we have found that to be a very effective process. The partnership that exists today between myself, the Chief of Naval Operations (CNO), and the Commandant—I would say that we are inseparable when it comes to end to end from requirements to delivering the requirements in terms of the budget. This has been a learning experience going back to some major failures perhaps 10 years ago, and we are continuing to improve as we go.

Ms. SHYU. So based upon my background—by the way, I have had 33 years in the defense industry before coming to the Government in the last 4 and a half years. I was a PM back in industry as well. So I have lots of experience actually designing, developing, producing products.

So based upon my experience, when I have seen a failed program, I have seen unrealistic requirements. The requirements were set not by what Sean had talked about, namely it was not necessarily informed by technical risks, by cost and schedule realism. So if the requirements said that I want to have this capability and nobody challenges, that becomes the requirements. Then they are lobbed over to the acquisition community, go design, develop something that meets this goal. Every contractor will say, yes, I can do it. Right? I can do it until you are pregnant. That is what happens.

So one of the things you have got to do up front is do the trade space. What are the requirements you desire? What type of technology can actually give you that performance, and what is the cost associated with that? What is the schedule it will take to develop it? You got to go through that entire trade space before you lock

down on requirements and say, yes, I want to get going on this program. On the Army side, I do not see that being done very well.

The second piece I want to talk about is realistic schedule. Just because somebody dictated you are going to produce this next year, engineering does not always follow what you dictate. So if you set an unrealistic schedule up front, you are just setting yourself up for failure. I have seen that on a program in which it squished the milestone because somebody somewhere said I want this by this date. So you work backwards into the art of possible. Well, if that was your end goal and worked backwards in a development program that has high risk, you are doomed to failure, and I have seen that happen.

The third thing, really important, stable budget. If you hack away at the program budget on an annual basis, your baseline is constantly moving. You are standing on quicksand. How on earth do you build a foundation of a program if your every single year is changing.

Three biggest things that impact stability of our program.

Senator AYOTTE. Thank you all. That is excellent. Appreciate it.

I want to turn it back to Senator Kaine for any follow-up questions he has.

Senator KAINE. Thank you all.

I understand that Senator Ernst asked some questions about the talent workforce, you know, PM. I do agree. All of you said that that is absolutely key to this. I will not ask questions about that, but I think that is important.

As we are looking at reform, the Better Buying Power initiative is already about reforms. We do not want to do reforms that are overlapping, just creating more documentation requirements. We would like to do reforms or be part of reforms that are streamlining requirements so that they find that sweet spot between enough oversight to avoid problems but not so much as to get in the way of agility and timing.

What advice would you have for us as we are looking at drafting a National Defense Authorization Act (NDAA) on what we ought to be doing to try to find that sweet spot?

Mr. STACKLEY. Sir, I am going to go back to my opening statement and the quote from Secretary Gates with regard to we do not need more studies and we do not need more legislation. I mean that in the most respectful manner. We have a tremendous amount of oversight, process, a minefield of rules and regulations that we are trying to navigate.

With regard to a sweet spot, I think we have paved over the sweet spot. If it is possible, as you review this, to delay some of the rules and regulations, this framework that we operate in—Secretary LaPlante described the Big Dig. Let me give you a different view of the Big Dig. I am going to guess, Senator, that you have driven in and around Boston.

Senator AYOTTE. I sure have.

Mr. STACKLEY. So asking what the sweet spot is is like asking how would you fix traffic in downtown Boston. What would you do to the roads? After hundreds of years of trying to improve the roads by adding more roads, they realized that it only gets ?worser? the more you try to make it better. So they decided that you cannot

drive through Boston. You have got to get, in this case, under it. That is what gave us the Big Dig. So $10 billion and a decade later, it is much improved, but it was not by trying to straighten out the roads in Boston.

So I would start by trying to figure out how do you roll back to Goldwater-Nichols. I mean, it was actually a pretty good starting place, and since then we have added 20-plus years of—30 years almost of additional rule and regulation in how to improve things. It has made it harder, but it has not necessarily made it better.

Senator KAINE. Secretary LaPlante?

Dr. LAPLANTE. Yes. I mentioned in my opening remarks that we did a study on adaptability and agility. What we did on the Defense Science Board is we looked at cases in the Department of successes and in industry successes and failures. The ones that were successes all had a few things in common, which was interesting, maybe by accident. They all were relatively small, small activities usually protected by leadership.

The F–117, the stealth fighter. We interviewed Paul Kaminski, who was the colonel at the time who ran that program. Paul said it was a small functional team, about 7 to 8 people. They could make decisions. They were protected by leadership. They had a lot of things that Heidi Shyu talked about in her opening. They controlled the budget, the requirements. They were allowed to fail, and they were left alone. But they were held accountable.

Whenever we went around and said what was this successful here, it all had the same characteristics, very highly skilled. What I see when I see those activities going on in the Defense Department, I see they are either there because the leader is protecting them. They are hiding and nobody knows they are doing this great stuff. Or they are highly classified.

So something tells me we know to do this. If it has those characteristics, if we can streamline the way that Sean describes, we can be successful. I do not believe you can scale these things. I do not believe you can take something that is really highly agile, mobile delivering things and make it three times as big because then it will be slow. I think you can multiply those models. So we do know how to do it. There are success stories in the Department, but they all have those characteristics.

Thank you.

Senator KAINE. Secretary Shyu?

Ms. SHYU. So number one, streamlined oversight. I can tell you coming from industry and coming to the Government was mind boggling to see the layers of oversight that you have. Also my Program Manager will have to—to get to a milestone decision, one of our major programs, the PM will drag through into the Pentagon 31 separate times to give briefings to various stakeholders. It does not happen in industry because you cannot afford that. So there are things that we are doing to ourselves within the Government that just does not make any sense. It slows you down. Increased bureaucracy does not enable you to be agile.

The other second thing is there is mutual accountability in industry. Namely, when I was a PM and then moved on to become Director and Vice President, while I was managing multiple programs, on the monthly operations review you would report to the

President. If I am short 12 engineers, this is why I am red on my program, I need your help, he does not just beat me up. He turns to the VP Engineering and says what are you doing about it. So there is mutual accountability here. That does not happen inside the Pentagon. We are just beating the crap out of the PM while everybody else has a steering wheel and a brake. So mutual accountability is very important.

Nobody makes things better just because you filled out 79 documents. So you can spend your time managing the program or you can spend your time filling out documents.

Senator KAINE. Can I ask one more question, Madam Chair, or do you have a question that you want to ask?

Senator AYOTTE. I definitely do, but go ahead.

Senator KAINE. How about each of you just brag? What is an acquisition program you are engaged in right now that you really think is doing great and that you want to brag about? Because, yes, we talked about problems, but you have got some that you think are going well. So that is just an opportunity for each of you. What is going great and why? Try to be quick.

Mr. STACKLEY. I am going to tell you one you already know about. *Virginia*. *Virginia* is going great. Why? One, stability.

Senator AYOTTE. We like that.

[Laughter.]

Senator KAINE. Yes, that is right. That is one we can both agree on.

Mr. STACKLEY. The program has stability. It has stability and it has got a quality team that is running it. When you put those two together, it has got the support of the Department of Defense. So everybody is pulling in the same direction on the *Virginia* program. Everybody is pulling in the same direction. That is not the case in all programs.

Senator KAINE. Even with a little friendly competition to drive it ahead, as each side shows that their module is fantastic.

Mr. STACKLEY. They pulled faster.

So there is something that comes with stability and quality leadership and getting the alignment of the organization all pulling in the same direction that drives success.

Senator KAINE. Secretary Shyu, Secretary LaPlante?

Ms. SHYU. I will give you the Paladin Integrated Management, the PIM program. Why? We had an outstanding program manager who just drove this program through. This is what you need. You need tenacity to succeed in this job, and you need God to be on your side.

On top of that, we had congressional support to help us protect the budget because otherwise, our programs are just vulnerable to be hacked away on the budget on an annual basis.

Senator KAINE. Great. Thank you.

Dr. LAPLANTE. I am very proud of our munitions portfolio in the Air Force. A lot of the preferred munitions that are being used right now in the fight, a lot of them are done by our guys in the Air Force. At the big picture level, they have carved out about half a billion dollars in "should cost" savings. A lot of them bought back more weapons, things that are being used in the fight today. I am very proud of them.

A specific program I want to call out, though, is something called Small Diameter Bomb II. It has got a tri-mode seeker, all-weather weapon. Think of it as something that will go against highly moving targets in all weather with very low collateral damage. This program was initiated—very interesting. It was initiated in about 2009–2010 right when Weapons System Acquisition Reform Act (WSARA) legislation had come into play, right as the Better Buying Power initiative. So I was very interested in looking at this program. It is going to a milestone C in the next couple weeks. Milestone C is where you make the decision to go to full-rate production.

Here is the thing. The program has come in under the cap. It was fixed-price development. Very unusual. It is coming in under that cap. The cost per weapon is coming in about $60,000 cheaper than the objective requirement which is the stretch goal. What it is is what my colleagues said. The requirements were not changed. There was singular focus by the contractor.

Here is the fascinating thing for us acquisition nerds. The Milestone C took about 6 months/8 months longer than we expected. How did they come in under the ceiling? Because everybody thinks time is money. Well, it turns out, you know, if you have worked in industry and outside, you know that actually you cannot take engineers and charge to a project that they do not have work to do. So this contractor, maybe because it was a fixed-price contract, maybe not—but I would like to find out—actually took the engineers off when they stopped flight testing to fix their problems. So even though the schedule slipped a little bit, we still came under the ceiling. Really remarkable. It is going to be a great weapon.

Thank you.

Senator AYOTTE. I have some additional questions. So I am going to start this, but then we have a vote on the floor that we have to be back in 4 minutes. So if you do not mind, I might recess and then come back.

But I am going to have the staff give you out—all of you have touched upon this, but maybe not all of the details are correct on this, but it is pretty close. You know, I heard from each of you that we do not need more layers. What we need to do is eliminate some of the layers. I mean, it is crazy. Look at this. I do not know how anyone could work through this process. Truthfully, in many ways, if you have that many layers, it actually does, as you have already touched upon, eliminate responsibility because you can pass it on to the next layer versus having people just take responsibility for the area of oversight rather than layering.

So I think one of our goals in this acquisition reform is actually to streamline and to actually make this a more efficient yet accountable system for all of you and for us so that we know who to hold accountable. You know, we are making our contractors jump through so many hoops that I worry that we are going to stop not only the contractors that work in this space, but I am hoping that we can better attract some new folks that are more on the high-tech side that we need in terms of innovation of new products who are not normally used to operating in this type of space.

So any thoughts you have on how we can streamline this, which I think will be good news for all of you, but also make it just a better system. I think that is our goal in this markup.

Mr. STACKLEY. We have been working on streamlining this since this flowchart was started. I actually have a pocket version that I break out——

[Laughter.]

—to show people that this is the problem.

Senator AYOTTE. You really need reading glasses for that one.

[Laughter.]

Mr. STACKLEY. I had a conversation with the CNO about 6 weeks or so ago, and we talked about the Service Chief's role in acquisition. He asked me can you lay out how a bill becomes a law. In other words, how does a requirement become a weapon.

Senator AYOTTE. It reminds me of Schoolhouse Rock.

Mr. STACKLEY. When you take this and up in the upper left-hand corner is where the Service Chief signs off on a requirement. At that point in time, he believes he just made a decision, not recognizing that what he as the Service Chief decided was necessary to meet his statutory responsibilities to man, train, and equip the force then has to be agreed upon by literally hundreds of individuals who do not have accountability to man, train, and equip the force.

So how to improve upon this? We are working with the Service Chiefs to be able to come back to you all to describe some things that we believe can be done. It might not delay this, but what it should not do is strip away the Service Chief's authority when he says I need this capability, I am putting this money against it to deliver to the warfighter to meet our responsibility.

Senator AYOTTE. So I will have to interrupt for a minute so I can go and vote. But let me just say this, that I think that working together on this, it is the Service Chief getting what the Service Chief needs for his or her Service, but also there will be more accountability for the Service Chief. But that is okay if it is not a morass that no reasonable person could actually make their way through in terms of the layers here.

So I am going to run and vote, and we will take a quick break and come back and we will reconvene. Thanks.

[Recess.]

Senator AYOTTE. I know that I had a chance to hear from Secretary Stackley on his take on this whole thing, but anything that any of the other Secretaries wanted to add, I would be happy to receive.

Dr. LAPLANTE. I was mentioning during the break that I think it was the first time I saw as exhibit A where somebody did this was Jack Gansler who did a Defense Science Board (DSB) study on urgent operational needs in 2009. He showed this chart, and he said "exhibit A." That is all I need to say. We cannot do rapid acquisition with it.

The next year, on our adaptability study, we showed the same chart and said "exhibit A." But then what we did—and I think others have done this—they have taken—they have gone to non-defense industry and they have said what is your version of this chart. It is, of course, much, much simpler than this. I would rec-

ommend as a way to go is look at the work where people have done that, where they have taken and they said how in the commercial world do they make this realization. People have done that and said why can we not make it more like that.

Senator AYOTTE. Well, they have used process like the Lean Process that can be used in companies to be able to look through each step and eliminate steps that are unnecessary.

Ms. SHYU. So I will say we absolutely need to streamline the processes, but enable us to tailor it. That is what we do in industry when we are designing, developing programs. We have a standard engineering process that you have to go through, but we allow the Program Manager the flexibility to tailor it. If it does not apply to my program, I can axe it off. It does not apply. Just focus on the piece that is relevant to what you are doing. The tailoring does not exist. This is why we have dumb things we end up doing like you go to go through corrosion—if it does not matter if it is a software program.

Senator AYOTTE. Right. Thank you.

I wanted to ask a question about foreign military sales (FMS). With regard to contracting for foreign military sales, it seems that the U.S. Government is, in essence, negotiating on behalf of foreign Governments against U.S. defense companies. That is done by imposing the same standards, auditing, and regulations, what we would do if the U.S. Government were using taxpayer dollars to buy a U.S. product. After working to negotiate a better deal on behalf of the foreign taxpayer, in reality then we add as much as 8 to 10 percent markup for U.S. Government services and transaction costs. These cost dollars then go to subsidizing money, I guess, back into the DOD, not to maintaining the industrial base. Given that foreign sales are intensely competitive, is the foreign military sales contracting process really in the best interest of the United States and the long-term health of the defense industrial base?

You know, one of the challenges I think we are facing is as we spend less on defense, we want to maintain our industrial base and, where appropriate, we want to allow them to engage in foreign military sales. Obviously, anything that infringes on our National security interests, that is really where the focus needs to be from our perspective on regulation and the Department of Defense. But things that do not do that we can sell to our partners, it seems to me it benefits us because it helps keep our companies robust.

So can you help me understand this process? Because I learned more about it the other day, and I was somewhat surprised by the fact that we would be pushing back on our companies on prices on behalf of foreign Governments and wondered whether that was the best use of DOD time when the market itself would adjust any kind of exorbitant prices that the buyer was willing to pay.

Mr. STACKLEY. Ma'am, I will start and ask my colleagues here to join in.

First, when it comes to foreign military sales, it is a win-win. It is a win-win-win. It helps our industrial base. It helps our international partners, and that helps us from the standpoint of security and affordability of our programs. So it is in our best interest to foster increased foreign military sales, particularly now that you

see our defense spending flattening out. So particularly our major defense contractors, they are in pursuit of increased foreign military sales, and we are supporting that to the extent that we can.

When it comes to the mechanics of the foreign military sale itself, that foreign country looks to us to protect their best interest in the sale.

Senator AYOTTE. Why?

Mr. STACKLEY. Because they do not sit down at the table to negotiate with industry.

Senator AYOTTE. It is the strangest thing I have ever heard because usually in a buyer-seller relationship, why would we negotiate on behalf of taxpayers in other countries? That is what I am trying to understand. I understand our interests in making sure that we are not engaging in foreign military sales that could undermine technology and interests that we want to remain protected, but I guess I do not understand why we are negotiating for them when we are dealing with scarce dollars and we could be better focusing our resources on oversight of our own taxpayer dollars.

Mr. STACKLEY. In almost all cases, the thing that is the subject of the foreign military sale is something that we are producing for our own military.

Senator AYOTTE. Right.

Mr. STACKLEY. So quite often, they are either buying off of our contract or an extension of our contract. So there is a single negotiation that typically is taking place associated with this product line, and then if it is Australia buying F–18s, for example, they are going to work off of our pricing for the F–18. We strive for a singular effort when it comes to negotiating.

Senator AYOTTE. So it never happens that they are just doing an add-on to our contract. So it never happens that they independently want something that we are not at the moment procuring?

Mr. STACKLEY. There are going to be some exceptions where they might be ahead of us in terms of procurement, but those are—

Senator AYOTTE. You understand why conceptually I am having a difficulty with this in the sense that some of the feedback I have heard is that we often push our companies, but we are not pushing our companies on behalf of our own taxpayers. It is on behalf of our foreign partners, which I am all for our partnerships with our allies. It is just that usually would be the role of that Government doing this. I am just trying to understand why that is necessary.

Mr. STACKLEY. There is a separate avenue called direct commercial sale where that other country could go direct to the vendor to procure the item. Then you start to get into security issues in terms of releaseability, but that is an alternative. What they look for is they look to stay as compatible with the U.S. version as possible for interoperability purposes, and if we are in production and we are procuring, they want to get as close to the same deal that we get with industry as possible.

With regard to a surcharge——

Senator AYOTTE. What if they did not get the same deal? How does that hurt us? Like what if they are willing to pay more but we are not because we are negotiating on behalf of taxpayers. How does that undermine our interests?

Mr. STACKLEY. Okay.

Senator AYOTTE. I am just being honest. I just want to know. I am trying to figure out how that undermines our interests.

Mr. STACKLEY. The process starts with the foreign military sales customer identifying what their requirement is, and if the requirement matches something that we are currently procuring, then what we do is we put side by side what the requirement is versus what we procure and whether or not it is releaseable to them as is.

Senator AYOTTE. Which is important.

Mr. STACKLEY. If it is not, there will be some deltas. If there is something that they want, they might want their own missile integrated into an aircraft, that type of thing, then those are further deltas. But we have a baseline in terms of the cost of the item.

Senator AYOTTE. So if they want their own missile incorporated into an aircraft or some other piece of technology and yet that is not what we want, we would actually still, though—we would be the ones trying to negotiate the best price for that delta as well. Correct?

Mr. STACKLEY. If it is being done over here. We do a pricing check in terms of pricing as provided by industry.

Senator AYOTTE. It is hard for me to get my head around.

Dr. LAPLANTE. I think you are asking good questions about exactly what the——

Senator AYOTTE. We are in a scarce resource environment, and so I want to understand where is the best use of our resources. You know, our number one job is to protect U.S. taxpayers. That is what I am trying to get at.

Dr. LAPLANTE. I think one thing. When I see companies going the FMS route versus direct military sale—they can do direct military sale—what they are usually getting for that is they are getting the Government expertise, the Government-furnished equipment. For example, if the Government buys a radar that would be put on it, they are getting the Government's benefits. Right? What comes with air worthiness, sometimes when you are buying an airplane, you want to make sure that the U.S. Air Force, U.S. Navy have certified it for air worthiness. So they are getting these kind of—think of them as Government services. But what they also get with that is all the joy of contracting with the U.S. Government as well. The contracting officers, who are trained to do their job as contracting officers for a fair and reasonable price for using things—and so that is the dilemma that you are seeing here.

If it was a direct military sale, then the Government is not involved. Once the Government gets involved, then we have to do all the things that the contracting officers are trained to do. I think that is what you are getting at.

Senator AYOTTE. Yes. I think it is worth considering whether every step needs to be followed through with the contractor. Like it would be a U.S. contractor versus—with taxpayer dollars a purchase here versus a purchase there.

I also wanted to ask about—New Hampshire has, of course, many small- and medium-sized defense suppliers who do some incredible work. Obviously, especially on our small- and medium-suppliers, the sequestration effect is even greater because they cannot

necessarily reallocate in a way because they are a small supplier. Many of them, unfortunately, I think are going out of business.

So I wanted to get your perspective as we look at the impact on small suppliers. Have you had a situation with where we are in the fiscal climate toward having to go toward more sole suppliers or foreign suppliers for critical components?

Ms. SHYU. I will talk about that one. We do look at the industrial base and not just on the first tier. We look at the impact on the second tier and potentially the third tier as well because the first tier guys will tell us our production rate has gone down to half of what it used to be and here is the impact that I am worried about to small businesses.

So we have had multiple workarounds. For example, one program that we had had a supplier that builds transmissions that was really going bankrupt. So what happened, the prime actually floated money financially to help this company to keep going until they could get a buyer. So that is one example of what happened.

In another situation we had, we worked with another company that built a very unique product for the Army. But we already have a 7-year supply of that product. So we got lots of inventory just sitting on the shelf. We do not need to buy more. But we told the small company, hey, you got to diversify. You cannot have one egg in this basket. Right? That is very risky. So over a period of 2 years, this particular supplier went from 90 percent dependent upon the Army down to 50 percent because that person diversified into the commercial space.

So those are a couple of real-life examples that we have experienced the last couple years.

I will say one third thing to give you one other example. So when we have had congressional plus-ups, what we have done, as an example, is look at the second tier, what is also potentially vulnerable, and taken some of the congressional plus-up money to fund the second tier to make sure that we have the base at a minimal, sustainable rate.

Dr. LAPLANTE. I think there is a tactical like near-term aspect to this and then there is the strategic. The tactical near-term is a focused effort all the time in every program to see are you maximizing opportunities for small business.

Senator, you mentioned New Hampshire. One thing you learn about small business—they say all politics is local. All small businesses—it is kind of a local thing. In other words, the small businesses that we have around Hanscom Air Force Base up in New England tend to be the type that work on command and control applications because that is what we do up there. Contrast that with Maxwell where we have a lot of information technology (IT) small businesses. What we are finding is doing a lot of regional roundtables with small business to customize and open up opportunities for them is the way to go as opposed to a wide sweep. Our small business numbers are up, but it takes a lot of work.

The strategic comment I would make is I think this is why open and modular systems are really important. I really want to make sure people understand that. As we build our platforms with open and modular systems where the standards are open standards, then there is no reason that small business should not be a compet-

itor for a sensor, an algorithm, as we refresh them every 1 to 2 years. That is the benefit of going to open systems as opposed to a prime where the system is closed, which is traditionally the way we do it. We need to get small business into the open system market is what I believe.

Mr. STACKLEY. I would simply add that the comments that Secretary Shyu made regarding what happens with regard to cash flow and how we have to fill in the cash flow when we have delays for a continuing resolution or in the case of sequestration, things of that nature, working either directly through use of things like advanced procurement, which we get in our contracts, or with a large defense contractor.

However, what I have found is small businesses are not on the radar screen for most of our Program Managers. So what we need to do is put it on the radar screen. So each program has a Deputy Program Manager, and so each Deputy Program Manager in the Department of the Navy has been assigned a responsibility to be the small business advocate for all things associated with his program. So to have a watch on the health of his second tier, lower tier small businesses that are directly affected when we have ebb and flow in terms of cash on a program and also when we change our production rates or if we are going to shut down production and go into a sustainment mode to understand not just your prime, not just your major subcontractors, but what is happening down at that small business level because quite often they are not just unique. Quite often they are the sole source. In fact, your question, have you seen vendors go out of business, the answer is yes, we have. We have had to go offshore as a result because the manufacturer in the United States was "one of" and we have had to go offshore to replace that company.

Senator AYOTTE. Excellent.

Before I conclude the hearing, is there anything that, as we look at this markup and trying to improve our ability to perform with the dollars we have—and, you know, we talked about this, but anything that you feel like we did not ask you that you want to make sure that we are focusing on?

Dr. LAPLANTE. I think one specific thing is the Defense Acquisition Workforce Development Fund (DAWDF) for the acquisition workforce has been very, very useful for us. All of us are suffering from when the acquisition workforce was decimated in the 1990s. With the DAWDF and other tools, we have gotten the workforce back up from levels to kind of almost where it needs to be. So that is really important for us to continue to do that. So I would just call that out.

Thank you.

Mr. STACKLEY. I am going to pound that point. You asked about failures, what have we learned from certain failures. This dates back to WSARA in the 2008–2009 timeframe. One of the more noted failures in the Department of the Navy was the Littoral Combat Ship (LCS) program and how it got out of the starting blocks. One of the things that came out of that was the lack of oversight on that program, right down to the deck plates. So you trace that. Well, what drove that? Well, the fact was that the ac-

quisition workforce had been drawn down in terms of size to the extent that we were stretched too thin.

So in terms of the Department of the Navy, setting out a strategic plan for the size and shape of its workforce and Congress—you know, basically putting the weight of Congress behind that as reflected in WSARA and the Defense Acquisition Workforce Development Fund, we have, in fact, modestly restored our workforce to where we believe it needs to be in order to support our programs going forward. That is under threat today because of the budget picture.

So here we are today talking about what we have done to improve and the criticality of the acquisition workforce. Today that exact acquisition workforce is under the gun in this budget environment and threatens to go back to where it was pre WSARA. So that is a concern for us. You have provided incredible support in this regard in the past, and we look forward to that continued support.

Ms. SHYU. So I absolutely concur with my colleagues, protecting the acquisition workforce, because I see a bimodal distribution in our workforce. We are going to have a lot of senior folks that are going to be retiring in the next 5 years, and then we will get into even deeper trouble because we do not have a skilled workforce. Right now there is significant pressure in reducing the civilian workforce because the force structure is coming down. So I have a significant concern on that side.

The other piece is I will say WSARA provided the sound system engineering. What we do need to understand is what happens is the interpretation of the law from this side of the Hill to the other side of the Hill—what happens? We reinterpret the meaning of the language and it becomes much more onerous. So if there is anything that you guys take away, allow us to do tailoring to expedite, to enable our agility.

Thank you.

Senator AYOTTE. Thank you.

Well, thank you all. I appreciate everything are doing, and we look forward to working with you. Thanks for your important focus on this issue. Thank you.

[Whereupon, at 4:12 p.m., the subcommittee adjourned.]

[Questions for the record with answers supplied follow:]

QUESTIONS SUBMITTED BY SENATOR KELLY AYOTTE

ATTRACTING TALENT TO DEFENSE

1. Senator AYOTTE. Secretary Shyu, Secretary Stackley, and Secretary LaPlante, as you know, the sophistication and pace of development of foreign and commercial technology have increased in recent years. Much of the innovation taking place today is coming from commercial firms that do not do business with the Department of Defense (DOD) because they believe the barriers and impediments to quick innovation are too burdensome. In contrast, DOD's acquisition processes tend to be much less innovative, more inflexible, and too slow to deliver new capabilities when needed. Do you have any ideas on how to tap the talent and innovative spirit of nontraditional suppliers (like some in Silicon Valley) to reinvigorate our military technology base?

Ms.SHYU. The Army is committed to attracting and harnessing innovative solutions and capabilities for Soldiers. This priority must always be balanced with other goals of the defense acquisition system that impact its responsiveness and speed,

such as the need for proper oversight of taxpayer resources, fairness, and transparency.

Notwithstanding these considerations, the Army is taking deliberate steps to ensure that it has access to commercial innovation needed to maintain dominant warfighting capabilities. For instance, the Army uses innovative contracting methods and partnerships to access non-traditional suppliers in support of needed capabilities in several warfighting areas, like munitions and cyber security. Other Transaction Authorities (OTA), industry consortia, and Cooperative Research and Development Agreements enable DOD and the Army to more quickly access companies that provide commercial technologies of interest and incentivize them to do business with DOD.

For example, Army Science and Technology uses the Ground Vehicle System (GVS) OTA to focus on vehicle and robotics technology research, development, test and evaluation projects. The GVS OTA mechanism facilitates collaboration and innovative technology development with industry, academia, and other Services and allows us to leverage Industry Research and Development Funding. The OTA mechanism allows a wider base of industry and academia partners to develop more rapid responses to DOD Warfighter requirements. Specifically, the Army is using this OTA for our Modular Active Protection Systems and Combat Vehicle Prototyping programs, among other efforts.

The Army is also utilizing cooperative research and development agreements (CRADAs) as a technology transfer mechanism to promote industry and academia collaboration with the U.S. Army Research Laboratory (ARL). ARL currently has 72 active CRADAs with industry. Collaborative alliances and the Army Open Campus Initiative are additional mechanisms used by the Army science and technology community to foster collaboration with academia, small business, industry, and other Government agencies.

Moreover, the Army continues to rely on innovative companies, such as Silicon Valley firms. For example, the Army Research Laboratory is collaborating with the Palo Alto Research Center on the development of high power deep ultraviolet lasers. Additionally, the Army is pursuing CRADAs with both HP and WindRiver (part of Intel) to explore how to use software defined networking (allowing usage across large bandwidth) in the dynamic tactical environment that the Army faces. In another example, the Army is working with Cisco in the experimentation and testing of cyber capabilities.

To increase partnership between the department and technology leaders, the Secretary of Defense announced the creation of the department's first permanent office in Silicon Valley as well as a plan to provide venture capital to tap into developing technology for use across the Army and DOD.

Mr. STACKLEY. The DON, through the Office of Naval Research, has effectively used Broad Agency Announcements for research topics to encourage small and large companies to share and develop their ideas and new or improved technologies. For small businesses, the DON has effectively used the Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) program to encourage small businesses to share and develop their new or improved technologies. To encourage small business participation in our programs, the DON has assigned each Deputy Program Manager the responsibility to be the small business advocate for all things associated with the program.

Dr. LAPLANTE. The Air Force and DOD must continuously strive to increase access to and collaboration with nontraditional suppliers. Expanding and encouraging the use of Other Transaction Authorities, Cooperative Research and Development Agreements, Open Challenges, and Small Business programs are flexible and potentially faster processes to tap the innovative talent of nontraditional vendors. The Air Force is always on the lookout to find the leading edge technologies often found in nontraditional vendors. We recently partnered with nontraditional defense companies, Applied Minds and Stottler Henke Associates, to develop innovative space operations solutions, building an immersive visualization environment tool and using artificial intelligence to aid satellite communications. It's true, our capability development paradigm is inadequate. To the extent that our current policies and regulations can be modified to change the paradigm from large, complex programs rife with crippling interdependencies to programs with simple, severable components, open architectures, and more distributed participation, we will enact those changes.

2. Senator AYOTTE. Secretary Shyu, Secretary Stackley, and Secretary LaPlante, please describe any steps you believe are necessary to eliminate the barriers and impediments for greater participation by nontraditional suppliers to provide new and advanced technologies for weapon systems.

Ms. SHYU. The Army is working with the Office of the Secretary of Defense to increase participation by nontraditional suppliers. First, the Army is utilizing consortium arrangements and other transaction authorities to acquire new capabilities. These arrangements allow the Government easier access to vendors that provide emerging commercial innovation, but may not be experienced in working with the Government.

Second, as part of the Department's Better Buying Power initiative, the Army is currently participating in Department-wide efforts to identify barriers to the adoption and use of commercial technology for military systems. This study will facilitate recommendations to improve the incorporation of commercial off the shelf technology from nontraditional contractors. A related area of focus is designed to improve the process for technology insertion into our current weapon systems. This allows the Army to more quickly leverage commercial innovation as opposed to waiting until the overall system is modernized. Moreover, the Army is also investing in modular open systems architecture. Open architecture standards and modularity opens the market to more companies with cutting edge capabilities that may not traditionally compete for development of a full system.

Finally, to increase partnership between the department and technology leaders, the Secretary of Defense announced the creation of the department's first permanent office in Silicon Valley as well as a plan to provide venture capital to tap into developing technology for use across the Army and Department of Defense. The Army is looking forward to working through these new initiatives to leverage new technologies that make us faster and better connected. These steps are the first of many to improve our ability to adopt the cutting edge technologies that will enable our information dominance into the future.

Mr. STACKLEY. To encourage further opportunity and greater participation by nontraditional suppliers, the DON recommends that the Congress work with the Undersecretary of Defense for Acquisition, Technology and Logistics to identify and roll back legislation that has produced unnecessary, and redundant regulatory and reporting burdens on contractors. Additionally, a timely, predictable defense budget would improve both government and industry's ability to manage outlay risk and invest in R&D, facilities, and people.

Dr. LAPLANTE. Intellectual property concerns and burdensome acquisition processes often make doing business with the Air Force and DOD unattractive to nontraditional suppliers. There are policy and authority adjustments that can help to reduce and eliminate some of these barriers and impediments. For example, the Air Force is establishing a Small Business Innovation Research (SBIR) direct to Phase II pilot program to provide full and immediate research and development support to small businesses with mature technologies and concepts. This will reduce the number of associated low dollar, short duration Phase I contracts issued, expedite technology transition, and achieve a higher return on investment. In addition, the Air Force Research Laboratory Center for Rapid Innovation will use this new authority to establish a Strategic Innovation component of the SBIR program to generate innovative, game-changing concepts. Expanding and encouraging the use of Other Transaction Authorities, Cooperative Research and Development Agreements, Open Challenges, and Small Business programs are flexible and potentially faster processes to tap the innovative talent of nontraditional vendors.

COMBATTING TERRORISM TECHNICAL SUPPORT OFFICE

3. Senator AYOTTE. Secretary Shyu, Secretary Stackley, and Secretary LaPlante, are you familiar with the Combatting Terrorism Technical Support Office (CTTSO)? Have you examined what the CTTSO does to see if there are lessons that could be applied to your service's acquisition processes?

Ms. SHYU. Yes, the CTTSO provides a forum for interagency and international users to discuss mission requirements to combat terrorism, prioritize requirements, fund and manage solutions and deliver capabilities. The Army is actively involved in several CTTSO subgroups, to include Chemical, Biological, Radiological, Nuclear and Explosives; Explosive Ordnance Disposal; and Tactical Operations support. Through the sub-group work, the CTTSO can deliver capabilities to the community through rapid research, development, test, and evaluation. The Army's participation in CTTSO allows us to leverage this multi-disciplinary community to acquire and field capabilities to the Soldier. As an example, the Joint Program Executive Office for Chemical and Biological Defense (JPEO–CBD) collaborates with CTTSO to advance programs such as the Dismounted Reconnaissance Sets, Kits, and Outfits package, which allows Soldiers to perform dismounted assessment of weapons of mass destruction suspect areas not accessible by military vehicles. JPEO–CBD also collaborates with CTTSO on the Ebola Portal, an online bio-surveillance resource

consisting of collaborative tools, event watch-boards, disease monitoring, and geographic information for use during the Ebola outbreak in West Africa.

Mr. STACKLEY. The CTTSO uses an approach that is very similar to DON's existing use of Broad Agency Announcements (BAAs) through the Office of Naval Research (ONR). The DON, through ONR, has effectively used BAAs for a wide range of research topics to encourage small and large companies to share and develop their ideas and new or improved technologies. Additionally, for small businesses, the DON has effectively used the Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) program to encourage small business innovators to share and develop their new or improved technologies. To encourage small business participation in our programs, the DON has assigned each Deputy Program Manager the responsibility to be the small business advocate for all things associated with the program.

Dr. LAPLANTE. I am familiar with the Combating Terrorism Technical Support Office; however, I have not specifically examined their approach to acquisition. I will work with the Assistant Secretary of Defense for Special Operations and Low-Intensity Conflict to determine if there are any lessons learned or processes that can be applied to US Air Force acquisitions.

WARTIME ACQUISITION WORK-AROUNDS

4. Senator AYOTTE. Secretary Shyu, during the early years of the Iraq and Afghanistan wars, difficulty was encountered in getting the deployed units specifically-needed equipment due to lengthy and complicated acquisition processes. As a result, the Army implemented several rapid acquisition programs to help mitigate required equipment delays to our warriors in harm's way. Such programs, like the Rapid Equipping Force (REF) and the Soldier Enhancement Program (SEP), have been highly successful with equipment procurement to the field in a timeframe as short as 90 days. What can we learn from the success of these rapid acquisition programs to improve more traditional service acquisition processes?

Ms. SHYU. Rapid acquisition processes are highly effective in providing deployed units with warfighting capabilities on an urgent basis under certain conditions. Our experience confirms that these processes work best where the requirement calls for low-risk, available technologies, where minimal development or integration is required to field these capabilities to Soldiers, and where the acquisition supports a small scale deployment of Soldiers with a focused mission, as opposed to fielding equipment to the entire Army. Under these conditions, the Army's rapid acquisition processes can be extremely effective. Accordingly, REF requirements development will continue under the authority of the Training and Doctrine Command. PEO Soldier will execute REF acquisition functions, which will maintain the REF's responsive speed while ensuring appropriate oversight of REF efforts.

5. Senator AYOTTE. Secretary Shyu, does the Army plan to retain these rapid acquisition programs in the coming years? Why or why not?

Ms. SHYU. The Soldier Enhancement Program (SEP) has been in place since 1989. So as long as Soldiers and Combat Developers continue to identify commercial or non-developmental items for potential Soldier use, SEP will continue to provide an important function in the Army's equipping efforts. The Army has also decided that the Rapid Equipping Force (REF) capabilities must continue as an enduring process. Accordingly, REF requirements development will continue under the authority of the Training and Doctrine Command. This maintains a wartime capability for rapid response by providing resources for unique or emerging requirements through REF "10–Liner" requests while helping to identify potential enduring capabilities. PEO Soldier will execute REF acquisition functions, which will maintain the REF's responsive speed while ensuring appropriate oversight of REF efforts.

AUDIT/OVERSIGHT BALANCE

6. Senator AYOTTE. Secretary Stackley, your testimony states: "The penalty for too much oversight is ever-increasing costs and impediments to execution that have no ceiling. The penalty for too little oversight is the costs and risks of rework for unforced errors." How do we achieve the right oversight balance? How do we avoid erecting unnecessary "impediments to execution" and also avoid "unforced errors"? How can the audit and oversight processes be organized so that we have neither too little nor too much oversight?

Mr. STACKLEY. Oversight and governance requirements have added multiple layers of prescriptive processes, authoritative organizations, and extensive reporting and documentation requirements. The DON rewrote its acquisition governance process, commonly referred to as the Gate Review process, to ensure there is no gap be-

tween the Requirements and Acquisition organizations so that the DON understands the relationship between requirements, technical feasibility, and cost. The process requires the Navy/Marine Corps operational requirements leadership and acquisition leadership to agree, and repeatedly affirm that agreement throughout the development, acquisition, and sustainment of a system. The DON uses Gate Reviews to eliminate any misalignment between requirements and acquisition early in a program, and to check alignment regularly; and, to keep control over requirements as well as the cost and schedule to meet those requirements.

Each 'gate' is co-chaired by the Service Chief or senior military requirements officer and the Service Acquisition Executive (SAE). In all there are six gates, with the first three chaired by the Service Chief (co-chaired by the SAE) and ensure warfighter requirements are well understood and can be translated into technical requirements that the acquisition community can affordably achieve in the commercial or defense marketplace. The last three gates are chaired by the SAE (co-chaired by the senior military requirements officer) and ensure the technical specification, statement of work, and Request for Proposal have accurately translated the warfighter's requirements into an acquisition approach that is executable, affordable, and agreeable across acquisition and requirements leadership. The DON is confident that this Gate Review process provides the right balance of oversight.

The DON recommends that that the Congress work with USD(AT&L) in the current effort to identify and roll back legislation that has produced unnecessary and redundant regulatory and reporting burdens on Program Managers which have the effect of thwarting the steady application of these fundamentals.

ROLE OF THE OFFICE OF THE SECRETARY OF DEFENSE

7. Senator AYOTTE. Secretary Shyu, Secretary Stackley, and Secretary LaPlante, there have been concerns raised about defense acquisition that there is a lot of duplicative oversight within Office of the Secretary of Defense and the services. The process is said to be providing very little insight or help to program managers and has evolved into a series of burdensome and time-consuming boxes to check on the way to actually buying something. What should the proper role and division of responsibility be between the military service chiefs and secretaries, the Office of the Secretary of Defense, and defense agencies and entities charged with overseeing acquisition programs?

Ms. SHYU. OSD oversight provides significant expertise and independent evaluation on the Department's major programs. Importantly, USD(AT&L) interfaces on behalf of the Army's major programs with OSD Cost Analysis and Program Evaluation and the Director, Operational Test and Evaluation. This relationship supports our efforts to successfully guide critical programs through the test and evaluation process and ensures that cost estimates are accurate and realistic at program initiation. Additionally, OSD plays an important role in adjudicating cross-Service issues on joint programs. This independent and external perspective ensures that the Department maximizes its limited resources across *all* three Services.

The Service Chiefs possess significant operational insight and expertise that benefits the Army's equipping efforts. As representatives of the Warfighters' needs, the Service Chiefs have a critical role to play in validating and prioritizing requirements. This role is especially important during times of decreased budgets, such as now, when the Department must make the right investment decisions with limited resources. However, there are no additional authorities necessary in order for the Chiefs to continue to execute this valuable role in the acquisition process.

Mr. STACKLEY. The Service Chief sets requirements and allocates the necessary resources to meet these requirements. It is the role and responsibility of the acquisition system to meet these requirements. As such, the DON's experience is that the greater role/involvement by the Service Chief in the acquisition process, the greater likelihood of successfully meeting the requirements within the resources provided. The DON's Gate Review process strives to achieve total alignment between requirements, resources, and acquisition by establishing shared responsibility for oversight and decision-making via a structured milestone process co-chaired by the CNO or CNO representative and the Assistant Secretary of the Navy (RD&A).

Separately, USD(AT&L) and his OSD staff have an oversight role that is important for program management and they add value in that role. The Military Services are best suited to manage programs and the day to day business of the programs under their cognizance while allowing OSD insights and abilities to check the program as it proceeds.

Dr. LAPLANTE. The Better Buying Power 3.0 "Emphasize acquisition chain of command responsibility, authority and accountability" initiative is driving an analysis of the important, but supporting role, of staff oversight in the Office of the Secretary

of Defense (OSD) and Services. The Office of the Under Secretary of Defense (Acquisition, Technology & Logistics) (OUSD(AT&L)) is conducting a review of the accountability and responsibility of individuals within OSD. The review is identifying all the touch points an acquisition document experiences enroute to the Milestone Decision Authority (MDA) for approval. The review is considering the accountability of the reviewers and the contribution that these reviews provide in order to identify potential streamlining to the current review process and emphasize Program Manager (PM), Program Executive Officer (PEO), and Component Acquisition Executive (CAE) authority.

Additionally, the Air Force is conducting a similar review of the accountability and responsibility of all individuals throughout the Air Force who review acquisition documents prepared for MDA or OSD approval. The Service leadership is considering the accountability of the reviewers and the contribution these reviews provide in order to identify potential streamlining to the current process and emphasize PM, PEO, and CAE authority.

Once these reviews are accomplished, the proper role and division of responsibility between the military service chiefs and secretaries, OSD, and defense agencies charged with overseeing acquisition programs should be apparent and enable a clear picture of any needed changes in responsibilities.

8. Senator AYOTTE. Secretary Shyu, Secretary Stackley, and Secretary LaPlante, are you in favor of giving the service chiefs an increased decision making role in the acquisition process? If so, how would you structure that role so that it complements, not competes, with the Service Acquisition Executive?

Ms. SHYU. Under the current system, the Service chiefs hold no formal role within the acquisition process, but still exercise significant authority over the formulation of Service requirements and the allocation of funding necessary to successfully develop and field programs. Achievable and affordable requirements, as well as stable and predictable funding, are crucial to program success. The operational experience and leadership of Service Chiefs are invaluable to generating and stabilizing achievable requirements and protecting the resources necessary to achieve these capabilities. Additionally, the Service Chiefs are ideally positioned to make the larger strategic decisions to balance the overall readiness requirements of the current force with the resources necessary to modernize equipment for the future force. In addition, the Service Chiefs can play a greater role in promoting the qualifications, expertise and capability of the acquisition workforce, comprised of both military and civilian acquisition professionals. The Service Chiefs can execute these critical roles without modification to existing authorities with maximum effect on acquisition outcomes.

I do not believe that Service Chiefs require greater decision-making authority regarding acquisition decisions, including such areas as technical risks, development schedules, industrial base considerations or production readiness. These areas, which are typically addressed in formal acquisition decisions, would not benefit from greater involvement by Service Chiefs. The Service Chiefs do not typically have the technical expertise or industry experience to make such decisions. Rather, we should leverage the significant operational expertise of the Service Chiefs to define and stabilize realistic requirements and resources to execute our acquisition efforts.

Mr. STACKLEY. The Service Chief sets requirements and allocates the necessary resources to meet these requirements. It is the role and responsibility of the acquisition system to meet these requirements. As such, the DON's experience is that the greater role/involvement by the Service Chief in the acquisition process, the greater likelihood of successfully meeting the requirements within the resources provided. The DON's Gate Review process strives to achieve total alignment between requirements, resources, and acquisition by establishing shared responsibility for oversight and decision-making via a structured milestone process co-chaired by the CNO or CNO representative and the Assistant Secretary of the Navy (RD&A).

Separately, USD(AT&L) and his OSD staff have an oversight role that is important for program management and they add value in that role. The Military Services are best suited to manage programs and the day to day business of the programs under their cognizance while allowing OSD insights and abilities to check the program as it proceeds.

Dr. LAPLANTE. The Chief of Staff of the Air Force's (CSAF) current role in Air Force acquisition is appropriate. Existing policies and processes for planning and executing acquisition programs provide multiple opportunities for the Service Chiefs to complement and be involved in acquisition to vector programs towards meeting cost, schedule, and performance targets. Regular interactions between the CSAF and the Service Acquisition Executive (SAE) today are effective and sufficient in providing feedback to the Acquisition community and vectoring based on USAF pri-

orities. These interactions provide the CSAF insight into how acquisition strategies and solutions are meeting the requirements of the operational forces. This insight also improves the CSAF's ability to attest to requirements affordability and reduce program requirements, allowing for the potential to improve program cost or schedule in a manner consistent with desired operational capability.

In the USAF, the Secretary and the CSAF are ultimately accountable for the USAF Acquisition process and outcomes. They have delegated specific responsibilities to key leaders, and hold them accountable for their outcomes, assuring that the requirements, acquisition, and budget processes are clearly defined and include integrated reviews that enable cohesive coordination across all areas. For example, USAF Review Boards (AFRBs), Acquisition Strategy Panels (ASPs), Air Force Requirements Oversight Council (AFROCs), and Configuration Steering Boards (CSBs), provide oversight forums with representation from the requirements, acquisition, and budget communities.

In addition, CSAF holds regular meetings with the SAE, most notably Quarterly Acquisition Program Reviews (QAPR) and Key Acquisition Program updates. These engagements afford the CSAF opportunities to advise the SAE on important matters where warfighting requirements and priorities associated with capability gaps have the potential to affect acquisition strategies and other acquisition efforts. The CSAF's involvement in the acquisition process is critical in order to ensure military needs are met.

ACQUISITION WORKFORCE

9. Senator AYOTTE. Secretary Shyu, Secretary Stackley, and Secretary LaPlante, what are the biggest challenges your service faces in improving the professionalism of the acquisition workforce; in particular those supporting the acquisition of major weapon systems? Are there certain skills that you believe need more emphasis than others such as program management, contracting, or engineering?

Ms. SHYU. Over 50 percent of the Army Acquisition Workforce (AAW) will be eligible to retire within 10 years. Combined with an average annual attrition rate of approximately 8 percent, the Army is quickly losing invaluable institutional knowledge and demonstrated acquisition skills. Additionally, since 2012, we have experienced a relative slowdown in overall hiring, particularly in the hiring of college graduates, due to budgetary and manpower constraints. We currently average less than 100 new graduate hires per year under the age of 26. This means that we risk losing an opportunity for the future workforce to be coached and mentored by those with the greatest depth and breadth of experience.

Within this context, we must remain focused on recruiting, developing, and retaining individuals with critical acquisition skill sets in order to provide the Army essential capabilities for continued success. The Army must ensure it has the appropriate depth and expertise within critical functional areas, to include software engineering, contracting, and systems engineering. To that end, the Defense Acquisition Workforce Development Fund provided under Section 852, USC 10, is a critical and necessary enabler to maintain a trained and professional workforce.

I am also working to strengthen our pipeline of future acquisition leaders by equipping them with the requisite capabilities and qualifications to assume positions of greater responsibility through investments in leader development and talent management. To this end, we have instituted a civilian talent management process benchmarked from industry to identify high performing/high potential talent early and provide them with varied experiences to develop breadth and depth to meet our future leader needs. We have also initiated work to establish stronger professional qualification requirements for all acquisition specialties. We are working to strengthen the technical proficiency of Program Managers responsible for managing Major Defense Acquisition Programs by incorporating technical criteria into our accessions and Central Selection Program Manager slating guidance. By developing competent and innovative future acquisition leaders, we will build capacity and capability for the Army enterprise.

Mr. STACKLEY. A major challenge the Navy faces is retaining our acquisition professionals after a considerable investment in their development. Sequestration, workforce reductions, pay and hiring freezes, pay systems (GS vs. pay for performance), and military turnover are all challenges facing the acquisition workforce. The Navy is focusing professional development efforts on critical technical and business skill sets in program management, contracting and engineering. The permanent continuation of the Defense Acquisition Workforce Development Fund (DAWDF) will be critical to our ability to stay the course and continue to develop a skilled and experienced acquisition corps. For example, the Navy has used DAWDF to hire 1,590 entry and associate level employees over the past five years in order to bring

in the right talent for the workforce of the future. To expand the workforce's professional education, the Navy established the "Understanding Government-Industry Relationship" course for current Program Managers and Deputy Program Managers and a Master of Science in Contract Management curriculum for the Contracting career field. In the engineering realm, the Navy utilizes the Master's degree programs at numerous universities across the nation. The Acquisition Demonstration Project is helpful in hiring, training, and retention. It also provides flexibility to move personnel to support the most critical areas. Therefore, to remove the challenge of the current pay systems, the Navy supports making the Acquisition Demonstration Project permanent.

Maintaining the right level of workload for the Navy Laboratory and Warfare Centers is also a challenge that the Navy continues to carefully manage and is directly tied consistently maintaining the workforce with the right skills. The ability to transform military requirements into material solutions comes from education and hands-on experience. Providing the right job experiences to transform journeymen into experts is critical in maintaining a technological edge. The future weapon systems are being developed today and the acquisition workforce that has hands-on experience and insight will ensure competence and integrity of the Defense acquisition system but only if the pipeline of experience can be maintained through budget uncertainties.

Lastly, acquiring the current expertise that resides in industry has been a challenge and could be addressed with a one year personnel exchange agreement pilot program. The exchange would allow the Navy to benefit from the knowledge of industry innovation, business streamlining and understanding of industry challenges.

Dr. LAPLANTE. Within our acquisition workforce framework, we consider the examples you listed, program management, contracting and engineering, to be broad functional areas that require the development of people with specific sets of skills and competencies related to that function. The elements of the acquisition process being performed at a point in time, based on the phase and needs of the specific program, drive requirements for personnel with specific skills and expertise within a functional area.

While program management, contracting and engineering represent the largest portions of the workload required to execute Government responsibilities for a major weapon system program, we also can't neglect the expertise the Program Manager requires from acquisition professionals specialized in financial management, information technology, production and manufacturing management, quality assurance, life cycle logistics/product support management, cost estimating and test and evaluation. Each of these functional areas requires its own set of skills and competencies which must be developed by appropriate education, technical training and years of experience.

To have the pool of people required to match people to positions within our program offices, the Air Force deliberately develops military and civilian acquisition professionals according to well defined career path models which serve as a guide for professional experience opportunities, education, and training. These career models provide ample opportunity and experience for acquisition professionals at all ranks, and provide a defined path to greater rank and responsibility within the acquisition workforce. The development of acquisition workforce members is enhanced by the use of Career Field Development Teams consisting of senior leaders from within each Career Field. Using published career path models as a guide, the Development Teams provide tailored developmental guidance to individuals based on their past record of training, education and experiences.

We have used the Defense Acquisition Workforce Development Fund (DAWDF) established by Congress (10 USC § 1705) to address professional currency needs and gaps in acquisition technical training, developing application skill courses at the Air Force Institute of Technology that complement and build on the foundational certification training provided by Defense Acquisition University. Examples include courses in Cost Estimating, Test and Evaluation, Developmental Planning, Human Systems Integration, Technical and Manufacturing Readiness, as well as project management and business acumen. DAWDF has also enabled us to build a robust Tuition Assistance program for acquisition professionals, enabling them to further their education in acquisition-related fields—a tool for increasing professionalism as well as retention.

I believe there are certain skills we need to emphasize across *all* of the acquisition functional areas to help our people apply their acquisition technical training more effectively. These include critical thinking, business acumen, and understanding industry perspective. We have been using the Defense Acquisition Workforce Development Fund to develop and improve training in these areas, and continue to work closely with OSD(AT&L) and Defense Acquisition University on courses addressing

these needs. Our talent management and force development programs are designed to ensure personnel exercise what they learn from formal training as they progress through varying assignments of increasing responsibility over the course of their acquisition careers.

APPROACH TO COST OVERRUNS

10. Senator AYOTTE. Secretary Shyu, Secretary Stackley, and Secretary LaPlante, Department of Defense weapons systems have often been plagued by huge cost overruns, schedule slippages, and performance shortfalls. In response to problems like this, recent acquisition reform efforts have been focused on not moving forward on a program until there are realistic cost estimates, mature technology, and stable requirements and budgets. Does this approach force more programs to be incremental in their acquisition approach? If so, what about cases where there is a pressing need for revolutionary innovation? How should these efforts be managed and funded?

Ms. SHYU. Historically, defense acquisition reform efforts have focused on adding oversight to ensure that cost overruns or schedule delays experienced by programs do not recur in future efforts. However, these additional layers of oversight turn into larger bureaucratic hurdles that Program Managers must leap, expending resources and adding time to successfully achieve milestone decisions. The recent language put forth by the HASC and Chairman Thornberry attempts to streamline the process by reducing redundant and overly-bureaucratic documentation requirements while maintaining a broad focus on risk reduction. These provisions incentivize the Department to instead focus efforts on reducing technological risk, building realistic cost estimates, and stabilizing funding.

This approach does not force programs to be incremental, but allows program managers more flexibility to utilize an incremental approach where appropriate. Incremental acquisition can increase competition and thereby reduce overall costs for programs. By employing a modular, open architecture approach, the Department can take advantage of rapid technological development in private industry more quickly, rather than waiting for entire systems to be modernized over several years.

By incentivizing program managers to tailor their acquisition approach and focus their efforts on reducing programmatic and technical risk, the Department can more quickly leverage technological breakthroughs in industry and incorporate these advancements into our weapon systems.

Mr. STACKLEY. The DON designed its acquisition process, commonly referred to as the Navy Gate Review process, to ensure there is no gap between the Requirements and Acquisition organizations so that the Navy understands the relationship between requirements, technical feasibility, and cost. The process requires the Navy/Marine Corps operational requirements leadership and acquisition leadership to agree, and repeatedly affirm that the agreement throughout the development, acquisition, and sustainment of a system. The DON uses Gate Reviews to eliminate any misalignment between requirements and acquisition early in a program, and to check alignment regularly.

This process provides governance and oversight, and ensures adherence to the DON's basic principles to get the requirements right, perform to a stable plan, make every dollar count, rely on an experienced acquisition workforce, and foster a healthy industrial base. Performing to a stable plan (stable requirements, designs and budgets) translates into predictable, reliable performance, unit cost reduction, improved material purchasing and workforce planning, retention of skilled labor and the ability for industry to invest in facility improvements, all resulting in more efficient production and a more affordable program. While proceeding with a stable plan is the preferred approach for an affordable program, the Gate Review process is designed to ensure the warfighter requirements are well understood, including technical feasibility with associated levels of technical and cost risk where there is a pressing need to proceed in advance of a stable design for a capability.

Separately the Department has access to rapid acquisition processes. The DON has assigned a Deputy Assistant Secretary of the Navy (Research, Development, Test and Evaluation) to explore methods and opportunities to effectively expand upon existing processes and improve our responsiveness to urgent needs.

Dr. LAPLANTE. Yes. Depending on the urgency of need for specific validated weapon system requirements, anticipated technological maturity and full funding support, the incremental acquisition approach reduces program risk and may be more appropriate. In order to have higher confidence in cost and schedule estimates, we need to ensure we use mature technology. Sometimes technology is not mature enough to deliver all warfighter capability requirements in a single increment. Therefore, it makes more sense to breakup programs into increments to take advantage of mature technology while maturing technology in parallel for incorporation

into future increments to meet the full-up capability requirements. Using the incremental approach allows us to have higher confidence in our cost and schedule estimates because we have a better understanding of the technology and technical risks.

In addition, the 2014 Air Force Strategy highlights the foundational principles of Strategic Agility and Adaptability, which places emphasis on fielding systems more rapidly and building resilient systems that are inherently resistant to predictive failure. Hallmarks of agility/adaptability include modular systems, the use of block upgrade approaches to system fielding, and the use of open system architecture designs. These techniques help to shorten development cycle times, allowing for increased performance beyond legacy systems with the rapidly fielded "A-model" design of the system. Such systems are designed for later modular upgrades/enhancements (block upgrades) to the initial baseline design. Additionally, reevaluating technology that can be infused into systems and address the threats which systems are designed to face is prudent throughout the system's lifecycle and allows several on-ramps for new technology and off-ramps for obsolete, or ineffective, programs.

That being said, the DOD acquisition system does provide for cases where there is a pressing need for revolutionary innovation. The revised DODI 5000.02, Operation of the Defense Acquisition System, presents several tailored acquisition processes, which allow multiple paths for the services to rapidly field capabilities incorporating new technologies. These efforts should take advantage of the flexibility allowed per DODI 5000.02 to get the capability to the warfighter as soon as possible while considering long-range sustainment considerations to ensure the system is sustainable in a cost-effective manner.

Finally, under the Joint Urgent Operational Need (JUON) and emerging needs processes, there is a formal Warfighter Senior Integration Group (SIG) to identify urgent issues and a Secretary of Defense Rapid Acquisition Authority (RAA) Determination to rapidly field systems.

LOWEST PRICE TECHNICALLY ACCEPTABLE CONTRACTS

11. Senator AYOTTE. Secretary Shyu, Secretary Stackley, and Secretary LaPlante, There has been a recent trend to buy more products through Lowest Price Technically Acceptable (LPTA) and reverse auction acquisition methods. I have become aware of cases where these methods have even been used for the development of personal protective equipment where safety and quality are critical and the failure of the item could result in combat casualties.

Our troops who put their lives on the line for our freedom and security should not be sent into harm's way with the cheapest equipment—they should go with the best equipment. In combat, as well as in training, quality personal protective equipment can prevent serious injuries and even be the difference between life and death for our service members.

My understanding is that the Army utilized LPTA and Reverse Auction procedures to award contracts for the lighter, next generation combat helmet. For the past year and a half, the Army has been unable to procure these combat helmets because none of the companies that were awarded contracts have been able to pass ballistic requirements while meeting the pricing that is a direct result of the LPTA bidding process. This has resulted in a new-helmet production delay, and currently the domestic helmet supply chain is struggling.

As the Department considers comprehensive defense acquisition reform, I continue to be concerned about the use of Lowest Price Technically Acceptable (LPTA) contracts for specialized gear.

In your opinion, when are LPTA and reverse auction methods appropriate and when are they not?

Ms. SHYU. When used in the appropriate circumstances, and combined with effective competition and proper contract type, LPTA and reverse auction methods can drive down costs without jeopardizing contract performance. These approaches are best suited to the procurement of commercial and non-complex services and supplies (commodities or commodity-like products that have well-defined specifications and universally accepted standards).

The LPTA source selection method is appropriate to apply when there are well-defined requirements, the risk of unsuccessful contract performance is minimal, where price is a significant factor in the source selection, and where there is neither value, need, nor willingness to pay for higher performance. When the Warfighter is willing to pay more for performance and may benefit from an innovative and technologically superior solution to meet mission needs, a tradeoff source selection process is more appropriate than LPTA.

Use of the LPTA source selection method does not relax contract quality assurance requirements or quality standards. Offerors are required to provide evidence

that their products meet the quality requirements set by the Government and identified in the solicitation. In the case of the Army Combat Helmet (ACH), the Defense Logistics Agency (DLA) awarded the initial contract in 2009 using the best-value tradeoff source selection process. Following the development of the initial ACH, DLA determined the requirements for the follow-on Light Weight ACH (LWACH) were well defined to support awarding a follow-on LPTA contract. The LWACH Performance Document included specific ballistic and non-ballistic requirements and test criteria to determine whether vendor's helmets met or exceeded the requirements. The technical evaluation portion of the LPTA analysis required submission and analysis of the ballistic test reports. To date, there are no new procurement actions, planned or in process, for the ACH or LWACH.

Reverse auctioning is a technique wherein multiple vendors compete to obtain business from the Army. The prices offered by the vendors will typically decrease as the sellers compete against one another, allowing the Army to obtain commercial goods and services at a lower price than might otherwise be obtained.

The Army is pursuing multiple initiatives to ensure contracting professionals are trained on the appropriate use of LPTA and reverse auctions. The Army Contracting Command (ACC), in conjunction with the Office of the Deputy Assistant Secretary of the Army (Procurement), will release an LPTA Quick Reference Guide and additional training to ensure contracting personnel across the Army enterprise understand how to appropriately use LPTA. Both the LPTA Guide and training materials are expected to be published in September 2015. Additionally, the ACC has established Source Selection Support Centers of Excellence, which consist of subject matter experts and practitioners who support the source selection process and facilitate development of source selection skills across the workforce. Senior acquisition professionals provide source selection training to their junior counterparts at these ACC centers. Training includes review of appropriate situations for use of LPTA, coaching and mentoring, and providing real-time review and assistance for planned and ongoing source selections.

The Army is also proactively working with defense policy officials to develop proposed Defense of Department Federal Acquisition Regulation Supplement language that will standardize application of reverse auction practices across the Department of Defense. Until this language is published, the Army continues to engage with contracting organizations to advise on the best use of reverse auction practices.

Mr. STACKLEY. Reverse auction methods are another tool in our acquisition toolbox. The use of Lowest Price Technically Acceptable (LPTA) is used in some cases for reverse auction acquisitions. Within the Navy, the Reverse Auction Program is led by the Naval Supply Command (NAVSUP). Navy utilizes reverse auctions primarily for service contracts that fall under the $150,000 simplified acquisition threshold. Approximately 80 percent of the awards made under the reverse auction program are awarded to small business. It has been our experience that using LPTA within the reverse auction program for service contracts is a great value to the Government, while encouraging and bolstering small business participation.

Dr. LAPLANTE. LPTA is the appropriate source selection process to apply only when there are well defined requirements, the risk of unsuccessful contract performance is minimal, price is a significant factor in the source selection, and there is neither value, need , nor willingness to pay for higher performance. Well-defined requirements equates to technical requirements and "technical acceptability" standards that are clearly understood by both industry and Government, are expressed in terms of performance objectives, measures, and standards that map to our requirement documents, and lend themselves to technical evaluation on an acceptable/unacceptable basis. LPTA is most appropriate when best value is expected to result from the selection of the technically acceptable proposal with the lowest evaluated price. LPTA has a clear, but limited place in the source selection "best value" continuum. Used in appropriate circumstances and combined with effective competition and proper contract type, LPTA can drive down costs and provide the best value solution. No single source selection process is right for every acquisition.

If we have tradable requirements, then we should pursue use of an appropriate tradeoff process and LPTA may not be an appropriate selection methodology. Whenever the Warfighter is willing to pay more for above threshold requirements or performance standards and might benefit from an innovative and technologically superior solution to meet their mission needs, a tradeoff source selection process between cost or price and non-cost factors is optimal. In these situations, the Department should share in advance with industry our technical requirements and communicate the monetary value of performance above the threshold or performance standards for evaluation purposes. Industry will understand the value proposition and can clearly propose to meet our needs with a cost-effective and innovative solution.

Use of Reverse Auction is appropriate when the specification can be clearly and accurately defined, when there is sufficient capacity in the market, and there are many qualified suppliers. Reverse Auction may be used for a broad range of requirements for both products and services and, used appropriately; Reverse Auction can stimulate competition and determine a market price. Successful Reverse Auction acquisitions focus on the market that exists rather than the product or service. Advance preparation is critical and thorough market research is essential to mitigate risks such as a failed market (no bidders), technology failure, collusion, and damage to supplier relationships. The Air Force must know its business.

While the Air Force utilizes Reverse Auction on a limited basis for commodities that have clear specifications and lowest price is the only determining factor for award, the majority of Air Force purchases require more complex methods of evaluation.

12. Senator AYOTTE. Secretary Shyu, Secretary Stackley, and Secretary LaPlante, please explain how the Department plans on moving away from LPTA and towards the use of Best Value contracting mechanisms, where such things as quality and past performance are considered when awarding a contract.

Ms. SHYU. When used in the proper circumstances, and combined with effective competition and proper contract type, the LPTA source selection method can offer a streamlined and simplified source selection approach to rapidly procure commercial and non-complex services and supplies while saving taxpayer dollars.

The LPTA source selection method is appropriate to apply when there are well-defined requirements, the risk of unsuccessful contract performance is minimal, where price is a significant factor in the source selection, and where there is neither value, need, nor willingness to pay for higher performance. When the Warfighter is willing to pay more for performance and may benefit from an innovative and technologically superior solution to meet mission needs, a tradeoff source selection process is more appropriate than LPTA.

The Army has undertaken several efforts to address concerns and continuously improve our use of the LPTA source selection method. First, the Army Contracting Command (ACC), in conjunction with the Office of the Deputy Assistant Secretary of the Army (Procurement), will release a Quick Reference Guide and additional training to ensure contracting personnel across the Army enterprise understand how to appropriately use LPTA. Both the LPTA Guide and training materials are expected to be published in September 2015. Additionally, the ACC has established Source Selection Support Centers of Excellence, which consist of subject matter experts and practitioners who support the source selection process and facilitate development of source selection skills across the workforce. Senior acquisition professionals provide source selection training to their junior counterparts at these ACC centers. Training includes review of appropriate situations for use of LPTA, coaching and mentoring, and providing real-time review and assistance for planned and ongoing source selections.

Mr. STACKLEY. The Lowest Price Technically Acceptable (LPTA) method is one of the tools in the Best Value Continuum, and when used in appropriate circumstances, combined with effective competition and proper contract type, can provide the best value solution. The first prerequisite to use of LPTA is a firm understanding of what constitutes "technically acceptable." The DON, in conjunction with Better Buying Power initiatives, continues refining the guidance for appropriate use of LPTA in the Best Value Continuum.

Dr. LAPLANTE. For those acquisitions where the Warfighter is willing to pay more for above threshold requirements or performance standards and will benefit from an innovative and technologically superior solution to meet their mission needs, a Lowest Priced Technically Acceptable (LPTA) methodology is not appropriate. LPTA has a clear, but limited place in the source selection "best value" continuum for commercial or non-complex services or supplies which are clearly and objectively defined. We will continue to scrutinize all source selection plans to assure LPTA is used only in the very limited circumstances under which it is appropriate.

QUESTIONS SUBMITTED BY SENATOR MIKE LEE

SUSTAINMENT

13. Senator AYOTTE. Secretary Shyu, Secretary Stackley, and Secretary LaPlante, the majority of a weapons system's cost is often not found in the initial development and procurement phases, but in the logistics and sustainment of such equipment throughout the duration of its service. This is especially important to consider as

the rapid development of technology outpaces the ability to develop and acquire new systems. Can each of you discuss how your respective branches are working to incorporate lifecycle concerns into the acquisitions process and how you are achieving efficiency and acquiring a better product through this coordination?

Ms. SHYU. The Army recognizes that sustainment represents a significant portion of a system's total lifecycle cost. Accordingly, the Army has taken steps to ensure that lifecycle factors are considered throughout the acquisition process.

First, the program manager is required to develop and update a sustainment strategy in a Life Cycle Sustainment Plan (LCSP) throughout the life of the system. The LCSP captures the robust analysis conducted to determine the optimum sustainment strategy, and is updated at each milestone. The sustainment strategy and LCSP are developed under the leadership of the program manager's Product Support Manager (PSM) who is an expert in integrating the sustainment strategy with the system design to achieve effectiveness and affordability. In addition, PSMs conduct analyses of product support alternatives to determine the optimal product support approach while considering cost and risk for each support alternative. These processes are designed to ensure that sustainment planning remains an important consideration throughout the program lifecycle.

Second, the Army conducts robust reviews at program milestones to address sustainment concerns on major systems. Examples of these reviews include the Integrated Product Support Review, which assesses the readiness and acceptability of the sustainment strategy prior to Milestone Decision Reviews, the Independent Logistics Assessment, where an expert, independent team assesses the thoroughness of the sustainment strategy and whether sufficient resources are available to execute the strategy, and a Sustainment Review that assesses actual execution of the sustainment strategy.

Third, the Assistant Secretary of the Army for Acquisition, Logistics and Technology and the Army Materiel Command Commanding General conduct quarterly Joint Acquisition and Sustainment Reviews. These meetings facilitate discussion among key leaders from the acquisition and sustainment communities and enable the frank and open debate of the Army's strategic materiel sustainment issues. Each of these efforts ensures that lifecycle sustainment considerations are incorporated in program development to achieve better efficiency and acquire better products.

Mr. STACKLEY. DON's Program Managers address basic principles to get the requirement right, perform to a stable plan, and make every dollar count at each Gate Review wherever they are in their program's life cycle so that sustainment and its associated costs are no longer an afterthought. The DON Gate Review process was designed to ensure there is no gap between requirements and acquisition organizations, and that cost and affordability are managed with the same discipline and rigor as traditional performance requirements.

DON acquisitions emphasize stable designs as well as modularity and open architecture to reduce cost, extend service life, and increase acquisition agility, including a focus on operating and support (O&S) cost early in design. Earlier engagement on O&S and disposal costs enables Program Managers to more fully evaluate system affordability and possible trade space leading to better understanding of Total Cost earlier in the process, which in turn allows better informed decisions. The DON's Program Managers are tasked with understanding what drives those costs and formulating a 'should cost' strategy to meaningfully reduce program cost or risk without substantively impacting key requirements regardless of what phase the program is in.

Dr. LAPLANTE. The Air Force highlights sustainment planning early in acquisition planning and during the systems engineering process. These sustainment considerations are addressed in the Life Cycle Sustainment Plan (LCSP) and reviewed at every milestone review throughout a systems' lifecycle. We have identified Product Support Managers for every acquisition program that ensures sustainment requirements are considered as part of every review and integrated with the other functional areas. We are coordinating with other services in joint programs to leverage strategic agility within the acquisition process to inject new technologies into weapon systems when it makes sense and is affordable. The Air Force will achieve further efficiencies by implementing OSD AT&L's Better Buying Power (BBP) and applying our own Bending the Cost Curve (BTCC) initiative. BTCC begins with having an in-depth grasp of how much various design options will ultimately cost—not just to build, but to operate—and what potential trade space we have. Additionally, our focus on owning the technical baseline emphasizes to Program Managers the need to understanding of all aspects their systems and processes—beyond schedule and financial management and regardless of where program is in its maturity. This includes considering key lifecycle attributes such as interface definition and data rights early and throughout a programs lifecycle. These initiatives are supported by

organizational changes that better align authorities with the responsibilities of lifecycle management. First, Air Force Material Command reorganized into a 5-center construct which created a "lead" center for each of AFMC's five mission areas (life cycle management, sustainment, test and evaluation, research and development and nuclear support). That consolidation made us more efficient and effective as an acquisition enterprise by aligning all program management authority across a system's entire life cycle—cradle to grave—to an accountable program manager in the Life Cycle Management Center. As a result of the insight now provided, PEOs are empowered to drive down sustainment costs during all phases. The second major organizational change was to re-align Air Staff product support functions under SAF/AQ. This resulted in the establishment of a "Total Life Cycle construct" presenting opportunities to simplify lines of authority and eliminate process redundancies.

14. Senator AYOTTE. Secretary Shyu, Secretary Stackley, and Secretary LaPlante, the concept of "acquisitions reform" has been around for many decades, however we have witnessed major weapons programs taking a longer time to develop with greater cost and risk to taxpayer money. The GAO recently reported that lost buying power over the past year created $2.2 billion in additional costs to the Department and increased deliver capability by over a month. What are the primary and most realistic goals that we should be setting with any new acquisitions reform, and significantly, how do you find the balance between holding contractors accountable for costs and not waste funding on unneeded equipment while preserving the vital parts of the defense industrial base?

Ms. SHYU. Our acquisition system must always balance two permanent objectives: delivering dominant warfighting capabilities to our Soldiers while ensuring the prudent and efficient use of taxpayer resources. To achieve these objectives, the Army must prioritize two key efforts, which work in tandem to help us deliver successful acquisition outcomes while serving as proper stewards of taxpayer resources.

First, we must continue to recruit, develop, and retain an experienced, skilled acquisition workforce. The development and retention of talent in acquisition disciplines is an essential ingredient to accountability and effectiveness in the acquisition system. We must remain focused on recruiting, developing, and retaining individuals with critical acquisition skill sets in order to provide the Army essential capabilities for continued success. To that end, the Defense Acquisition Workforce Development Fund (DAWDF) provided under Section 852, of title 10, is a critical and necessary enabler to maintain a trained and professional workforce. Additionally, we have instituted a civilian talent management process benchmarked from industry to identify high performing/high potential talent early and provide them with varied experiences to develop breadth and depth to meet our future leader needs. By developing competent and innovative future acquisition leaders, we will build capacity and capability for the Army enterprise.

Second, any efforts to institute reform must also focus on simplifying and streamlining rules and processes while retaining emphasis on sound program planning and risk mitigation. To this end, the Department submitted several proposals last year designed to reduce redundant documentation, place greater emphasis on sound acquisition planning, and broaden the established practices for risk reduction. While our acquisition process employs a wide range of practices and reviews to promote accountability by contractors in the performance of our programs, their role must be informed by the need for flexibility by our program managers to identify and mitigate risks across our programs. If enacted, these proposals will balance sufficient oversight of contractors and program performance with the program manager's ability to tailor strategies to meet the risks and goals of each specific program.

Mr. STACKLEY. The DON designed its acquisition process, commonly referred to as the Navy Gate Review process, to ensure there is no gap between the Requirements and Acquisition organizations so that the Navy understands the relationship between requirements, technical feasibility, and cost. The process requires the Navy/Marine Corps operational requirements leadership and acquisition leadership to agree, and repeatedly affirm that the agreement throughout the development, acquisition, and sustainment of a system. The DON uses Gate Reviews to eliminate any misalignment between requirements and acquisition early in a program, and to check alignment regularly.

This process provides governance and oversight, and ensures adherence to the DON's basic principles to get the requirements right, perform to a stable plan, make every dollar count, rely on an experienced acquisition workforce, and foster a healthy industrial base. Performing to a stable plan (stable requirements, designs and budgets) translates into predictable, reliable performance, unit cost reduction, improved material purchasing and workforce planning, retention of skilled labor and

the ability for industry to invest in facility improvements, all resulting in more efficient production and a more affordable program.

Dr. LAPLANTE. The most important goal with new acquisition reform is to ensure we work together to prevent unintended bureaucratic consequences of new legislation before we make it into law.

To help control cost and schedule, the Air Force supports increasing use of incentive type contracts, where appropriate. The Better Buying Power 3.0 memorandum contains an initiative titled "Employ appropriate contract types, but increase the use of incentive type contracts" acknowledging the use of Cost Plus Incentive Fee (CPIF) and Fixed Price Incentive Firm (FPIF) contracts was highly correlated with better cost and schedule performance. The Under Secretary of Defense (Acquisition, Technology & Logistics) (USD(AT&L)) encourages the use of "formulaic incentives" contracts, where the impact of overruns and underruns are shared between the industry and Government based on a formula established in the contract that explicitly ties the contractor's cost or benefit to performance.

In addition the Air Force is paying close attention to requirements, making sure they remain stable throughout the programs development phase. This will help keep contractor and Government costs down. Further, the Air Force supports Government and defense industry determination of the minimum viable defense industrial base required to support national security (sector-based and not company specific).

15. Senator AYOTTE. Secretary Shyu, Secretary Stackley, and Secretary LaPlante, in a January 22 report, the Defense Business Board highlighted what they believed to be $125 billion dollars in savings that can be achieved over the next five fiscal years through a series of business practice recommendations. The biggest potentials for savings they identified were through more rigorous negotiations for contract goods and the retirement and attrition of civilian and contract workers. Have each of you had the opportunity to review this report, and what type of positive or negative impacts do you believe recommendations such as these could have on the acquisitions process?

Ms. SHYU. The Defense Business Board's report, titled "Transforming DOD's Core Business Processes for Revolutionary Change," concludes that approximately $46–89B in savings can be achieved through optimization of contract spending. Specifically, the report recommends more rigorous vendor negotiations, aggregating spend to gain economies of scale, and reducing contract duplication. To this end, the Army is pursuing efficiencies and cost savings through many initiatives consistent with the report. In 2012, the Army implemented the Services Acquisition Implementation Plan to improve services acquisition oversight, management, and execution, with the ultimate goal of achieving five percent annual savings on service contracts. At the conclusion of fiscal year 2014, the Army's commands reported approximately $1.6B in savings as a result of implementing the optimization plan.

As the Department continues to assess the findings and recommendations in the report, the Army will pursue efficiencies and cost savings through these efforts.

Mr. STACKLEY. As noted, an experienced acquisition workforce is the single-most important fundamental in achieving strong, repeatable performance in Defense Acquisition. Our experience has shown us that the best acquisition outcomes are produced by the most experienced acquisition people, both in technical knowledge and business acumen. The focus on potential for savings through retirement and attrition of civilian workers with limited backfill raises concerns because it includes reductions in procurement and logistics which are key parts of the acquisition workforce that DON is working hard to restore. Since implementation of WSARA, the DON has modestly restored our acquisition workforce to where we believe it needs to be to support our programs while we are continuing to train and rebuild our acquisition workforce that supports our fielded systems, and supports our installations and our Sailors and Marines.

Dr. LAPLANTE. Yes, I have read the report and do not see any positive outcomes from the recommendations to the acquisition processes for the following reasons:

- The report recommends creating Contract Optimization teams responsible to analyze and renegotiate the top 20–50 contracts in each major category. If the analysis and renegotiation were plausible, an endeavor of this magnitude would hurt an already overworked and understaffed acquisition community.
  - o The report suggests the team utilize part time expertise of Program Managers (PM), Contract Officers (CO), and Functional Sponsors. Contracting Officers are the only profession legally able to obligate the Government and are supported by PMs and functional sponsors with full time obligations.
  - o The report does not specify the members or disciplines of the 150 full-time equivalents required to serve in a full time capacity with the Contract Opti-

mization team. However, the PM's, CO's, or functional sponsors are not part of the core team.

- o The report proposes a rack and stack of top contract categories to renegotiate based on size, complexity and contract terms without taking into consideration mission-critical requirements. Many services coded under the Knowledge Based Services portfolio are direct mission support. For example: System Engineering efforts performed by Original Equipment Manufacturer (OEM) in support of sustaining and flying a much older aircraft fleet than originally envisioned.

- The report identifies a 29 percent reduction in DOD workforce by managing retirements/attrition with limited backfills that could result in $50+ billion in total savings.
  - o Cuts leveraged through Human Resources (HR) have impacted the organization's ability to effectively manage the workforce based on the current environment.
  - o As it pertains to the acquisition process, civilian fill-actions do not meet current hiring demands. The slow speed of the hiring system actually causes us to miss out on many high caliber, high capacity candidates and leaves positions vacant for long periods. More and better HR capacity is needed at this time, not less.
  - o As we work to stay in line with industry while supporting our warfighters, the reductions imposed on the HR system limit the ability to bring in "appropriately skilled" IT experts to keep DOD current with ever changing technology.

QUESTIONS SUBMITTED BY SENATOR JEANNE SHAHEEN

ACQUISITION REFORM

16. Senator SHAHEEN. Secretary Shyu, Secretary Stackley, and Secretary LaPlante, small businesses drive technological innovation and generate new ideas to benefit the defense industry. I am concerned that small businesses that develop new technology, or that improve existing technology that may reduce costs, often face barriers to entry in the defense acquisition system. What kind of reforms are necessary to allow small businesses to share their ideas and new technology and how do we reduce barriers to new entrants?

Ms. SHYU. Small businesses foster innovation, but the risk and expense of conducting independent research and development can be present significant challenges to many small businesses. To assist these types of small businesses, the Army employs several efforts designed to attract small business innovation. The Small Business Technology Transfer (STTR) and Small Business Innovation Research (SBIR) programs allow small, technology-focused businesses to provide innovative research and development solutions in response to critical Army needs. The STTR program requires small businesses to formally collaborate with a large research institution, which combines the strengths of both entities and allows small businesses to leverage the infrastructure and expertise of larger institutions. The SBIR program is a highly competitive, awards-based program that encourages domestic small businesses to engage in research and development that has the potential for commercialization. The program encourages small businesses to explore their technological potential and provides the incentive to profit from its commercialization. This practice expands the Army's ability to leverage technological innovation from non-traditional small businesses that face barriers to entry in the defense acquisition system.

As part of Better Buying Power, the Army is working with the Office of the Secretary of Defense to make it easier for small businesses to work with DOD. While the SBIR program has been successful in helping small businesses make progress in early technology development, it has only been moderately successful in helping businesses transition from development to production. To that end, the Department provides outreach to educate small businesses on Federal contracting and provides assistance to small businesses and Government personnel to facilitate transition of promising technologies.

Mr. STACKLEY. The barriers to entering the defense market remain high as the overhead cost of entering and operating in a unique, uneven and overly bureaucratic market discourages entrants, both large and small commercial companies. The DON recommends that that the Congress work with USD(AT&L) in the current effort to identify and roll back legislation that has produced unnecessary and redundant regulatory and reporting burdens on Program Managers.

The DON, through the Office of Naval Research, has effectively used Broad Agency Announcements for research topics to encourage small and large companies to share and develop their ideas and new or improved technologies. For small businesses, the DON has effectively used the Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) program to encourage small businesses to share and develop their new or improved technologies. To encourage small business participation in our programs, the DON has assigned each Deputy Program Manager the responsibility to be the small business advocate for all things associated with the program.

Dr. LAPLANTE. As small businesses develop and improve technology, there are innumerable barriers to overcome in entering the defense acquisition system. In an effort to continually increase the industrial base and support the sustainment of small business, the Air Force has identified several barriers whereby change can occur via reform. Specific barriers in need of reform include: Transparency & Communication, Intellectual Property, Facilities Clearances, Timelines, and Market Research

Transparency & Communication: The lack of transparency and communication during the procurement process has the effect of isolating offerors and as a result perpetuates an overall sense of distrust for Government acquisition. To combat this, the Air Force inserts small business professionals into acquisition planning early on in the process to not only provide advice but also ensure that the small businesses are kept informed of the acquisition progress, therefore alleviating distrust. In an effort to increase communication, small business professionals consistently encourage businesses to respond to pre-solicitation notices. As a result of this communication during 'open dialogue periods', small business have a voice in how the acquisition strategy is shaped and developed prior to issuance of the solicitation. Small business professionals also garner trust by prioritizing small business participation through early consideration of set-aside opportunities and ensuring a level playing field among bidders via early release of requirements documents and technical libraries. As a result of these efforts, the Air Force has seen an increase in small businesses participation via both set-aside and full & open competitive awards.

Intellectual Property: As a result of recurring small business industry engagements, the Air Force has obtained feedback from small business that protections related to intellectual property, and more specifically data rights, are in need of reform. For example, many small businesses are concerned with "protecting" themselves from the risk of unlawful access to or theft of trade secrets after entering into contracts with large prime contractors. To mitigate the impediments posed by this barrier the Air Force continues to hold Small Business Industry Days to educate small business and encourage further protection intellectual property rights by: i) tracking and documenting development work; ii) disclosing inventions; iii) utilizing nondisclosure agreements; iv) protecting proposal information through proper marking; and v) marking all deliverable technical data and computer software appropriately.

Facilities Clearances: Facility clearance requirements continue to pose a barrier to small business participation in Government acquisitions. For example, present security policies mandate that businesses have a contract in place to even become eligible for a facilities clearance, which oftentimes is a pre-requisite for consideration for contract award. Additionally, the large costs associated with obtaining secured facilities only compounds existing policy challenges. There is a pressing need to facilitate opportunities for small businesses to obtain access to classified programs, an area where small business technology capabilities are paramount. To date, there has been no collectively identified solution to alleviate this barrier to entry.

Timelines: The lengthy timelines associated with Government acquisitions present a barrier to small business participation. For example, small businesses may not have the necessary resources to expend to prepare a proposal for an effort that will likely not be awarded within a reasonable timeframe. In response, the Air Force Research Laboratory Center for Rapid Innovation is using new pilot program authority to establish a Strategic Innovation component of the SBIR program to generate innovative, game-changing concepts. This includes expanding and encouraging the use of Other Transaction Authorities, Cooperative Research and Development Agreements, Open Challenges, and Small Business programs.

Direct to Phase II Pilot: One of the efforts undertaken by the Air Force to reduce the burden on small business is a Small Business Innovation Research (SBIR) direct to Phase II pilot program. This program will provide full and immediate research and development support to small businesses with mature technologies and concepts, therefore shortening the timeline associated with these complex requirements. Not only will reduce the number of associated low dollar, short duration Phase I

contracts issued, but also it will expedite technology transition and achieve a higher return on investment for small business.

SBIR EZ Pilot: Another initiative to reduce the timeline and burden associated with joining the SBIR program is the piloting of SBIR EZ. SBIR EZ will enhance the current application process through intuition based technology, allowing small businesses to quickly submit applications, as well as reduce the paperwork associated with the current process.

Overall, there is a need to shorten the timeline associated with Government acquisition and create a joint information environment to remove barriers to entry and make programs more accessible to small business.

Market Research: As the Air Force continues facilitate and increase small business participation, a barrier has been identified in our ability to conduct data-driven market research. Data-driven market research allows the small business professional to utilize a central database to locate and connect with capable small businesses to meet warfighter needs. Existing IT tools and systems not only limit this ability, but also present significant challenges when attempting to acquire strategic and enterprise wide market intelligence. While there are pockets of activity throughout the Air Force to improve this capability, there is currently no central repository that will systematically address enterprise needs and challenges.

17. Senator SHAHEEN. Secretary Shyu, Secretary Stackley, and Secretary LaPlante, the Quadrennial Defense Review Independent Panel found that "the fundamental reason for the continued underperformance in acquisition activities is fragmentation of authority and accountability for performance." Can you provide a few specific measures that can be taken streamline and tailor the acquisition process and give Program Managers more authority and flexibility?

Ms. SHYU. Acquisition reform has been attempted many times over the last several decades. However, while prior efforts recognized that the complexity of processes and rules in the defense acquisition system can limit flexibility and add time and cost to the process of developing and fielding new warfighting capabilities, few focuses on streamlining the process. To that end, the Army has actively worked with both OSD and Congress to develop several legislative proposals specifically designed to streamline the acquisition process, reduce redundant documentation, provide flexibility to program managers, and place greater emphasis on sound acquisition planning. These changes would allow program managers to tailor effective program strategies to meet cost, schedule, and performance goals while balancing technical risks. If enacted, these proposals inject much-needed agility and flexibility into the process while maintaining robust oversight of taxpayer dollars.

Mr. STACKLEY. Lessons learned from highly successful programs highlight that the right balance is attainable by applying the fundamental disciplines already known and available to each program manager, then exposing the products of that discipline to simplified oversight by an appropriate but limited number of highly experienced managers, engineers and business executives who serve at the Service Secretariat and OSD levels in policy oversight capacities. The DON recommends that that the Congress work with USD(AT&L) in the current effort to identify and roll back legislation that has produced unnecessary and redundant regulatory and reporting burdens on Program Managers which have the effect of thwarting the steady application of these fundamentals.

Dr. LAPLANTE. The Air Force, in conjunction with the Under Secretary of Defense (Acquisition, Technology & Logistics) (USD(AT&L)), has extensively studied mechanisms to help streamline and tailor the acquisition process. Overall, we recommend Congress institute the USD(AT&L)-recommended set of legislative proposals for the 2016 NDAA, which seek to reduce additional reporting requirements imposed on the defense acquisition workforce. Many of those proposals are included in the House-passed version of the 2016 NDAA.

We also recommend allowing USD(AT&L), the Service Acquisition Executive (SAE), or the Milestone Decision Authority (MDA) to waive or submit statutory tailoring of ACAT programs. MDAs will ensure tailoring is consistent with sound business practice and the risks associated with the product being acquired. Justification for waivers will be documented in Selected Acquisition Reports (SARs) and MAIS Annual Reports (MARs) and will be included as an attachment to Acquisition Decision Memorandums (ADMs). Termination SAR/MAR will contain Program Manager, Program Executive Officer, and MDA assessments of statutory items that provided resistance and/or delays in program success.

USD(AT&L), via DODI 5000.02, already allows MDAs to tailor regulatory procedures in the document consistent with sound business practice and the risks associated with the product being acquired. Further, the Air Force is instituting manda-

tory maximum review timeframes for statutory acquisition procedures and documents.

USD(AT&L) continues to pursue streamlining documentation requirements and staff reviews under Better Buying Power initiatives in order to eliminate unproductive processes and bureaucracy.

18. Senator SHAHEEN. Secretary Stackley, you stated that *Virginia*-class submarine procurement is an example of acquisition success. Can you highlight a few reasons why and outline what authorities or resources you need to replicate this acquisition success to other procurement programs?

Mr. STACKLEY. The U.S. Navy's *Virginia*-class attack submarine program awarded a ten-ship Block IV contract to General Dynamics Electric Boat (GDEB) on April 28, 2014. The Block IV contract is a $17.6 billion fixed-price incentive fee, multiyear procurement contract with economic order quantity that continues the program's two-per-year build rate for fiscal years 2014 through 2018.

The Block IV award is the largest shipbuilding contract in U.S. Navy history in terms of total dollar value and builds upon the *Virginia*-class program's successful Navy and industry relationship. The Block IV contract continues the *Virginia*-class teaming arrangement between prime contractor GDEB in Groton, Conn., and the major subcontractor Huntington Ingalls Industries—Newport News Shipbuilding (HII–NNS) in Newport News, Va. Entering into a multiyear procurement construction contract saved over $2 billion across Government and contractor furnished equipment, effectively getting ten ships for the price of nine as opposed to building the same ships under a more traditional annual procurement arrangement.

The Block IV contract is the culmination of 20 months of work between the Navy and shipbuilders. The Navy and shipbuilders performed an in-depth analysis and thoroughly engaged on all elements of cost to produce a contract that is both fair to the Navy and industry. This contract lowers the per-ship cost compared to Block III. On average, the Block IV per-ship negotiated cost is approximately $100M less in constant year dollars than the Block III per-ship negotiated cost.

Block IV submarines will incorporate modifications that reduce acquisition and lifecycle costs. Reducing the ships' total lifecycle cost, an initiative called "3:15," aims to decrease the number of major shipyard availabilities from four to three, allowing for an additional deployment per hull—raising each submarine's capability from 14 to 15 full-length deployments. With the decrease in cost and the increase in capability, we are essentially getting more for less.

Competitive edge features were also included in the Block IV request for proposal (RFP). It was structured to leverage the best potential ten ship scenario pricing by requiring the shipyards to propose both a five/five and a six/four delivery yard allocation. The contract included a six/four workshare allocation (6 to GDEB and 4 to HII–NNS). A "win-back" provision was included in the subcontract to allow HII–NNS to deliver the 18–2 ship (fifth HII delivered ship) based on certain improved performance criteria subject to Navy approval.

The *Virginia*-class submarine program has delivered the last seven ships on budget and ahead of schedule. The last ship delivered, USS *North Dakota* (SSN 784), included a completely redesigned bow section as part of the Design for Affordability efforts. Additionally, USS *North Dakota* delivered with the highest quality of any *Virginia*-class submarine to date.

Replicating this acquisition success in other programs would require congressional authority for use of multiyear procurement authority with funding for economic ordering quantity and streamlined acquisition approaches where appropriate. While *Virginia*-class Block contracts are sole-source, the shipbuilders are also motivated by innovative contracting approaches such as the optimal pricing six/four workshare allocation with a win-back provision. In addition, the Block IV team conducted robust, in-depth reviews of major second-tier vendors, analyzing labor hours, material, rates, and profits. These processes can be leveraged by any acquisition program.

QUESTIONS SUBMITTED BY SENATOR MAZIE HIRONO

OVERALL ACQUISITION REFORM/IMPROVEMENT

19. Senator HIRONO. Secretary Shyu, Secretary Stackley, and Secretary LaPlante, Acquisition Reform has been around as long as the Government has been procuring items. Congress and the President began to use special commissions and panels to improve the process. Between the end of the Civil War and the end of WW II, groups chartered include: the Dockery Commission, Keep Commission, Shannon Committee and Truman Committee. Over the seven decades since the end of WW

II, we've likely had 20 plus panels, commissions and industry groups who have made many recommendations to improve the acquisition management process. Yet, we still have programs with significant cost overruns and weapons systems with technical deficiencies. Obviously this is not something that can be "fixed" overnight. We want you to make the best use of tax payer dollars to provide the systems that the men and women of our armed services need to carry out their responsibilities.

For each of you as expert practitioners in the field—I'd be interested in hearing what would be the number one item on your list to improve the acquisition process?

Ms. SHYU. The number one item on my list is empowering Program Managers. Too often, past reforms have required additional oversight by stakeholders outside the acquisition chain. This external influence—without corresponding responsibility for outcomes—creates additional process and bureaucracy. The acquisition process must be reformed to empower Program Managers and Milestone Decision Authorities and foster mutual accountability by all stakeholders. Stakeholders involved in the process must be incentivized to identify problems and share accountability for program success. The acquisition process must also provide program managers the ability to tailor their acquisition approaches to fit program needs. Accordingly, the Department submitted several legislative proposals this year designed to reduce redundant documentation and allow program managers the flexibility to manage the specific risks inherent to their programs. The Army supports these proposals and their intended goal to balance effective oversight with a streamlined acquisition process.

Mr. STACKLEY. An experienced acquisition workforce is the single-most important fundamental in achieving strong, repeatable performance in Defense Acquisition. Our experience has shown us that the best acquisition outcomes are produced by the most experienced acquisition people, both in technical knowledge and business acumen. The professional Acquisition Workforce, however, operates in a human capital system that was not designed with the 21st century professional employee in mind and is increasingly difficult to sustain. The Congress has recognized the need for a large, robust, highly qualified Acquisition Workforce and provided much-needed legislative relief through the Defense Acquisition Workforce Development Fund. The DON is grateful to the Congress for their continuing support. For the 21st century Acquisition Workforce more agility will be needed to hire and retain quality acquisition professionals with critical skills needed to attain and sustain the best acquisition outcomes.

Dr. LAPLANTE. We believe ensuring we initiate programs with sound acquisition strategies, fixed, well-defined and affordable requirements, modular systems with open architectures, properly resourced program baselines, and deliberate measures to mature critical technologies to reduce technology and program risks is the number one item to reduce cost overruns and weapons systems with technical deficiencies in the acquisition process.

RAPID FIELDING

20. Senator HIRONO. Secretary Shyu, Secretary Stackley, and Secretary LaPlante, I know that PACOM is concerned with the ability of the acquisition process to rapidly deliver the systems that they urgently need to meet the threats they face in the Pacific. Do you have the ability to make our slow moving system respond to urgent requirements?

Ms. SHYU. Army field commanders and combatant commanders can identify urgent operational needs that jeopardize mission accomplishment through an Operational Need Statement (ONS). This provides an opportunity to the field commander, outside of the traditional acquisition and requirements process, to identify an urgent requirement needed to meet the threats they face. Once a commander endorses an ONS request, Army headquarters can quickly validate, authorize funding, and procure and field materiel solutions to meet these urgent needs. Accordingly, this ONS process allows the Army to quickly respond to urgent combatant commander needs outside the traditional defense acquisition system.

Additionally, Combatant Commanders use the Integrated Priority List to characterize high priority needs across Service and functional lines in order to define shortfalls in the key areas which may severely affect the mission. These processes ensure that Combatant Commanders have a means to identify and prioritize the fulfillment of materiel needs to meet their urgent mission requirements.

Mr. STACKLEY. The DON has demonstrated the ability to accelerate capability in response to urgent needs. The most significant example was the MRAP program. However, more recent examples—the Torpedo Defense System installed on USS *George H.W. Bush* (CVN 77) and the Transportable Electronic Warfare Module (TEWM) installed on board select ships deploying to the Eastern Mediterranean—

are indicative of our ability to make the slow moving system respond to urgent requirements. Our current efforts are focused on making these examples more the norm by way of fundamental changes to the way we manage the Naval Research and Development Enterprise.

Dr. LAPLANTE. Yes. Over the last 10 years we have demonstrated the ability to rapidly field capabilities and we continue to improve our processes. The AF identifies Quick Reaction Capability programs during the requirements process to respond to approved Urgent Operational Needs, Joint Urgent Operational Needs, and Top-Down Direction. The revised DODI 5000.02, Operation of the Defense Acquisition System, codifies several of acquisition processes and allows multiple paths for the services to rapidly field capabilities including one specifically addressing Rapid Acquisition. Supporting the Joint Urgent Operational Need (JUON) and emerging needs processes, there is a formal Warfighter Senior Integration Group (SIG) to identify urgent issues and a Secretary of Defense Rapid Acquisition Authority (RAA) Determination to rapidly field systems. Overall, the AF has the mechanisms in place to respond to approved urgent requirements.

21. Senator HIRONO. Secretary Shyu, Secretary Stackley, and Secretary LaPlante, do you need the Congress to give you more flexibility or release from constraints in order to better support PACOM and other Combatant Commands?

Ms. SHYU. Army field commanders and combatant commanders can identify urgent operational needs that jeopardize mission accomplishment through an Operational Need Statement (ONS). This provides an opportunity to the field commander, outside of the traditional acquisition and requirements process, to identify an urgent requirement needed to meet the threats they face. Once a commander endorses an ONS request, Army headquarters can quickly validate, authorize funding, and procure and field materiel solutions to meet these urgent needs. Accordingly, this ONS process allows the Army to quickly respond to urgent combatant commander needs outside the traditional defense acquisition system.

Additionally, Combatant Commanders use the Integrated Priority List to characterize high priority needs across Service and functional lines in order to define shortfalls in the key areas which may severely affect the mission. These processes ensure that Combatant Commanders have a means to identify and prioritize the fulfillment of materiel needs to meet their urgent mission requirements.

Mr. STACKLEY. While additional flexibility in acquisition is always welcome, in this particular case, the Navy has demonstrated the ability to rapidly field capability to Combatant Commanders in response to the well-defined Urgent Operational Needs (UONs) process. Recent examples—the Torpedo Defense System installed on USS *George H.W. Bush* (CVN 77) and the Transportable Electronic Warfare Module (TEWM) installed on board select ships deploying to the Eastern Mediterranean—are indicative of our ability to make the slow moving system respond to urgent requirements. Our current efforts are focused on making these examples more the norm by way of fundamental changes to the way we manage the Naval Research and Development Enterprise.

Dr. LAPLANTE. No. The Air Force uses all the rapid acquisition authorities provided to us to respond to any Warfighter urgent needs. To ensure a flexible acquisition environment, the Air Force has an urgent operational needs process to address capability gaps that would result in imminent loss of life or result in critical mission failure during a current conflict or crisis situation. To address urgent capability gaps which require synchronization across multiple Services, the Air Force participates in the Joint Urgent Operational Needs process and the Warfighter Senior Integration Group.

CYBERSECURITY ACQUISITION

22. Senator HIRONO. Secretary Shyu, Secretary Stackley, and Secretary LaPlante, cybersecurity is a field that appears to be moving much faster than the acquisition processes you describe. In my state, we have a number of small businesses with good technologies, but I wonder if we can move fast enough to take advantage of them. How can we do a better job of buying and deploying the best cybersecurity systems in a timely manner?

Ms. SHYU. The Army recognizes that innovation in cyberspace capabilities and cybersecurity will be essential in order to defend against sophisticated threats in an increasingly complex and contested environment. The Army is actively addressing barriers to non-traditional innovative companies through the tenets outlined in the Defense Secretary's April 2015 Department of Defense (DOD) Cyber Strategy: information sharing and interagency coordination, building bridges to the private sector, and building partnerships abroad.

The Army has a number of active defensive and offensive cyberspace pilots to broaden information sharing and interagency coordination, to include establishing academic and industry consortia. For example, the Army hosted a cyberspace industry and innovation day on 28 May to outline requirements and capability needs for industry. Such efforts support market research needs and drive awards to vendors through existing DOD contract mechanisms. Additionally, the Army will host a Cyberspace Challenge in August that will use the integrated cyber laboratory at Aberdeen Proving Ground to allow vendors to demonstrate their innovative technology to potential Government partners.

Second, the Army is utilizing consortia hosted by industry and contracting instruments such as Other Transaction Authorities to acquire new capabilities. These instruments support flexible contracting arrangements with industry for innovation and service to attract innovative firms that do not typically do business with the Government. The Army is looking at the potential use of multiple existing cyberspace consortium efforts, including both the Army led C5 consortium at Picatinny Arsenal and the DOD led Cyberspace consortium at Defense Technical Information Center.

Third, the Army is actively working with partner nations to leverage their cyberspace capabilities. The Army has already begun cyberspace discussions with partners from the Brazilian Army Center for Cyber Defense and the Chilean Cyber Army, and is actively looking for other cooperation opportunities. The Army is also planning its first coalition Network Integration Evaluation at Fort Bliss in fiscal year 2016 that will include partners from multiple countries and include a variety of cyberspace attack and defense scenarios on a fully integrated coalition network environment.

Finally, commercial innovation can also be built directly into Army contract structure(s). The strategy—grounded in Better Buying Power principles—includes frequent competitions among multiple vendors for mature capabilities, driving innovation while maintaining interoperability between different vendor systems, allowing the Army to incrementally provide capabilities. For example, to set the conditions for future upgrades, the Army will enable "plug-and-play" insertion of new capabilities on existing platforms. This concept encourages competition among a wide pool of potential competitors, to include non-traditional partners, which lowers the cost of integrated technology solutions. To further encourage competition and innovation, the common operating environment provides software development kits, which enables interested industry partners to contribute new tactical applications to a standard baseline. These methods create a competitive environment that will allow us to more quickly procure and insert innovative technologies.

Mr. STACKLEY. The Department of the Navy (DON) routinely engages industry, both small and large companies, to evaluate emerging cyber technologies to keep apprised of what is available to help ensure the integrity and availability of DON systems. These engagements include industry days, conferences, office calls and site visits/capability demonstrations. The DON designs contracts to take advantage of small business offerings. The DON also has an active fellowship program where our program managers and engineers spend up to a year working in industry, where they are exposed to best commercial business practices, including the value of speed as a critical enabler, as well as pressing cyber security issues businesses are facing.

The latest instantiation of our afloat and ashore networks offer us better internal configuration control and network management and monitoring tools to more rapidly detect and respond to threats. In addition, the contract for ashore networks contains a 35 percent small business requirement which explicitly allows for small businesses to be assessed for a variety of network contributions, including cybersecurity.

The DON has also established an Innovation Cell within the Program Executive Office for Enterprise Information Systems to examine alternatives to accelerate the integration of commercially available technologies and services (e.g. cloud) into the Naval Business IT Enterprise. The Innovation Cell is an assessment framework focused on enabling rapid acquisition and deployment of emerging capabilities and providing technical and business analysis data in a manner that is consumable across the Department of Defense. The Innovation Cell seeks to accelerate acquisition of new information technologies, including those related to cybersecurity. The Innovation Cell works closely with program office staffs to identify enterprise challenges, then seeks collaborative engagements with Industry to bridge between available technologies and refined requirements. The Innovation Cell is creating a competitive environment far in advance of any acquisition. In addition, the Innovation Cell process enhances the opportunity for small business to propose their recommended solution.

Dr. LAPLANTE. In order to buy and deploy the best cybersecurity systems in a timely manner, the Department of Defense should continue to streamline acquisi-

tion, empower program managers, leverage continuous monitoring, and manage risk for all weapon systems.

On January 7, 2015, OSD released a revised DODI 5000.02, Operation of the Defense Acquisition System, that addresses these efforts. In this latest instruction, OSD continued to reinforce the ability for program managers to tailor program execution; "The structure of a DOD acquisition program and the procedures used should be tailored as much as possible to the characteristics of the product being acquired, and to the totality of circumstances associated with the program including operational urgency and risk factors." It also includes examples and models to aid program offices, acquisition decision-makers, and operators to generate requirements and structure programs to enable efficient execution and higher probabilities of programmatic success. Specifically, it includes models that are designed to field systems rapidly while still considering all the necessary risks and threats against that type of systems, including cybersecurity. Additionally, the DOD is developing a new enclosure to the DODI 5000.02 which will specifically address cybersecurity while continuing the transition to the Risk Management Framework.

Within the Air Force, Air Force Materiel Command (AFMC) and Air Force Space Command (AFSPC) have been working diligently to improve the responsiveness of satisfying cyber requirements to counter ever-increasing threats in cybersecurity. Currently, improvements are focused in three areas: three tier delivery model, streamlining acquisition processes, and organization of AFMC resources to improve responsiveness of solutions and collaboration with Air Force cyber operations. The three tier delivery model provides a framework for the acquisition community to determine the right acquisition approach based on requirements and time constraints. In this framework, cybersecurity requirements are satisfied through real-time operations and innovation (less than 180 days), rapid acquisition (less than 18 months), or foundational acquisition (greater than 18 months). Additionally, AFMC has put in place several processes and tools to streamline cyber acquisition, including the adoption of the Cyber Acquisition Process Pilot and maximizing the set of technology producers (both large and small) through Broad Agency Announcements and Indefinite Delivery Indefinite Quantity contracts. Finally, AFMC has reorganized its cyber acquisition organizations to align with the cyber operations community. Through these three improvement areas, the Air Force acquisition community is better positioned to collaborate, understand requirements, and develop courses of action to meet cyber requirements in a timely, efficient, and effective manner.

The Air Force will continue to update published guidance and promote tailoring of acquisition processes to satisfy cybersecurity requirements, which include creating opportunities for small business.

PROCESSES THAT DON'T ADD VALUE

23. Senator HIRONO. Secretary Shyu, Secretary Stackley, and Secretary LaPlante, yesterday, the Chairman called a hearing to consider the nomination of Peter Levine to be the Chief Management Officer at the Pentagon. We discussed the many levels of checks and balances and numerous reports that don't seem to add value, but appear to add cost and time to our programs. Can you give some examples of those kinds of processes that fit the description from your point of view?

Ms. SHYU. Historically, Congress and DOD respond to specific program failures by instituting specific processes and documents designed to prevent similar issues in future programs. Over time, these responses have resulted in a complex, cumbersome, and inflexible acquisition process.

One example is the requirement for a stand-alone manpower estimate report (MER). This requirement was designed to ensure that manpower costs associated with weapons systems are fully considered at key program milestones. However, the statutory requirements duplicates separate processes that generate this information for consideration elsewhere in the acquisition process. As such, the Department proposed the elimination of this redundant requirements that generates unnecessary documentation.

Another example is the milestone certification required by 10 USC 2366a and 2366b. These statutes require consideration and documentation of certain findings at program milestones which duplicate paperwork required elsewhere in the acquisition process. For example, 10 USC section 2366b requires certification of a valid requirement for weapon systems, which is a predicate to the existence of an acquisition program.

Any time spent by program managers on producing and staffing unnecessary documents is time that could be spent on effectively managing programs.

Mr. STACKLEY. The Acquisition System Framework flowchart includes documents, steps and processes that involve multiple layers of prescriptive processes, authori-

tative organizations and extensive reporting and documentation requirements. The DON recommends that that the Congress work with USD(AT&L) in the current effort to identify and roll back legislation that has produced unnecessary and redundant regulatory and reporting burdens on Program Managers.

Dr. LAPLANTE. The Department of Defense (DOD) concurred with the recommendations of the GAO Report "Acquisition Reform: DOD Should Streamline Its Decision-making Process for Weapons Systems to Reduced Inefficiencies" to minimize any reviews between the program office and the different functional staff offices within each chain of command level and establish frequent, regular interaction between the program office and milestone decision makers, in lieu of documentation reviews.

To ensure the Enterprise is not getting in the way of PM accountability, we have performed a review of all acquisition documents and the organizations outside the acquisition execution chain who review them for coordination and approval.

We are following the accountability and responsibility of the Better Buying Power 3.0-specified action to re-validate the need for organizations to coordinate or approve the documents. This revalidation, which I will personally approve upon completion, can potentially streamline the number of individuals and organizations in the approval process; thereby, reducing unnecessary schedule delays. In addition, we are automating the document review process using the Electronic Coordination Tool (ECT), which allows us to control review times. We currently use ECT to route a program's acquisition strategy for review and will systematically load other acquisition documents into ECT.

We also worked with and support the legislative proposals that OSD submitted to Congress for the 2016 NDAA that included several recommended changes to program documentation, which reduces redundant and unnecessary documentation burdens on Program Managers. It also included some recommendations to consolidate related statutory requirements to help programs comply with all statutory requirements and minimize excess documentation.

24. Senator HIRONO. Secretary Shyu, Secretary Stackley, and Secretary LaPlante, if we gave more authority to you three to manage your programs, would that relieve some of this burden and speed things up?

Ms. SHYU. The Army supports efforts to promote flexibility and streamlined oversight of Major Defense Acquisition Programs. To this end, the Army worked extensively with Office of the Secretary of Defense (OSD) and Congress to develop legislative proposals designed specifically to streamline the acquisition process and provide increased flexibility to program managers. These proposals inject much-needed agility and flexibility into the process while maintaining robust oversight of taxpayer dollars.

OSD performs an annual review of ACAT ID and special interest programs and determines if the program can be delegated to the Services. Increased authority to manage programs at the Service level would provide additional flexibility.

Mr. STACKLEY. Lessons learned from highly successful programs highlight that the right balance is attainable by applying the fundamental disciplines already known and available to each program manager, then exposing the products of that discipline to simplified oversight by an appropriate but limited number of highly experienced managers, engineers and business executives who serve at the Service Secretariat and OSD levels in policy oversight capacities. The DON recommends that that the Congress work with USD(AT&L) in the current effort to identify and roll back legislation that has produced unnecessary and redundant regulatory and reporting burdens on Program Managers which have the effect of thwarting the steady application of these fundamentals.

Dr. LAPLANTE. Allowing the Under Secretary of Defense (Acquisition, Technology & Logistics) (USD(AT&L)), the Service Acquisition Executives (SAEs), or Milestone Decision Authorities (MDAs) to waive or submit statutory tailoring of ACAT programs is an example where processes could be improved. MDAs will ensure tailoring is consistent with sound business practice and the risks associated with the product being acquired.

USD(AT&L), via DODI 5000.02, already allows MDAs to tailor regulatory procedures in the document consistent with sound business practice and the risks associated with the product being acquired.

TRAINING, RECRUITMENT AND RETENTION

25. Senator HIRONO. Secretary Shyu, Secretary Stackley, and Secretary LaPlante, obviously, your people are the most important part of this endeavor. Without a capable and motivated workforce, all the changes to rules and regulations will not

amount to much. In your view are there things that Congress can do to help you recruit and retain the best workforce possible?

Ms. SHYU. The development and retention of talent in acquisition disciplines is an essential ingredient to the accountability and effectiveness of the acquisition system.

Congress can help strengthen recruitment and retention of the best talent by making the Defense Acquisition Workforce Development Fund (DAWDF) and the Expedited Hiring Authority (EHA) permanent. DAWDF is currently set to expire in fiscal year 2018 (fiscal year 2018). Since the establishment of DAWDF, the Army has hired 2,127 interns and journeymen in mission-critical acquisition career fields. With DAWDF, the Army is able to invest in the continuing education and professionalism of our acquisition workforce. DAWDF has also allowed the Army to fund a Student Loan Repayment Program, which acts as a retention tool to maintain more than 4,000 Army acquisition professionals in mission-critical acquisition career fields, who are required to sign a 3-year service agreement. EHA is set to expire in fiscal year 2017. As over 50 percent of our Army Acquisition Workforce is eligible to retire in 10 years, permanent EHA will assist the Army in securing critical acquisition talent and enable proper succession planning for the future. Direct Hire Authority specified for mission critical acquisition career fields may enable us to reach out to recent college graduates and industry for new talent.

Mr. STACKLEY. The Navy appreciates the support of Congress for the Acquisition Workforce, especially the Defense Acquisition Workforce Development Fund for hiring and retention and would like to see that support continue permanently.

The vitality of Acquisition Corps has suffered due to personnel actions affecting the federal workforce including mandated reductions, furloughs, sequestration, unstable budgets and retirements. To retain the best talent we must find ways to minimize the exposure to forces that threaten the Acquisition Corps. Other potential initiatives include:

- Make permanent Direct Hiring Authority to provide a mechanism to hire quickly and better enable the Navy to compete for the best talent in the nation.
- Make the Acquisition Demonstration Project permanent to eliminate the recent pay plan roller coaster and provide a pay-for-contribution plan.
- Provide authority to build partnerships with universities for student internships followed by hiring to assist in immersing students in the Navy technical fields and accessing state of the art technologies which would assist in hiring and retention.
- Establish a special pay category or incentive structure for senior Acquisition Corps members (typically PMs/DPMs/BFMs responsible for multi-billion dollar programs) to increase the competitiveness of the positions and assist in retention.
- Establish a pilot program to experiment with retention to help shape and train the Acquisition Corps. Potential pilots could include:
  - o Government/Industry one-year personnel exchange agreements would allow the Navy to benefit from the knowledge of industry innovation, business streamlining and challenges. Conversely industry would benefit from understanding the capabilities of the Navy and offer potential insights to more effective partnering. These agreements could also add insight to workforce development, retention and succession planning.
  - o Specialized training in critical skill areas with retention incentives.
  - o Educational benefits for the civilian Acquisition Corps similar to the Post 9/11 GI Bill.
  - o Student loan forgiveness for Acquisition Corps members.
- o Special post-PM/DPM positions to mentor and train the next generation Acquisition Corps.

Dr. LAPLANTE. I believe we have the flexibilities and resources in place to recruit and retain the talent we need. We are especially appreciative of the acquisition-specific authorities provided by the Defense Acquisition Workforce Development Fund (DAWDF) and Expedited Hiring Authority (EHA), as well as the Acquisition Personnel Demonstration Project ("Acq Demo"). Legislation in work which would make DAWDF and EHA permanent will lend stability and increase confidence in our organizations for using these authorities.

In the current austere budget environment, DAWDF has become even more important to our efforts to maintain and improve a highly capable acquisition workforce. We have become much more reliant on DAWDF for training, as well as to increase our ability to find and recruit outstanding talent. We have also used DAWDF to offer retention incentives for personnel in high-demand career fields such as contracting and engineering. Continued support for DAWDF is critical.

The highly-talented candidates we seek in the job market have a choice of where they choose to work. If we are to attract and motivate the "best of the best" to the challenging work we offer, I believe it is incumbent upon all of us in Government to help "sell" the career opportunities, pride and personal satisfaction available through Government service.

NDAA 2015 STUDY REQUIREMENT

26. Senator HIRONO. Secretary Shyu, Secretary Stackley, and Secretary LaPlante, the fiscal year 2015 National Defense Authorization Act included a requirement (on p. 745) that the Secretary of Defense submit a report to the congressional defense committees, no later than 180 days after the enactment of this Act, regarding how the DOD is considering the operational impact of energy logistics through energy supportability analysis. Lifecycle energy costs are an important consideration for acquisition reform. Can you provide a status update on how this study is progressing?

Ms. SHYU. Pending a review of the final report that is currently in staffing with the Office of the Secretary of Defense, we will incorporate appropriate changes into our acquisition and logistics policies as part of our continuing effort to reform acquisition within the Army. As an interim step, we adjusted our product support policy in October of 2014 to consider design for energy efficiency. The new policy calls for materiel developers to conduct product support analysis to assess opportunities that improve energy efficiency where feasible and assess operational effects throughout the products lifecycle.

Mr. STACKLEY. The study was submitted to the congressional defense committees on August 6, 2015, by the Undersecretary of Defense.

Dr. LAPLANTE. The Office of the Secretary of Defense has drafted the subject report and is circulating it for comment.

SERVICE CONTRACTS

27. Senator HIRONO. Secretary Shyu, Secretary Stackley, and Secretary LaPlante, the Department has said that it is 30 percent compliant with the fiscal year 2008 requirement to develop an inventory of service contracts and integrate those results into the budget process. Please explain how the Department arrived at this determination.

Ms. SHYU. The 30 percent compliance represents the percentage of services contracts contained within the Enterprise-wide Contractor Reporting Manpower Application (ECRMA) for fiscal year 2014 across the Department of Defense. The Army uses the CRMA as its primary vehicle to compile and review its annual inventory of services contracts contained within the CRMA and continues to work with the Office of the Under Secretary of Defense (Personnel and Readiness) to integrate the results of this inventory into the budget process.

Mr. STACKLEY. The Department of the Navy (DON) understands the 30 percent to be a fiscal year 2014 target that will increase to 90 percent in the next few years. The target is related to increasing the percentage of services contracts that contain the Enterprise-wide Contractor Manpower Reporting Application (eCMRA) reporting requirement. The DON is including this requirement in all new service contracts.

The DON is compliant with the statutory requirements to develop an inventory of contracted services (ICS) and has submitted the inventory each of the past five years. The contractor's reporting in eCMRA is improving the accuracy and fidelity of data captured in the ICS.

Dr. LAPLANTE. We will defer to USD(P&R) to answer this question as they provided this overall assessment, but our understanding is that this 30 percent factor is the percentage of DOD contracts that have incorporated the reporting requirement for contractors to provide their man-hours and labor dollars into the Contractor Manpower Reporting Application (CMRA) as of our fiscal year 2013 Inventory of Contracted Services (ICS). In November 2012, the AF directed incorporation of provisions within all of our contracts for the use of the Army designed CMRA. Currently, we are nearly complete in the contract modifications, but are still working with our contractors on the reporting processes.

28. Senator HIRONO. Secretary Shyu, Secretary Stackley, and Secretary LaPlante, Mr. Levine testified that the Army has a system in place to determine the number of contractor employees while the other military departments rely on a conversion factor. It is my understanding the Department in 2012 mandated the use of the Army system for all DOD Components and in fact resourced that capability. Can you please clarify—are other Components in fact using system(s) similar to the Army's?

Ms. SHYU. The Department of the Army utilizes the Contractor Manpower Reporting Application (CMRA) to collect information on services contracts and comply with the annual contractor inventory requirement. Furthermore, the Army is leveraging the Panel for Documenting Contractors (PDC), a module within the CMRA, to enable commands to better project their contract services requirements. The Army will pilot a process in fiscal years 2018–2023 that will leverage the data collected by the PDC module in order to better plan and program for these contracts.

Mr. STACKLEY. The Department of the Navy (DON) is using a system modeled after and very similar to the Army's. It is an early Army version with tailoring for DON organizational structure, business processes, and nomenclature.

The DON is capturing contractor direct labor hours for an increasing number of service contracts each year.

Dr. LAPLANTE. Public Law 112–10, the DOD and Full-Year Continuing Appropriations Act 2011, Section 8108 (System to Document Contractor FTEs)—required the Air Force and Navy to leverage the Army's Contractor Manpower Reporting Application (CMRA), modified as appropriate for Service specific requirements, for documenting the number of contractor FTEs (or its equivalent) pursuant to USC Title 10 Section 2330a(c) and meeting the requirements of USC Title 10, Section 2330a(e) and USC Title 10, Section 235.

The Air Force's CMRA system was operational on 1 Oct 12 and was used to inform both the fiscal year 2013 and fiscal year 2014 Inventory of Contracted Services. The primary difference in our system versus the Army's system is the maturity of the data and the enabling processes and procedures. The Army's reporting system is more robust since they have been using it for years. The Air Force, DOD Fourth Estate, and Navy applications have been able to incorporate many of the Army's lessons learned, but are still not 100 percent fully implemented primarily due to contractor reporting "ramp-up".

29. Senator HIRONO. Secretary Shyu, Secretary Stackley, and Secretary LaPlante, what are the specific challenges of creating a common reporting application?

Ms. SHYU. While Congress continues to urge the DOD to implement a common reporting application to support its annual inventory of services contracts, multiple challenges hinder these efforts. First, the Department lacks sufficient dedicated resources to successfully manage a common reporting application. To remedy this, representatives from the Army and other military departments are currently working with the Acting Assistant Secretary of Defense (Readiness and Force Management) to redefine and re-scope the missions, functions, organizational placement and composition of the Total Force Management Support Office (TFMSO). Second, the Department lacks a methodology to consistently identify Closely Associated with Inherently Governmental (CAIG) functions. Some of the inventory review processes may not be sufficient to accurately identify CAIG functions. Consistent methodologies must be established across the Department of Defense as an initial step in developing and applying a common reporting application.

In order to combat the challenges related to implementing a common reporting system, the Army is working to designate a senior official responsible for managing the Contractor Manpower Reporting Application (CMRA). This designee will work with the Air Force, Navy and other DOD components to establish a defined path forward and ensure to the Army supports the implementation of a common reporting system.

Mr. STACKLEY. For a single application, the challenges would include standardizing business rules and processes across the Department, instituting data standardization, transforming and migrating existing data structures, and the related training implications.

Dr. LAPLANTE. As stated in question 28, we are all using primarily the same reporting application, CMRA, albeit slightly different operating versions. One specific challenge area, which is continuing to be discussed within DOD, is how do we best use this information to ensure that it is integrated into the acquisition, requirements determination, programming, and budget business processes internal to the Military Departments and DOD.

30. Senator HIRONO. Secretary Shyu, Secretary Stackley, and Secretary LaPlante, what is the Department's current timeline for full implementation, including developing rules and standardized business processes, to bring all components onto the system and to rely on the data for budget analysis?

Ms. SHYU. In October 2013, the Department of Defense (DOD) fielded a system based on the Army's Contractor Manpower Reporting Application (CMRA) system, to support the remaining Defense components, to include the Air Force and Navy. Each of the four CMRA systems is independent, maintaining its own interface, but

all are accessible through a common webpage. In March 2015, the Office of the Under Secretary of Defense, Personnel and Readiness (OUSD P&R) established a working group with members from across the DOD to continue maturing the CMRA systems and to develop one, common application. As the Army's CMRA system is significantly more mature than the other systems, and contains capabilities for projecting contracted services for purposes of integration into the programming, planning, and budgeting activities, the working group will use it as a basis to develop the DOD-wide common application. The timeline for full implementation, and subsequent development of standardized rules and business processes, are currently in the initial stages of development.

Mr. STACKLEY. Office of the Under Secretary of Defense for Personnel and Readiness is leading an effort to migrate the Department to the Defense Manpower Data Center by the end of 2015 to establish a "common environment" for hosting and maintenance and support of the applications. Once transition occurs, the Department plans to develop the rules and business processes to bring about a "common solution" across all elements of the Department.

Dr. LAPLANTE. Office of the Under Secretary of Defense, Personnel & Readiness OSD(P&R) is leading a working group where the AF is participating. The timeline for full implementation and the rules and standardized business process have not been finalized.

TOTAL FORCE MANAGEMENT OFFICE

31. Senator HIRONO. Secretary Shyu, Secretary Stackley, and Secretary LaPlante, has the Total Force Management Support Office been stood up?

Ms. SHYU. No. Representatives from the Office of the Assistant Secretary of the Army (Manpower and Reserve Affairs) and other Military Departments are working with the Acting Assistant Secretary of Defense, Readiness and Force Management to redefine and re-scope the missions, functions, organizational placement, and composition of the Total Force Management Support Office.

Mr. STACKLEY. A working group has been established by the Office of the Under Secretary of Defense for Personnel and Readiness and the Department of the Navy is an active participant. The working group is developing the necessary work functions and associated skill sets for the Total Force Management Support Office.

Dr. LAPLANTE. We expect that the Total Force Management Support Office will be stood up by September 2015.

32. Senator HIRONO. Secretary Shyu, Secretary Stackley, and Secretary LaPlante, if so, how many fulltime employees does it have?

Ms. SHYU. The Office of the Under Secretary of Defense, Personnel and Readiness, is reviewing the resource requirements for the Total Force Management Support Office. While currently planned to be staffed with six full-time employees, this number could change.

Mr. STACKLEY. The number of fulltime employees for the Total Force Management Support Office (TFMSO) has not yet been defined by Office of the Under Secretary of Defense for Personnel and Readiness. A working group has been established to support the stand-up of the TFMSO by developing the necessary work functions and associated skillsets required; the number of fulltime employees desired will be based on the work functions and the skillset requirements determined by the working group. The DON is an active participant on that working group.

Dr. LAPLANTE. The working group, established to support the stand-up of the Total Force Management Support Office, is developing the necessary work functions and associated skillsets required; the number of full-time employees desired will be based on the work functions and the skillset requirements determined.

33. Senator HIRONO. Secretary Shyu, Secretary Stackley, and Secretary LaPlante, to whom will the leader of this office report?

Ms. SHYU. The Office of the Under Secretary of Defense, Personnel and Readiness, is reviewing the resourcing requirements and organizational structure of the Total Force Management Support Office.

Mr. STACKLEY. The current deliberations of the working group are recommending that the Total Force Management Support Office (TFMSO) Lead receive policy oversight and guidance, as well as operational and technical direction, from the Office of Total Force Planning & Requirement within the Office of the Under Secretary of Defense for Personnel and Readiness (OUSD (P&R)). The TFMSO itself is expected to be an element of the Defense Human Resources Activity, a field activity of the OUSD (P&R). The working group continues to define mission, tasks, func-

tions, and associated skillsets. The command and control structure of the TFMSO is currently being developed.

Dr. LAPLANTE. At present time, it is anticipated that the Total Force Management Support Office (TFMSO) will report to the Assistant Secretary of Defense for Manpower and Reserve Affairs (under the auspices of the Under Secretary of Defense for Personnel and Readiness) for policy direction. The Director, Defense Human Resources Activity will provide administrative support (also under the auspices of the Under Secretary of Defense for Personnel and Readiness).

QUESTIONS SUBMITTED BY SENATOR MARTIN HEINRICH

ACQUISITION REFORM

34. Senator HEINRICH. Secretary Shyu, one of the issues that is hampering acquisition programs is "requirements creep", that is: we keep changing what we want our systems to do, even while we are building them. For example, we may add new features to a combat vehicle, which adds to complexity and cost. How do we try to control this kind of change in requirements and the negative effects it has on acquisition programs?

Ms. SHYU. The Army conducts Configuration Steering Boards (CSB) for all required Major Defense Acquisition Programs/Major Automated Information System programs and encourages them for all other acquisition programs. CSBs bring together members of the acquisition, requirements, and resourcing communities to review system requirements and technical configuration changes to help achieve program objectives in terms of cost, schedule, and performance. Additionally, many programs use a pre-planned Knowledge Point (KP) process to manage requirements through expanded collaboration between our program managers and combat developers. This review process identifies and addresses key trade-offs that affect affordability and performance. Moreover, this process allows senior leaders to align requirements and resources early in the program's development, maximizing our investments by achieving the best capability at an affordable cost through cost-informed trades and capability prioritization. This process was used successfully in the Armored Multi-Purpose Vehicle and Joint Light Tactical Vehicle, resulting in executable and affordable programs.

35. Senator HEINRICH. Secretary Shyu, in your testimony you state that DOD's "requirements generation process often develops in isolation, based on operational desires removed from engineering and resource constraints. The results are requirements based on ideal aspirations versus "good enough" operational utility." How do you specifically propose we address the requirements process so that we can stop making "the perfect" the enemy of "the good enough"?

Ms. SHYU. Requirements must be informed by technical feasibility, from the initial concept phase through development. To meet a series of requirements, a program manager must balance product performance against competing priorities, such as cost, delivery schedule, size, weight, power consumption, reliability and risks. Informed trades among the competing priorities are essential to achieving operational capability.

To ensure requirements are achievable, the Army must fully understand the limits of the trade-space, which is informed by technical designs, intended product operation, and the availability of critical enabling technologies. Our industry partners must be involved in providing this trade-space early on in the acquisition process since they design and manufacture the products. To this end, there are several initiatives that aim to improve the Army's understanding of requirements and the trade space throughout product development.

First, during concept and development, prototyping for critical enabling technologies reduces technical risk and informs technical design analyses. Involving industry early in the design process, through prototyping and feedback on draft requirements, will enable detailed technical feedback for informed trade analyses.

Additionally, the Army conducts Configuration Steering Boards (CSB) for Major Defense Acquisition Programs/Major Automated Information System programs and encourages them for all other acquisition programs. CSBs bring together members of the acquisition, requirements, and resourcing communities to review system requirements and technical configuration changes to help achieve program performance objectives while ensuring the systems remain affordable. Additionally, many programs use a pre-planned Knowledge Point process to manage requirements through expanded collaboration between our program managers and combat developers. This review process identifies and addresses key trade-offs that affect afford-

ability and performance. Moreover, this process allows senior leaders to align requirements and resources early in the program's development, maximizing our investments by achieving the best capability at an affordable cost through cost-informed trades and capability prioritization.

From a broader perspective, we aim to increase a program manager's ability to understand and mitigate technical risks through annual program assessment reviews. These annual program assessments require the program manager to analyze the technical aspects of the program, including requirements feasibility, and emphasize ongoing risk mitigation strategies with the acquisition chain of command.

36. Senator HEINRICH. Dr. LaPlante, if we don't understand what we are buying, it is hard to pin down an appropriate cost and schedule for the development and delivery of a system. What role do the world class technical staff at Air Force Research Labs, the other DOD labs, and DOE National Labs play in helping DOD be a "smart buyer" of complex technical systems?

Dr. LAPLANTE. The Air Force Research Laboratory (AFRL) employs subject matter experts who support the acquisition community through a technical advisory role during the entire acquisition life cycle, development, procurement, and sustainment. AFRL's technical expertise is used now and will continue to be leaned upon to assist in Technology Readiness Assessments, ensuring technical program risks are understood. Furthermore, our initiatives to reinvigorate development planning and experimentation will strengthen the Air Force's technical knowledge of future capability options. AFRL will play a big role in maturing technologies and helping others to gain this knowledge and understanding of technical options. The development planning and experimentation process is expected to design agility into our capability development by interconnecting relationships between AFRL, operators, acquisition, and requirements communities early-on in the acquisition cycle. This integration across Air Force organizations will inform strategic funding choices that will result in low risk acquisition programs to deliver warfighting capabilities on time and within budget.

37. Senator HEINRICH. Dr. LaPlante, what can be done to strengthen that role?

Dr. LAPLANTE. The Air Force must continue to focus on recruiting and retaining a highly talented science, technology, engineering and mathematics (STEM) and STEM-literate workforce in order to maintain the strong relationship the Air Force Research Laboratory has with the greater Air Force Acquisition community. To promote these efforts the Secretary and Chief of the Staff of the Air Force published the Air Force Engineering Enterprise Strategic Plan and the Air Force STEM Workforce Strategy, Bright Horizons 2.0. Both documents provide framework and strategic goals to guide STEM workforce planning, improve the technical workforce and address competency gaps across the Air Force enterprise. Recruiting and retaining a highly qualified STEM and STEM literate workforce will ensure the Air Force Acquisition community has access to top-notch technical guidance to make "smart" procurement decisions.

TESTING

38. Senator HEINRICH. Secretary Shyu, Secretary Stackley, and Secretary LaPlante, what role do test ranges and testing play in ensuring that the products we are trying to build and deploy will actually work as planned?

Ms. SHYU. Test Ranges, test activities, and associated evaluations are integral parts of developing and producing equipment, as they provide the environments, measurement capabilities, skilled people and methods required to collect and evaluate data to verify and validate product designs. Developmental testing and evaluation supports verification and focuses on collecting and evaluating product specification data in order to answer the question "Did we meet the necessary specifications to achieve desired operational outcomes?" Operational testing and evaluation supports validation and focuses on collecting and evaluating system performance data when the system is used by Soldiers under realistic usage conditions in order to answer the question "Will the product meet the desired operational intent when fielded?" Both functions continue to perform an important role in the development of warfighting capabilities.

Mr. STACKLEY. The results of testing activity conducted in support of Navy and Marine Corps defense acquisition systems is used to evaluate the capabilities and manage the risks in developing, producing, operating and sustaining systems and capabilities that are fielded to sailors and marines. Test and Evaluation (T&E) provides knowledge to the acquisition community for use in assessing performance to the system requirements, evaluating critical operational issues, improving the sys-

tem performance where needed and providing the user community with information for optimizing system use in operations.

Test ranges are critical to the T&E process and provide the infrastructure, capability, manpower and knowledge to conduct testing in a timely, thorough, and cost efficient manner. The Navy's test ranges and facilities, and other elements of the Major Range and Test Facility Base assets that we use, serve at the forefront of innovation in test capability, instrumentation and enhanced test practices. Through these efforts the Navy is able to continually improve the quality and capabilities of testing being performed on our acquisition programs.

T&E expertise and test ranges are available to acquisition programs at the beginning of the system life cycle to provide learning about the strengths and weaknesses of the system under development and throughout its lifecycle to facilitate upgrades and enhancements. This allows for appropriate and timely corrective actions that can be developed prior to fielding of the system.

Dr. LAPLANTE. Fundamentally, the purpose of Test & Evaluation (T&E) in a defense acquisition program is to help reduce or manage risks in defining, developing, acquiring, fielding, using and supporting a system.

T&E is generally divided in two categories. Developmental T&E (DT&E), also known as Development Test (DT), verifies a system meets detailed technical requirements or specifications (the system is built right). Operational T&E (OT&E), also known as Operational Test (OT), validates a system meets warfighter requirements in an operational environment (the right system is built to complete the mission).

Quality DT and OT require robust T&E infrastructure, from laboratories and simulation facilities to open-air ranges with a wide range of threat simulators, stimulators, and emitters. This infrastructure enables technologically superior, reliable, maintainable, sustainable, and safe weapons systems that ultimately ensure warfighter combat readiness. Key components of the AF's T&E infrastructure are described below:

- Ranges such as the R–2508 Complex at Edwards AFB, the Nevada Test and Training Range (NTTR) and the Eglin Range at Eglin AFB provide a flexible, realistic and multidimensional DT and OT battle-space to conduct aircraft and aircraft systems evaluations, electronic combat testing, munitions testing, electronic countermeasure evaluations, small and large footprint weapons testing and sensor (Intelligence, Surveillance and Reconnaissance (ISR)) testing.
- The Space and Missile Systems Center is responsible for on-orbit check-out, testing, sustainment and maintenance of military satellite constellations and other DOD space systems. DT is predominately accomplished through Government-led, contractor-run ground-based simulations and launch, and early-orbit functional checkouts. The Air Force Operational Test and Evaluation Center (AFOTEC) completes OT by performing on-orbit operationally based end-to-end testing and capability verification. Both components are essential to delivering resilient and affordable space capabilities and providing mission support to the warfighter (precision navigation, secured communications, reliable intelligence, surveillance and reconnaissance (ISR)).
- The primary Air Force (AF) cyber test ranges are the Capabilities Integration Environment (CIE), the Air and Space Operations Center (AOC) Test Lab, the Datalink Test Facility (DTF) and the Command, Control Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR) Enterprise Integration Facility (CEIF). Cyber testing ensures weapon systems can execute the intended mission even when faced with cyber threats such as cyber attacks (e.g., denial-of-service operations) and cyber espionage (e.g., network intrusions to access sensitive information).

39. Senator HEINRICH. Secretary Shyu, Secretary Stackley, and Secretary LaPlante, what can we do to improve the quality of testing and strengthen the organizations that perform that testing?

Ms. SHYU. We can improve the quality of testing and strengthen the organizations that perform it by pursuing test efficiencies and adopting best practices.

The Army must continuously pursue efficiencies in the test process. First, instead of sequential testing, we can buy sufficient test articles to maximize simultaneous testing. Second, to make test data sharing easier and quicker, we can create certified developmental test standards applicable to both Government and contractor testing practices. Additionally, we can develop a database of qualified parts, components, and pre-certified sources the multiple programs can leverage to reduce cost and avoid retesting.

There are several best practices that can be adopted to improve the quality of our testing processes and outcomes. By investing early in appropriate models and sim-

ulations that can be accredited for use, we can supplement, inform, and improve physical testing. Another improvement is to obtain limited use rights for vendor Computer Aided Design/Computer Aided Manufacturing designs and materiel specifications. This allows us to rapidly trace faults to root causes. Third, Soldier feedback remains one of the most important outcomes of test efforts. Multiple early opportunities with users offer better feedback than a single defining event and allow the Army to incorporate this critical feedback earlier. Fourth, rapid equipping and prototyping experiences in theater provide valuable technical insight. The Army can leverage this information to adjust testing or challenge existing programs. Finally, the Army must base system requirements documents on desired operational outcomes, not system attributes.

Mr. STACKLEY. I believe the quality of our testing and expertise of our Test and Evaluation (T&E) workforce in our organizations is high, and we have highly educated and motivated individuals devoted to these efforts. However, let me also say, we continually strive for improvement to address the latest test capability needs and requirements for new systems under development, and to stay abreast of the latest threat systems that we must counter on the battlefield. In support of acquisition programs, one of the Navy's top priorities is to integrate testing earlier in the process. Within the Department of Defense (DOD), this early start is known as "Shift Left" with the focus on enabling acquisition programs to incorporate T&E expertise at the beginning of the system life-cycle to clearly define test requirements and provide early learning and identification of technical deficiencies as part of the developmental process. This ensures that appropriate and timely corrective actions can be developed and completed prior to operational testing by our independent Navy and Marine Corps Operational Test Agencies.

With respect to the quality of testing and strengthening the organizations that perform that testing, since 2009 we have completed annual self-assessment reviews and reports to evaluate and confirm the adequacy of our Navy and Marine Corps T&E workforce, facilities, process and practices. We have received OSD concurrence on that assessment in their annual DOD Developmental T&E Reports to Congress. Our Naval Systems Commands (SYSCOM), Program Executive Offices and Naval Warfare and System Centers utilize a Competency Aligned Organization and Integrated Product Team business model to support T&E activities. SYSCOM Commanders structure and staff their organization to meet workload demands, and provide required T&E technical expertise.

In the Department of the Navy, our focus on quality testing provides a venue to systematically assess and demonstrate system performance at each phase of development from design through sustainment. Through testing, acquisition programs gain a better understanding of any technical challenges early on to ensure the system can perform as intended in an operational environment in a systems-of-systems content. In doing so, T&E provides an essential service in advancing the overall safety and combat effectiveness of our warfighters and the systems delivered to them.

Dr. LAPLANTE. To improve test quality, the AF is identifying near to mid-term investments to restore and improve World War II-era test infrastructure and create modern capabilities to meet future test requirements. Specific focus areas include:

1. Test Range Improvement and Modernization: The AF is pursuing improvements to 1960s era range instrumentation. These improvements will provide needed instrumentation agility, standardized dynamic data access, and seamless data transport. In addition, they will enable "system of systems" testing through the fusion of range display systems.
2. Electronic Warfare (EW) Test Capability Modernization: Planned upgrades will resolve existing shortfalls and will enable the testing of legacy and new EW threat waveforms in realistic densities and fidelities to address expected threats in anti-access/area denial (A2/AD) integrated air defense system (IADS) environments. Ultimately, these upgrades will support the requirements and complex missions of 5th and 6th generation systems.
3. Ground Test Capabilities and Facilities: Wind tunnel and engine test facility updates will benefit future AF test programs such as the Long Range Strike Bomber, KC–46 and Hypersonic-Boost-Glide Vehicle.
4. Cyber Test Infrastructure Improvement and Modernization: The AF is pursuing new capabilities to address expanding cyber offensive/defensive and weapons systems testing in response to defined threats. Specifically, the AF is seeking to develop a Cyber Defense DT&E environment and the methodologies, techniques, tools and metrics to determine and evaluate mission effectiveness and success for cyber protection, detection, reaction and restoration.

In addition to infrastructure improvements, the AF is pursuing efforts to strengthen test organizations through best practice and workforce management initiatives. Two such initiatives are:

1. Adjust Acquisition Program Emphasis on the Concept of Operations/Intended Use: This emphasis would improve acquisition programs' OT results. OT is the capstone assessment of the system's ability to perform the mission. Per OSD Acquisition policy, CONOPS/OMS/MPs are required prior to Milestone 'A' and its OT implications are to be identified in the Milestone 'A' Test and Evaluation Master Plan (TEMP), i.e., early in the acquisition process. (DODI 5000.02)
2. Professional Test and Evaluation Workforce Management: The Air Force is pursuing a formal Management Function that will provide day to day management responsibility over the T&E functional community. This Functional Manager will maintain an institutional focus with regard to workforce development, and will be responsible for ensuring the test specialty is equipped, developed, and sustained to provide AF T&E capabilities.

QUESTIONS SUBMITTED BY SENATOR JOE MANCHIN

TECHNOLOGY DOMAIN AWARENESS

40. Senator MANCHIN. Secretary Shyu, Secretary Stackley, and Secretary LaPlante, how important is it for DOD and your Service to have better global insight into research and development, both private and public? What benefits could increased technology domain awareness have for the Department and your Service?

Ms. SHYU. The technology playing field is changing, and important breakthroughs in many fields are now often driven by commercial needs and international development. Therefore, it is critical that we both understand the global research and development environment and leverage these breakthroughs where possible. By better understanding where both our potential enemies and our allies are focusing their research efforts, we are able to more accurately forecast future threats, as well as leverage areas where our allies may be more advanced than we are currently.

The Army conducts a comprehensive annual review of 15 to 20 leading open source forecasts on emerging Science and Technology (S&T) trends. We compile the top trends and publish them in an unclassified report. This analysis then informs the development of future Army concepts. Additionally, the Army uses crowdsourcing techniques to engage nontraditional partners in order to generate innovative ideas and novel capabilities that the Army could employ in the future (2035–2040). Subject matter experts analyze these ideas to determine which are feasible, what research needs to be done, and when the technology or capability may be ready. This information is then used to better inform wargaming scenarios and enable future warfighting concepts.

Additionally, the Department of Defense is sponsoring a Technology Domain Awareness (TDA) initiative, which aims to integrate commercial research and development with defense capabilities and expand awareness and application of commercial investments. This effort connects defense acquisition with innovative providers to enable better, faster, and cheaper capability development. The Army is working with DOD to learn more about TDA's utility, understand how to potentially integrate existing Army technology search tools within TDA, and will explore the potential of a TDA pilot program within the Army.

Mr. STACKLEY. The Office of Naval Research (ONR) has offices in London, Prague, Singapore, Tokyo, Sao Paolo, and Santiago—and closely coordinates activities with the other services and Assistant Secretary of Defense (Research and Engineering). The mission of these ONR Global offices is to catalyze the Department of Navy (DON) science and technology (S&T) connectivity to the international research community and the Naval Research Enterprise. This technology domain awareness benefits DON and DOD by leveraging international S&T investment, building partnerships, and preventing technological surprise on the battlefield by tracking technology advances and applications, particularly in emerging fields such as quantum computing and synthetic biology. We search for emerging research and technologies to help address current Naval needs, as well as requirements for future capabilities.

As stated in the DOD International Engagement Strategy (2014), the mission of international engagement is to "leverage global R&D investment to ensure superior and affordable development in areas critical to defense." Our International Science Program gives scientists from academia, Government and industry opportunities to engage leading international scientists and innovators. Our staff, in partnership with scientists throughout the Naval Research Enterprise, develops key collaborations with international counterparts, and identifies the organizations and individ-

uals conducting novel research that will significantly advance the Naval S&T Strategy.

ONR Global establishes contacts with international S&T leaders, giving us new perspectives and helping identify trends and forecast threats. ONR Global S&T engagement enables us to foster international partnerships through mutually beneficial technology advancement. We collaborate with the world's scientists and engineers in partnerships to benefit the U.S. and our allies and to support security cooperation objectives through science diplomacy.

Dr. LAPLANTE. With offices in London (UK), Tokyo (Japan), Santiago (Chile), and Arlington, Virginia, Air Force International Project Officers provide access to world-class researchers and facilities by providing grants, supporting conferences, and facilitating scientist and engineer exchanges. Technical experts within the Air Force are expected to be globally knowledgeable within their domains, and serve important roles representing Air Force interests within bi-lateral and multi-lateral fora where critical technical information is developed and exchanged. Through these relationships, opportunities are identified to leverage investments, advance capabilities, produce standards for interoperability, and avoid technological surprise. Activities include collaborative research, facility sharing, personnel exchanges, and information exchanges. The Air Force and DOD must continuously monitor, leverage, and increase insight into global research and development. The DOD no longer has sole access to nor the ability to control the development of cutting edge technology. Public and private global research and development is driving revolutionary innovation in many emerging areas at a breathtaking pace and is accessible to everyone, presenting asymmetric technology trends to the DOD. Increasing global technology domain awareness provides an effective understanding of the technical landscape as it relates to defense needs and better informs where and when to invest Air Force and DOD research and development.

41. Senator MANCHIN. Secretary Shyu, Secretary Stackley, and Secretary LaPlante, what is your Service doing to achieve greater insights into intellectual property being developed and advances being made by public and private sector research and development? How can this effort best be structured to maximize the value, especially through development of opportunities to leverage these advances, for the whole Department?

Ms. SHYU. The technology playing field is changing, and important breakthroughs in many fields are now often driven by commercial needs and international development. Therefore, it is critical that we both understand the global research and development environment and leverage these breakthroughs where possible. By better understanding where both our potential enemies and our allies are focusing their research efforts, we are able to more accurately forecast future threats, as well as leverage areas where our allies may be more advanced than we are currently.

The Army conducts a comprehensive annual review of 15 to 20 leading open source forecasts on emerging Science and Technology (S&T) trends. We compile the top trends and publish them in an unclassified report. This analysis then informs the development of future Army concepts. Additionally, the Army uses crowdsourcing techniques to engage nontraditional partners in order to generate innovative ideas and novel capabilities that the Army could employ in the future (2035–2040). Subject matter experts analyze these ideas to determine which are feasible, what research needs to be done, and when the technology or capability may be ready. This information is then used to better inform wargaming scenarios and enable future warfighting concepts.

The Army leverages the independent research and development pursued by industry and academia through multiple forums. One example is the Army Research Laboratory's (ARL) Open Campus Initiative. This effort enhances innovation by connecting Army researchers with the substantial intellectual resources of the global scientific research community, including academia, industry and small business. Since its inception, the Open Campus has initiated 84 Cooperative Research and Development Agreements with small businesses, industry and academia, with another 70 in the works. More than 500 researchers have leveraged the laboratory to conduct side-by-side research in critical Army Science and Technology portfolios.

Mr. STACKLEY. U.S Naval forces require a broad spectrum of core capabilities to assure access to the global maritime domain. Consequently, the Naval Science and Technology (S&T) strategy invests in a balanced and broad portfolio of promising scientific research and innovative technology in the United States and around the world.

The Office of Naval Research Global (ONR Global) establishes contacts with international S&T leaders, giving us new perspectives and helping identify trends and forecast threats. This technology awareness prevents technological surprise on the

battlefield by tracking technology advances and applications, particularly in emerging fields such as quantum computing and synthetic biology. ONR Global S&T engagement enables us to foster international partnerships through mutually beneficial technology advancement.

Achieving this mission requires working with the best and the brightest people from partner organizations both at home and abroad. Fostering the intellectual capital necessary for America's Defense is fundamental to our national security.

The Naval S&T strategy ensures the technical superiority of the Navy and Marine Corps and avoids technology surprise.

Dr. LAPLANTE. The DOD Technology Domain Awareness initiative is focused on developing the networks, knowledge, and business processes to connect our needs to industry's technology development and potential solutions. DOD stakeholders will have improved insight into thousands of commercial businesses, start-ups, venture capitalists, universities, and defense contractors. Additionally, the Air Force and DOD have initiated a continuing series of joint technical interchange meetings with industry, organized by 17 DOD Science and Technology (S&T) Communities of Interests (CoIs). Through a continuous virtual exchange of data and in-person reviews, the S&T CoIs provide industry with detailed information about future program plans and requirements, while gaining enhanced understanding and visibility into relevant industry research and development efforts. Through this increased transparency and awareness, our goal is to better focus and align industry's investment and solutions toward Air Force needs and problems.

CURRENT ACQUISITION CONCERNS

42. Senator MANCHIN. Secretary Shyu, Secretary Stackley, and Secretary LaPlante, what current program in your portfolio are you most concerned about? What are the challenges about it that have you concerned and how do you plan on mitigating those issues?

Ms. SHYU. I remain most concerned not about one particular program, but about the ongoing budgetary instability that affects every one of the Army's modernization programs. Stable resources are a primary factor in program success, and the continual budget cuts and lack of long-term fiscal stability represent a significant threat to our modernization efforts. Since manpower costs cannot be reduced quickly or significantly, the Research, Development, and Acquisition accounts take the brunt of budget cuts. These long-term funding uncertainties significantly hamper the Army's capacity to plan and execute programs for the development of new Soldier capabilities.

Mr. STACKLEY. While not a specific program, there are challenges in defining requirements and pricing contracts for fielded systems that are no longer managed by the PEO/PM structure. While we've modestly restored our acquisition workforce to where we believe it needs to be to support our programs, we are focusing additional effort and making progress to train and rebuild the acquisition workforce responsible for these other acquisition and procurement areas. Today the budget environment threatens to dismantle the progress made in restoring the acquisition workforce.

Dr. LAPLANTE. The program I am most concerned about is the Next Generation Operational Control System (OCX), which is the ground control system within the Global Positioning System (GPS) Enterprise.

The contractor's approach of concurrent systems engineering for the OCX program, as well as cyber-security requirements that proved more challenging than anticipated, drove both cost and schedule breaches on the program. In December 2013, the GPS Program Director ordered a pause to further design work until corrective actions were implemented by the contractor. I reviewed these corrective actions along with USD(AT&L) at a Deep Dive in February 2015 and they appear to be moving the program in the right direction.

We have put the following additional controls in place on OCX: First, USD(AT&L) established five key milestones with cost/schedule tripwires that require Department review if the program breaches. Second, SECAF requested an Acquisition Incident Review on 29 Apr 15, chartered by the PEO for Space, to identify root causes of program issues and make recommendations to the acquisition community. Finally, the GPS Program Director commissioned a long-term study to determine if there are viable alternatives in the event that one or more tripwires are triggered and the Department makes the decision that the current OCX contract approach is no longer viable. As a result of these oversight controls, OCX continues to be under rigorous review by the Air Force and Department.

43. Senator MANCHIN. Secretary Shyu, Secretary Stackley, and Secretary LaPlante, what broader lessons for the future can we learn from these challenges?

Ms. SHYU. Acquisition reform is a goal sought over the last several decades. The recent steps taken by both the House and Senate, as well as the Department's acquisition reform legislative proposals, reflect a shared commitment to streamline the acquisition process. However, the acquisition process works in tandem with budgeting and requirements processes. The complex integration of these processes, combined with the multitude of stakeholders who can influence or stall program decisions, is a significant impediment to successful programs. True acquisition reform must fundamentally take a holistic look at the integration and mechanics of these processes and significantly reduce the stakeholders impacting program decisions. Without streamlining the decision process and willingness to accept manageable risk, we cannot significantly reform the defense acquisition system.

Mr. STACKLEY. Defense acquisition is a large enterprise of complex, interdependent systems-of-systems, engineering disciplines, procurement rules, budget rules, organizations and processes. Oversight and governance of the enterprise is necessary and is expected, but it is crucial to strike the right balance in order to achieve affordable outcomes. Experience has shown that an experienced Acquisition Workforce is the single-most important fundamental in achieving strong, repeatable performance in Defense acquisition, and requires highly-educated and highly-skilled professionals. Lessons learned from highly successful programs highlight that the right balance is attainable by applying the fundamental disciplines already known and available to each Program Manager, then exposing the products of that discipline to simplified oversight by an appropriate but limited number of highly experienced managers, engineers, and business executives serving at the Service Secretariat and OSD levels. The current oversight and governance requirements, however, have added multiple layers of prescriptive processes, authoritative organizations and extensive reporting and documentation requirements that run counter to the objectives of efficiency, productivity, and performance. The DON recommends that the Congress work with USD(AT&L) in the current effort to roll back legislation that has produced unnecessary and redundant, regulatory and reporting burdens.

Dr. LAPLANTE. Command and control systems are inherently complex. As we learn more about the challenges and complexity that cyber security brings to complex systems, it is important we develop these using a very robust systems engineering approach. Agile software development has proven to be an effective approach for the iterative development of very large software systems. We found on the Next Generation Operational Control System (OCX) for Global Positioning System satellites that the added complexity from new cyber security requirements may have been more than could be absorbed into an agile development, resulting in substantial rework. So we returned to a more structured systems engineering approach that appears to be bearing fruit. As we move into the future and incorporate similar cyber security requirements into other command and control systems, we will relook at how best to balance the efficiencies of agile software development with the structure of a traditional systems engineering approach.

QUESTIONS SUBMITTED BY SENATOR TIM KAINE

BEST PRACTICES SUCCESS OF WEAPONS SYSTEMS ACQUISITION REFORM ACT (WSARA)

44. Senator KAINE. Secretary Shyu, Secretary Stackley, and Secretary LaPlante, since the implementation of the WSARA and the Better Buying Power initiatives, GAO indicates that acquisition program costs have come more under control. What are some of the specific steps that have led to these successes?

Ms. SHYU. Sequestration has significantly reduced investment in Army acquisition programs. As a result, the Army has started fewer new programs and faces an all-time low in modernization investment. The Army recognizes that given this reduced investment, it is more important than ever to ensure that programs are affordable to maximize the return on the limited investment available. Accordingly, the Army has implemented several process controls designed to promote affordability.

First, the Army requires Program Managers (PMs) to consistently look for ways to reduce program costs throughout the acquisition life-cycle. Accordingly, all PMs establish "Should-Cost" targets for programs to set cost goals below budgets. Second, the Army requires PMs to establish an affordability assessment and competitive strategy at each milestone decision. Setting and enforcing affordability caps for major programs helps screen requirements to ensure that programs remain viable and within budget. While managing programs to affordability constraints is manda-

tory for major ACAT I programs, the Army is expanding this policy to include all programs. These efforts promote improved management of the leading causes of cost growth in programs.

Additionally, the Army conducts Configuration Steering Boards (CSB) for Major Defense Acquisition Programs/Major Automated Information System programs and encourages them for all other acquisition programs. CSBs bring together members of the acquisition, requirements, and resourcing communities to review system requirements and technical configuration changes to help achieve program performance objectives while ensuring the systems remain affordable. Additionally, many programs use a pre-planned Knowledge Point (KP) process to manage requirements through expanded collaboration between our program managers and combat developers. This review process identifies and addresses key trade-offs that affect affordability and performance. Moreover, this process allows senior leaders to align requirements and resources early in the program's development, maximizing our investments by achieving the best capability at an affordable cost through cost-informed trades and capability prioritization.

Mr. STACKLEY. The DON designed its acquisition process, commonly referred to as the Navy Gate Review process, to ensure there is no gap between the Requirements and Acquisition organizations so that the Navy understands the relationship between requirements, technical feasibility, and cost. The process requires the Navy/Marine Corps operational requirements leadership and acquisition leadership to agree, and repeatedly affirm that the agreement throughout the development, acquisition, and sustainment of a system. The DON uses Gate Reviews to eliminate any misalignment between requirements and acquisition early in a program, and to check alignment regularly.

Each 'gate' is co-chaired by the Service Chief or senior military requirements officer and the Service Acquisition Executive (SAE). In all there are six gates, with the first three chaired by the Service Chief (co-chaired by the SAE) and ensure warfighter requirements are well understood and can be translated into technical requirements that the acquisition community can affordably achieve in the commercial or defense marketplace. The last three gates are chaired by the SAE (co-chaired by the senior military requirements officer) and ensure the technical specification, statement of work, and Request for Proposal have accurately translated the warfighter's requirements into an acquisition approach that is executable, affordable, and agreeable across acquisition and requirements leadership.

This process provides governance and oversight, and ensures adherence to the DON's basic principles to get the requirements right, perform to a stable plan, make every dollar count, rely on an experienced acquisition workforce, and foster a healthy industrial base.

Dr. LAPLANTE. The Air Force remains committed to keeping the costs of weapons program development under control. One of the steps we've taken that have led to our successes is encouraging programs to make what are often difficult trades in cost and capability. Essentially, we are working to figure out where can a program reduce or eliminate a requirement to save cost without impacting the warfighter's capability. These trades are never easy, but they force us as a team to determine where we are willing to decrease some functionality to save costs and still provide the warfighter the capability they need. In programs where we have done these trades so far, we've been successful in enabling the Air Force to be strategically agile and deliver capabilities on time.

The Air Force also remains committed to Should Cost, which was first introduced in Better Buying Power (BBP) 1.0. Should Cost is a management tool designed to proactively target cost reduction and drive productivity improvements into programs. I am pleased to announce that the Air Force's fiscal year 2014 Realized Savings were $2.8 billion. While that is a tremendous start, I continue to challenge all PEOs and PMs to seek out additional Should Cost opportunities, reaping as much as possible from our current portfolio.

45. Senator KAINE. Secretary Shyu, Secretary Stackley, and Secretary LaPlante, I am told there are proposed changes to processes created by WSARA, which GAO says have helped improve acquisition outcomes, for example by putting more discipline into checking how ready technologies are and by mandating strict oversight reviews of programs before they fall behind schedule. Do you have concerns about these proposed changes?

Ms. SHYU. Section 203 of the Weapon System Acquisition Reform Act of 2009 currently requires the Department to utilize competitive prototyping prior to Milestone B approval of the development phase in an acquisition program. In practice, many acquisition programs seek to upgrade existing systems to meet additional requirements and do not employ as many novel, untested technologies. Therefore, full

prototyping of a system may not be cost-effective in these programs. Moreover, the current statute does not address other measures designed to address technological maturity and attendant risks in acquisition programs, to include modeling and simulation, systems engineering, use of multiple designs approaches, and subsystem prototyping, e.g., prototyping of components.

The Department has proposed modification of this requirement to provide greater flexibility in the Army's ability to tailor risk mitigation approaches to fit the product being acquired. The language moves from a single prescriptive requirement to assess competitive prototyping to a set of guidelines that addresses a broader set of approaches to programmatic and technical risk reduction. In addition, the elimination of a complex waiver process will further streamline the documentation requirements imposed on Program Managers. I have no concerns about these proposed changes, as they will strengthen and broaden the mechanisms in place to ensure that program risks are readily identified and effectively managed.

Mr. STACKLEY. The DON's acquisition process, commonly referred to as the Navy Gate Review process involves discipline in assessing technology readiness levels and associated risks, and adherence to the basic principles of getting the requirements right and performing to a stable plan. The Gate Review process has resulted in the requirements and acquisition community being aligned around the table and at each step of the program, starting with the definition of the requirement translated into technical requirements that the acquisition community can affordably achieve in the commercial or defense marketplace, right down to the contract award and execution of the contract. When there is no separation between requirements and acquisition throughout the process, the DON is able to keep control over the requirements as well as the cost and schedule to meet those requirements.

Dr. LAPLANTE. The Air Force concurs with the GAO that WSARA provided additional discipline in the early stages of the acquisition lifecycle to help set up programs for success. We believe the current assessment of technology readiness and program oversight is appropriate.

WORKING WITH HIGH TECH STARTUPS AND TECHNOLOGICAL INNOVATORS

46. Senator KAINE. Secretary Shyu, Secretary Stackley, and Secretary LaPlante, this week, Secretary Carter was in Silicon Valley engaging some of our high tech companies. It appears the Government no longer seems to attract the fastest moving, most innovative companies. What has been your experience in trying to work with some of the best high tech commercial companies?

Ms. SHYU. The Army recognizes the importance of leveraging high-tech commercial innovation. However, some of these companies have difficulty working within the Government's acquisition process due to barriers in three primary areas—the complexity of the regulations, compliance with audit oversight, and data rights. First, contracting with the Federal Government is a highly regulated process. The rules and regulations governing defense acquisition frequently change and evolve. Both the complexity of the regulations and the cost to keep up with the changes can make it difficult for some companies to enter the Government contracting arena. Second, the numerous audit and oversight bodies with jurisdiction to oversee Defense contracts may dissuade some companies from competing. There is a financial and administrative burden associated with compliance that may outweigh the benefit for some companies. Finally, Federal contracts generally—and Defense contracts particularly—give the Government broad rights with regard to the two types of intellectual property that are most likely to be of concern to small and midsize businesses: (1) patent rights, and (2) rights in technical data. Smaller businesses can experience particular difficulties in protecting their rights because of their size and the comparatively limited resources available to them.

IT capability is critical to connecting our global Army, yet commercial innovation often outpaces our traditional acquisition processes. As part of the Department's Better Buying Power initiative, the Army is working to address the challenges associated with access to commercial innovation and IT acquisition. The Army is currently participating in Department-wide efforts to identify barriers to the adoption and use of commercial technology for military systems. This study will facilitate recommendations to improve the incorporation of commercial off the shelf technology from nontraditional information technology contractors. A related area of focus is designed to improve the process for technology insertion into our current weapon systems. This allows the Army to more quickly leverage commercial innovation as opposed to waiting until the overall system is modernized. Moreover, the Army is also investing in modular open systems architecture. Open architecture standards and modularity opens the market to more companies with cutting edge capabilities that may not traditionally compete for development of a full system.

Mr. STACKLEY. The DON, through the Office of Naval Research, has effectively used Broad Agency Announcements for research topics to encourage small and large companies to share and develop their ideas and new or improved technologies. For small businesses, the DON has effectively used the Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) program to encourage small business innovators to share and develop their new or improved technologies. To encourage small business participation in our programs, the DON has assigned each Deputy Program Manager the responsibility to be the small business advocate for all things associated with the program.

Dr. LAPLANTE. The Air Force and DOD must continuously strive to increase access to and collaboration with nontraditional suppliers. Expanding and encouraging the use of Other Transaction Authorities, Cooperative Research and Development Agreements, Open Challenges, and Small Business programs are flexible and potentially faster processes to tap the innovative talent of nontraditional vendors. The Air Force is always on the lookout to find the leading edge technologies often found in nontraditional vendors. We recently partnered with nontraditional defense companies, Applied Minds and Stottler Henke Associates, to develop innovative space operations solutions, building an immersive visualization environment tool and using artificial intelligence to aid satellite communications. It's true, our capability development paradigm is inadequate. To the extent that our current policies and regulations can be modified to change the paradigm from large, complex programs rife with crippling interdependencies to programs with simple, severable components, open architectures, and more distributed participation, we will enact those changes.

47. Senator KAINE. Secretary Shyu, Secretary Stackley, and Secretary LaPlante, what steps should we take so that we can get more of these companies working on our defense acquisition programs?

Ms. SHYU. The Army recognizes the importance of leveraging high-tech commercial innovation. As part of the Department's Better Buying Power initiative, the Army is working to address the challenges associated with access to commercial innovation. The Army is currently participating in Department-wide efforts to identify barriers to the adoption and use of commercial technology for military systems. This study will facilitate recommendations to improve the incorporation of commercial off the shelf technology from nontraditional information technology contractors. A related area of focus is designed to improve the process for technology insertion into our current weapon systems. This allows the Army to more quickly leverage commercial innovation as opposed to waiting until the overall system is modernized. Moreover, the Army is also investing in modular open systems architecture. Open architecture standards and modularity opens the market to more companies with cutting edge capabilities that may not traditionally compete for development of a full system.

To increase partnership between the department and technology leaders, the Secretary of Defense announced the creation of the department's first permanent office in Silicon Valley as well as a plan to provide venture capital to tap into developing technology for use across the Army and Department of Defense. The Army is looking forward to working through these new initiatives to leverage new technologies that make us faster and better connected. These steps are the first of many to improve our ability to adopt the cutting edge technologies that will enable our information dominance into the future.

Mr. STACKLEY. The DON, through the Office of Naval Research, has effectively used Broad Agency Announcements for research topics to encourage small and large companies to share and develop their ideas and new or improved technologies. For small businesses, the DON has effectively used the Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) program to encourage small businesses to share and develop their new or improved technologies. To encourage small business participation in our programs, the DON has assigned each Deputy Program Manager the responsibility to be the small business advocate for all things associated with the program.

To encourage further opportunity and greater participation by high-tech startups and technological innovators, the DON recommends that the Congress work with USD(AT&L) in the current effort to identify and roll back legislation that has produced unnecessary and redundant regulatory and reporting burdens on Program Managers. Additionally, a timely, predictable defense budget would improve both Government and industry's ability to manage outlay risk and invest in R&D, facilities, and people.

Dr. LAPLANTE. Intellectual property concerns and burdensome acquisition processes often make doing business with the Air Force and DOD unattractive to nontraditional suppliers. There are policy and authority adjustments that can help to

reduce and eliminate some of these barriers and impediments. For example, the Air Force is establishing a Small Business Innovation Research (SBIR) direct to Phase II pilot program to provide full and immediate research and development support to small businesses with mature technologies and concepts. This will reduce the number of associated low dollar, short duration Phase I contracts issued, expedite technology transition, and achieve a higher return on investment. In addition, the Air Force Research Laboratory Center for Rapid Innovation will use this new authority to establish a Strategic Innovation component of the SBIR program to generate innovative, game-changing concepts. Expanding and encouraging the use of Other Transaction Authorities, Cooperative Research and Development Agreements, Open Challenges, and Small Business programs are flexible and potentially faster processes to tap the innovative talent of nontraditional vendors.

INCENTIVES FOR GOVERNMENT CONTRACTORS

48. Senator KAINE. Secretary Shyu, Secretary Stackley, and Secretary LaPlante, one theme that has come out in the current discussion of acquisition reform is the need to develop better tools to provide incentives to contractors to help improve acquisition outcomes. What tools do you have, or wish you had, to incentivize contractors to reduce costs and deliver the best technology?

Ms. SHYU. Since 2010, with the implementation of the initial Better Buying Power guidance, the Army has initiated several measures to enhance the acquisition process and incentivize contractors to reduce costs while continuing to deliver the best technology for the Warfighter.

Selection of Appropriate Contract Type and Incentive Strategies: The selection of a contract type that most appropriately balances the responsibility assumed by the contractor for the costs of performance and provides the contractor with the greatest incentive for achieving or exceeding standards or goals is essential for successful acquisition outcomes. To that end, in June 2014, the Army provided updated guidance regarding the selection and justification of contract type based on the principles set forth in Better Buying Power. This memorandum emphasized that all procurements are unique in nature, and that contracting officers should select the appropriate contract type for the product or service being acquired. Furthermore, in line with the Performance of the Defense Acquisition System 2014 Annual Report, which emphasized that a key element for improving acquisition performance is improving how contract incentives are aligned with performance objectives, and how effective those incentives are when measured against the performance objectives, the Army challenged both program and contracting offices to consider, where appropriate, incentive-type contracts, including Fixed Price Incentive Firm Target, to encourage industry to reduce its costs while providing first-class equipment for the Warfighter. The Army continues to work with the Department of Defense (DOD) to further refine guidance for the use of incentives, while ensuring the acquisition professionals maintain the latitude to identify the best contract type for the individual procurement.

Other Transaction Authorities (OTAs): OTAs are valuable tools utilized by the Army to establish contractual relationships with technology firms to obtain leading-edge research and development or prototype products. By its nature, an OTA allows for more flexibility and allows for the establishment of a contractual relationship with technology firms that otherwise would be unwilling or unable to comply with the Government's procurement regulations. For example, intellectual property terms and conditions and cost accounting standard clauses are negotiable under an OTA and are not as restrictive as those required by the Federal Acquisition Regulation. In recent years, many projects have been successfully executed by t he Army with significant participation from nontraditional defense firms. The Army is currently working with the DOD to explore the possibilities of establishing an OTA Community of Practice to promote the increased use of OTAs for Prototyping and Research projects.

Superior Supplier Incentive Program: In fiscal year 2015, the Army implemented the Superior Supplier Incentive Program at the direction of the Defense Acquisition Executive. The program recognizes the Army's high-performing industry partners based on past performance evaluations. The 2014 superior supplier list, published in February 2015, generated extensive discussions with industry about how they can continue to improve their performance. Moving forward, the superior supplier list will be jointly released with both the Air Force and Navy lists on an annual basis.

Mr. STACKLEY. Adherence to basic principles—to get the requirement right, perform to a stable plan, make every dollar count, rely on an experienced acquisition workforce, and foster a healthy and competitive industrial base—have proven to be useful tools to incentivize contractors. Our most successful programs have stable re-

quirements, stable designs, and stable budgets. This stability translates into predictable, reliable performance, unit cost reduction, improved material purchasing and workforce planning, retention of skilled labor and the ability for industry to invest in facility improvements, all resulting in more efficient production and a more affordable program.

Dr. LAPLANTE. Under Secretary of Defense for Acquisition, Technology and Logistics released the implementation directives for the third iteration of Better Buying Power initiatives during a Pentagon press conference April 9, 2015 that included a stronger emphasis on innovation, technical excellence, and the quality of our products. This updated policy will continue to prioritize previously established core initiatives aligning to those goals, including program affordability, "should cost" savings opportunities, competition emphasis, bureaucratic reduction, improved services acquisition and increased professionalism of the workforce.

Better Buying Power 3.0 Implementation Guidance identifies "Incentivize Productivity in Industry and Government" as a major initiative under this effort, with "aligning profitability more tightly with Department goals" as sub-element. Under this initiative, profit incentive is tied to better performance and lower profit to poorer performance. Industrial performance responds to the incentive structure that the Department designs into our business arrangements. While the Department will continue to refine its guidance on the use of incentives in contracting to align profit with performance that ensures a defense industry that is competitive and innovative, the following are ongoing Air Force efforts to encourage contractors to improve acquisition outcomes:

- **Manufacturing and Industrial Base Policy (MIBP):** The Air Force supports the Deputy Assistant Secretary of Defense for MIBP, with the Defense Procurement and Acquisition Policy (DPAP) office and the Assistant Secretary of Defense for Research and Engineering (ASD(R&E)) with the development of a handbook of methods and best practices by August 2015 that informs DOD managers on how to engage more effectively with commercial technology companies using existing authorities. The handbook will emphasize Other Transaction Authority (OTA), Cooperative Research and Development Agreements (CRADAs), Federal Acquisition Regulation (FAR) Part 12, public-private partnership, use of 10 USC 2373, and applicable FAR clauses to enable DOD to more quickly access companies that provide commercial technologies of interest and incentivize them to do business with DOD. In addition, the Air Force supports MIBP and DPAP in evaluating the potential for legislative or policy changes that would provide greater opportunity for access to commercial technology and report results by November 2015. This action will include an assessment of intellectual property, liability implications, and other commercial industry concerns.

In addition, the Air Force utilizes two tools to incentivize superior contract performance in alignment with BBP 3.0 include incentive type contracts and the superior supplier incentive program:

[Questions for the record with answers supplied follow:]

- **Incentive Type Contracts:** Air Force use of incentive type contracts, when appropriate, to facilitate better cost and schedule performance. In formulaic incentives contracts, such as those with Cost Plus Incentive Fee (CPIF) and Fixed Price Incentive Fee (FPIF) pricing arrangements, the impact of overruns and underruns are shared between the industry and Government based on a formula (established in the contract) that explicitly ties the contractor's cost or benefit to performance.
- **Superior Supplier Incentive Program (SSIP):** SSIP is designed to recognize higher-performing industry partners based on past performance evaluations, with the intent of incentivizing superior performers and creating healthy competition among industry.

49. Senator KAINE. Secretary Shyu, Secretary Stackley, and Secretary LaPlante, how do we incentivize them to invest their own R&D money in defense technologies?

Ms. SHYU. Under Better Buying Power (BBP) 2.0 and 3.0, the Department expanded programs to leverage industry's Independent Research and Development (IR&D) to support priorities in defense acquisition. To better align industry IR&D with Department of Defense (DOD) needs, BBP 3.0 stresses improved communication between DOD and industry to restore a higher degree of Government influence and insight into these investments. One example of these initiatives is the Defense Innovation Marketplace, which is a one-stop shop for information on the Army's investment priorities and technology requirements. This website allows the Army to publish its investment priorities and provide initial direction to industry, which al-

lows industry to better align its IR&D projects to the Army's needs. We will continue to work closely with industry to seek new avenues to increase the Soldier's capabilities and ensure our technological superiority.

Perhaps most importantly, resource stability is the most essential condition for any potential investor. The threat of continued sequestration is the largest disincentive to the defense industry. Stable and predictable budgets demonstrate the Department's—and the country's—commitment to long-term investment and modernization.

Mr. STACKLEY. Government Contractors' R&D money, or Independent Research and Development (IRAD), is largely spent on defense technologies. Better use of IRAD toward future defense needs requires continuous communication from the Department of the Navy on technology roadmaps and future plans.

Dr. LAPLANTE. Two great examples of how the Air Force makes use of existing opportunities to incentivize Government contractors to invest their own research and development (R&D) money in defense technologies are the Defense Exportability Features (DEF) Pilot Program and the Other Transaction Authority (OTA). The DEF legislation and Pilot Program gives Air Force program offices the authority to spend R&D dollars on international requirements while requiring cost-sharing with their industry partners to incorporate exportability features into system designs. Traditionally the cost-sharing has been split 50/50 between Government and industry and has resulted in lower per-unit costs.

The Air Force Evolved Expendable Launch Vehicle (EELV) program utilizes the OTA to incentivize Government contractor R&D investment. OTA is granted from 10 US Code Section 2371 enabling Department of Defense programs to enter into agreements with industry to prototype projects that are directly relevant to weapons or weapons systems proposed to be acquired by the Department of Defense. The EELV program is using OTA to develop new rocket propulsion system(s) and increase competition for future launch systems. The Air Force is providing R&D to develop propulsion and launch system prototypes and industry partners will be required to invest at least 1/3 of the total cost of this prototyping project.

ROLE OF THE OFFICE OF THE SECRETARY OF DEFENSE VS. THE MILITARY SERVICES

50. Senator KAINE. Secretary Shyu, Secretary Stackley, and Secretary LaPlante, I know that each of you and your staff manages some of your Services major weapons programs, while others are managed by Secretary Kendall and his OSD staff. How should we think about the proper role of the OSD versus the Military Services with respect to management of acquisition programs?

Ms. SHYU. OSD oversight provides significant expertise and independent evaluation on the Department's major programs. Importantly, USD(AT&L) interfaces on behalf of the Army's major programs with OSD Cost Analysis and Program Evaluation and the Director, Operational Test and Evaluation. This relationship supports our efforts to successfully guide critical programs through the test and evaluation process and ensures that cost estimates are accurate and realistic at program initiation. Additionally, OSD plays an important role in adjudicating cross-Service issues on joint programs. This independent and external perspective ensures that the Department maximizes its limited resources across all three Services.

Mr. STACKLEY. The Service Chief sets requirements and allocates the necessary resources to meet these requirements. It is the role and responsibility of the acquisition system to meet these requirements. As such, the DON's experience is that the greater role/involvement by the Service Chief in the acquisition process, the greater likelihood of successfully meeting the requirements within the resources provided. The DON's Gate Review process strives to achieve total alignment between requirements, resources, and acquisition by establishing shared responsibility for oversight and decision-making via a structured milestone process co-chaired by the CNO or CNO representative and the Assistant Secretary of the Navy (RD&A).

Separately, USD (AT&L) and his OSD staff have an oversight role that is important for program management and they add value in that role. The Military Services are best suited to manage programs and the day to day business of the programs under their cognizance while allowing OSD insights and abilities to check the program as it proceeds.

Dr. LAPLANTE. As the Services become more integrated in delivering war-winning effects, the impact of an Air Force program's success or failure may extend beyond just the Air Force in executing the mission; therefore, it makes good sense for programs to fall under the external decision authority and oversight of the Defense Acquisition Executive (DAE). This ensures that Air Force programs will meet all of the Services and/or Departments requirements. Additionally, DAE oversight de-

creases the risk of overly optimistic program planning and provides an objective assessment of affordability leading to realistic cost and schedule projections.

51. Senator KAINE. Secretary Shyu, Secretary Stackley, and Secretary LaPlante, is there a healthy balance of programs managed at the OSD and Service level? What are the benefits and costs of this distribution of management?

Ms. SHYU. OSD oversight provides significant expertise and independent evaluation on the Department's major programs. Importantly, USD(AT&L) interfaces on behalf of the Army's major programs with OSD Cost Analysis and Program Evaluation and the Director, Operational Test and Evaluation. This relationship supports our efforts to successfully guide critical programs through the test and evaluation process and ensures that cost estimates are accurate and realistic at program initiation. Additionally, OSD plays an important role in adjudicating cross-Service issues on joint programs. This independent and external perspective ensures that the Department maximizes its limited resources across all three Services.

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Dr. LAPLANTE. Yes, I believe there is a healthy balance in the distribution of program authority and oversight between the Service and OSD level. Specifically, for larger ACAT I/IA acquisition programs, OSD oversight provides an objective assessment and integrates requirements across the Services. Additionally, our engagement with OSD across the full spectrum of our programs improves the Air Force's ability to meet affordability requirements, make sound business decisions, and reduce risk during program execution.

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