S. HRG. 113–465, PT. 3

DEPARTMENT OF DEFENSE AUTHORIZATION FOR APPROPRIATIONS FOR FISCAL YEAR 2015 AND THE FUTURE YEARS DEFENSE PROGRAM

HEARINGS

BEFORE THE

COMMITTEE ON ARMED SERVICES
UNITED STATES SENATE

ONE HUNDRED THIRTEENTH CONGRESS

SECOND SESSION

ON

S. 2410

TO AUTHORIZE APPROPRIATIONS FOR FISCAL YEAR 2015 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

FEBRUARY 26; MARCH 26; APRIL 2, 2014

Printed for the use of the Committee on Armed Services

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DEPARTMENT OF DEFENSE AUTHORIZATION OF APPROPRIATIONS FOR FISCAL YEAR 2015 AND THE FUTURE YEARS DEFENSE PROGRAM

WEDNESDAY, FEBRUARY 26, 2014

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

DEPARTMENT OF DEFENSE INFORMATION TECHNOLOGY ACQUISITION PROCESSES, BUSINESS TRANSFORMATION, AND MANAGEMENT PRACTICES

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

Committee members present: Senators Shaheen, McCaskill, Donnelly, and Ayotte.

OPENING STATEMENT OF SENATOR JEANNE SHAHEEN, CHAIRWOMAN

Senator SHAHEEN. Good afternoon. Sorry to keep you all waiting.

At this time, I would like to call the subcommittee hearing to order.

I want to begin by acknowledging my colleague from New Hampshire and ranking member, Senator Ayotte. It has been great to have a chance to work with her in this subcommittee, just as we do in New Hampshire. We are always pleased to be here representing New Hampshire on the subcommittee.

During the hearing today, we are going to be receiving testimony regarding information technology (IT) acquisition, business transformation, and management practices. This is the first hearing of the Readiness and Management Support Subcommittee. I think we are beginning with an issue that is critical as we look at the many other issues we will be addressing in the Department of Defense (DOD) this year.

The challenge of procuring IT systems in a timely and cost-effective manner is not something that is unique to DOD. Unfortunately, the stories of billions of dollars that are lost without any useful product as the result of that spending have appeared throughout the Federal Government, and while we recognize that this issue is not unique to DOD, it is clearly the biggest depart-

ment within the Federal Government, and we have seen these issues appear, unfortunately, over a period of years.

In fiscal year 2012, DOD IT acquisition investments totaled $32 billion, a sum which reflects DOD's growing need for sophisticated and reliable IT infrastructure. However, the $32 billion is expended across DOD under the supervision of multiple officials with what is often too little involvement of the operational users and those who must defend IT systems against cyber threats.

The Government Accountability Office (GAO) will soon release a report on acquisition of major IT systems in DOD, and though the report is still in draft form, the results that we have seen are disturbing. Of the 15 programs GAO reviewed, 7 experienced growth in their cost estimates, ranging as high as 2,233 percent, 12 programs experienced schedule slippage, ranging from a few months to 6 years, and only 3 programs met their system performance targets.

Among the programs assessed were some that could have an impact on DOD's ability to meet the statutory goal of achieving an auditable statement of budgetary resources by the end of fiscal year 2014 and an auditable financial statement by the end of fiscal year 2017 which, as I am sure you all know, is a major priority for this subcommittee and for the Senate Armed Services Committee (SASC) as a whole.

We must find ways to lower costs and improve inefficiency, while also improving our resiliency to cyber attack. A major piece of that challenge will be reforming our cumbersome acquisition process. Our current systems, which are better suited for weapons systems than IT, often produce systems already outdated once deployed. A new rapid approach with proper oversight which capitalizes on the knowledgeable IT workforce is necessary to correct these deficiencies.

As you all know, this is not the first time the SASC has tackled this issue. Section 804 of the National Defense Authorization Act (NDAA) for Fiscal Year 2010 directed the Secretary of Defense to streamline and improve effectiveness of our current processes. The subcommittee remains interested in section 804 and we look forward to hearing from you all how DOD intends to move forward.

Another area of interest to the subcommittee is DOD's ongoing data center and server consolidation on cloud migration. This initiative, called the Joint Information Environment (JIE), is extremely ambitious and complex, and yet it seems to lack formal management structures and processes. We look forward to hearing more about how the JIE is expected to unfold.

With those opening remarks, and I have a longer statement that I will submit for the record. I would like to welcome our four witnesses this afternoon. Testifying today, we have the Assistant Secretary of Defense for Acquisition, Katrina G. McFarland; the Acting Deputy Chief Management Officer (DCMO), Kevin J. Scheid; the Chief Information Officer (CIO), Teresa M. Takai; and in addition to these representatives from DOD, we welcome the Director of Information Technology and Management Issues from GAO, David A. Powner. Thank you for being here.

Now I would like to turn to Ranking Member Senator Ayotte for her statement. Thank you.

[The prepared statement of Senator Shaheen follows:]

PREPARED STATEMENT BY SENATOR JEANNE SHAHEEN

Good afternoon. At this time, I would like to call the subcommittee hearing to order.

I would like to begin by acknowledging what a pleasure it has been to work with my colleague from New Hampshire, Senator Ayotte and her staff. We continue to work in a time-honored bipartisan fashion on this subcommittee and I sincerely appreciate that we have been able to reach agreement on so many issues.

I look forward to another productive year.

During our hearing today, we will receive testimony regarding information technology (IT) acquisition, business transformation, and management practices. This is the first hearing the Readiness and Management Support Subcommittee has convened in this session, and we are beginning with an issue of immediate importance, which is why I am pleased to begin the subcommittee's work on the National Defense Authorization Act (NDAA) for Fiscal Year 2015 before delivery of the President's budget. This is a complicated topic requiring creative, outside-the-box thinking, as well as the experience and knowledge of professionals throughout the Department of Defense (DOD) in order to find the most efficient, cost-effective way forward.

I would like to welcome our four witnesses this afternoon. Testifying, we have Assistant Secretary of Defense for Acquisition, Katrina McFarland; Acting Deputy Chief Management Officer, Kevin Scheid; and Chief Information Officer, Teresa Takai. In addition to these representatives from DOD, we welcome David Powner of the Government Accountability Office (GAO).

IT acquisition investments totaled $32 billion in fiscal year 2012, a sum which reflects DOD's reliance on sound IT infrastructure. However, this $32 billion is expended across DOD under the supervision of multiple officials, with too little involvement of the operational users and those who must defend information systems against cyber threats.

The Office of the Secretary of Defense organizational review conducted by former Secretary of the Air Force Mike Donley recommended major changes in the duties and responsibilities of the Deputy Chief Management Officer and the Chief Information Officer. The Senate Armed Services Committee also recommended major realignments affecting these officials in the Senate version of the NDAA. Neither set of recommendations were enacted into law. We hope to learn more about the rationale for the administration's proposals today.

The Bipartisan Budget Act provided some temporary relief to DOD, but sequestration is still very much a real threat. We must find ways to lower costs and improve inefficiencies, such as eliminating sub-optimal data centers and networks, which lead to unnecessarily high costs. Cybersecurity vulnerabilities must be addressed before a major cyber attack causes catastrophic damage. The IT infrastructure must increase interoperability to improve information sharing. The slow, cumbersome acquisition process, better suited for weapon systems than IT, results in systems already outdated once deployed. A new, rapid approach with proper oversight and which capitalizes on the knowledgeable IT workforce is necessary to correct these deficiencies.

This is not the first time the Senate Armed Services Committee has tackled this issue. Section 804 of the NDAA for Fiscal Year 2010 directed the Secretary of Defense to "develop and implement an alternative acquisition process for the rapid acquisition of IT systems." The legislation also required the new process to include "early and continual involvement of the user; multiple, rapidly executed increments or releases of capability; early, successive prototyping to support an evolutionary approach; and a modular, open-systems approach."

This subcommittee remains interested in the section 804 reforms. DOD delivered a report to Congress on December 9, 2010, outlining its plan for implementation; however, DOD has fallen short of full implementation. We are interested in hearing from our witnesses why and in what ways this reform mandate has so far failed, where we have successfully improved the process of acquiring IT, and how DOD intends to proceed in the future.

The committee has also passed legislation addressing the insider threat problem, supply chain risk management and software assurance against cyber threats, and the unique requirements for managing the rapid but disciplined acquisition of cyber tools and capabilities.

We expect that future reform efforts will capture and build upon the work done in the NDAAs since 2010. We have read Mr. Powner's recent report titled "Information Technology: Leveraging Best Practices to Help Ensure Successful Major Acqui-

sitions." It appears that many of the best practices he identifies track with the requirements of section 804.

Another GAO report also merits attention: "Major Automated Information Systems: Selected Defense Programs Need to Implement Key Acquisition Practices." This report is still in draft but its initial findings are significant. GAO's assessment of 15 programs found that 7 experienced growth in their cost estimates, ranging as high as 2,233 percent, 12 programs experienced schedule slippage, ranging from a few months to 6 years, and only 3 programs met their system performance targets.

Among the programs assessed were some that could have an impact on DOD's ability to meet the statutory goal of achieving an auditable Statement of Budgetary Resources (SBR) by the end of fiscal year 2014, and an auditable financial statement by the end of fiscal year 2017. On the positive side, we note that the Marine Corps achieved an important initial milestone, an unqualified opinion on the current year of their budget statement. However, clearly so much more remains to be done.

The most recent Financial Improvement and Audit Readiness Plan Status Report states that most but not all of DOD will meet the 2014 goal. We would appreciate an update on which areas are most in danger of failing to achieve an auditable SBR and what has been done to ensure that as much of DOD succeeds as possible.

Section 2866 of the NDAA for Fiscal Year 2012 imposed a moratorium within DOD on the acquisition or upgrade of data servers, server farms, and data centers. It required the implementation of a plan developed by the DOD Chief Information Officer to achieve reductions in the size of data centers and in the energy consumed to power and cool data centers along with increases in server virtualization and utilization rates. That plan also called for migrating from 700 data centers to fewer than 100, while reducing the number of network operations centers from 65 to 25. The NDAA for Fiscal Year 2013 required DOD to inventory all the applications it is running, eliminate redundancies, and rationalize its licenses. Progress here is critical to cost reduction.

Section 2866 also directed DOD to transition to commercial cloud services wherever possible to take advantage of cost and efficiency advantages of commercial cloud providers, consistent with security constraints. The committee will closely monitor the progress of DOD's pilots and associated policy development regarding the use of commercial cloud capabilities.

The ongoing data center and server consolidation, and cloud migration, are only elements of a far larger effort to transform DOD's entire telecommunications network. This initiative, called the Joint Information Environment (JIE) is an extremely ambitious and complex undertaking, and yet DOD has chosen to not make it a program with a program manager, requirements, milestones, schedules, and the like. It affects every command, every Service and DOD agency.

The Defense Information Systems Agency advertises the JIE programs as delivering:

> " . . . the largest restructuring of IT management in the history of the DOD. The end state is a secure, joint information environment comprised of shared IT infrastructure, enterprise services, and a single security architecture. JIE will enable DOD to achieve full-spectrum superiority, improve mission effectiveness, increase security, and realize IT efficiencies."

The apparent lack of formal management structures and processes for this enterprise-wide initiative is striking and demands attention. We look forward to our witnesses' explanations.

Thank you to our witnesses, I look forward to hearing your testimony. I now invite the ranking member, Senator Ayotte, to make her statement.

STATEMENT OF SENATOR KELLY AYOTTE

Senator AYOTTE. Thank you, and I want to thank Chairwoman Shaheen. It is an honor to serve with you on the Readiness and Management Support Subcommittee and also to serve New Hampshire in the U.S. Senate with you. We have been able to work in a bipartisan fashion on issues that not only impact our State, but also issues that impact the country in this important subcommittee, and certainly today's topic is no exception to that.

Within the existing problems associated with acquisition reform, one area of growing concern is how DOD acquires IT. I will also say that this is not a unique problem across the Government. I also

serve on the Senate Homeland Security and Governmental Affairs Committee, and this is an issue that has been replete within that agency as well.

But getting this right is not just important from an acquisition process point of view, but it is also critical because IT can be used as a vital tool to help DOD become more efficient to serve as a better steward of taxpayers' dollars overall.

One of the most glaring examples of problems with IT acquisition was the termination of the Air Force's Expeditionary Combat Support System (ECSS). After 7 years and over $1 billion, this program was terminated in 2012 after it was determined that it would require another billion dollars to salvage, and even then, only a fraction of the program's requirements could be met.

This is an example. We need to understand what went wrong and how we are going to prevent these types of situations going forward, particularly with the challenges we face with limited defense dollars.

Equally disturbing as the cancellation of the ECSS, it places in doubt the Air Force's ability to conduct the Statement of Budgetary Resources by the end of this fiscal year which has been a concern with the SASC as a whole. This is an incredibly important issue that we do not plan to let go, and I hope that you do not either.

However, I do appreciate that addressing problems related to IT acquisition appear to be on the minds of the authors of the recently reissued DOD Instruction (DODI) 5000.02, which articulates the defense acquisition process. It appears that many of the guiding principles set forth in the report mandated by section 804 of the NDAA for Fiscal Year 2010, which I know we are going to spend a substantial amount of time on today, were incorporated into the new DODI.

Despite this, I remain concerned by the GAO reports indicating that a number of DOD's IT acquisition programs have not been correctly categorized on the Government's Web site called the IT Dashboard, which tracks the progress of such programs.

Another important part of this hearing will be understanding whether DOD categorizes IT programs differently, how we can ensure that the Government's Web site employs a standardized metric for purposes of organization and transparency.

As my colleagues know, I am also very interested in ensuring that DOD is ready to be audited because this will help ensure that we can better scrutinize spending to identify and eliminate waste and duplication before it happens. It is very important in the critical juncture we find ourselves at right now with DOD to be able to distinguish between necessary defense budget cuts and cuts that would harm our troops and damage our military's readiness, which is the foundation and purpose of this subcommittee.

In that spirit, Assistant Secretary McFarland, based on your position as the Assistant Secretary of Defense for Acquisition, I also look forward to addressing some of the broader acquisition challenges that DOD faces beyond the IT issues, but I certainly think that they relate to the IT issues.

For example, from 2007 to 2013, the Air Force wasted about $6.8 billion on 12 major acquisition programs; I have a list with me of those programs. There is no doubt that the Services, including the

Air Force, are confronting difficult budget challenges. It is really hard when we see billions of dollars wasted on programs, and yet we see proposals where the Services are making proposals to cut very important programs to our men and women in uniform.

One of those programs I have been quite outspoken about is the Air Force proposing the premature retirement of the A–10s in an effort to save $3.5 billion over the Future Years Defense Program, which Secretary Hagel publicly confirmed this week. I believe that this is a serious mistake and that we will lose the ability to have close air support (CAS). Chief of Staff of the Army General Odierno said it is the best CAS platform we have today. I believe that we risk our troops not having the re-attack times and capacity that the A–10 provides, well before we will have the F–35 variant that has purported to take up this mission in the future. We will have a gap that I believe is not good for our troops and could put them in danger.

That is why I want to put this in perspective. When we look at $6.8 billion in wasted money and then we talk about having to cancel important air platforms like the A–10, that perform such an important function for our men and women in uniform and particularly those on the ground, that is why acquisition reform, I know to all of you matters, and why getting it right is critical in terms of making sure that our taxpayers' dollars are used wisely, but most importantly, that the men and women in uniform who serve us every day are able to have the support that they need, the equipment that they need, and the training that they deserve in serving our country.

I appreciate your being here today and I look forward to this important discussion. I want to thank the chairwoman again for holding this hearing.

Senator SHAHEEN. Thank you very much, Senator Ayotte.

I would ask, Ms. McFarland, if you would go first, followed by Mr. Scheid, Ms. Takai, and Mr. Powner.

STATEMENT OF HON. KATRINA G. MCFARLAND, ASSISTANT SECRETARY OF DEFENSE FOR ACQUISITION, DEPARTMENT OF DEFENSE

Ms. MCFARLAND. Thank you, Chairwoman Shaheen, Ranking Member Ayotte, and distinguished members of the subcommittee, for this opportunity to discuss IT acquisition.

I would like to submit my full testimony for the record and will summarize it in the time I have.

I am honored to represent DOD, along with my colleagues from CIO, DCMO, and GAO. My focus will be on IT acquisition policy, people, and the oversight of Major Defense Acquisition Programs and Major Automated Information Systems (MAIS).

IT represents a considerable portion of all acquisition programs within DOD. DOD manages two fundamental types of software programs: national security systems and defense business systems.

National security systems are generally information systems which involve intelligence activities, cryptological activities, command and control of military forces, and systems that are an integral part of weapons or weapons systems.

Defense business systems are information systems which include financial systems, management information systems, and IT and cybersecurity infrastructure used to support our business activities.

Section 804, as Senator Ayotte, the ranking member, mentioned of the NDAA for Fiscal Year 2010 directed that DOD develop and implement a new acquisition process for IT systems based on the 2009 Defense Science Board (DSB) report. The recommendations were to condense timelines by increasing collaboration and improve processes to deliver right capabilities to the warfighter in operationally relevant timelines.

To do this, one must start with a defined requirement or capability. The Chairman of the Joint Chiefs of Staff has modified DOD's Joint Capability Integration and Development System, which develops our requirements, by introducing the IT Box concept to support more rapid acquisition timelines.

On approval of a requirement formulated in an initial capabilities document or a capabilities development document, requirements management is delegated to an appropriate body in a sponsor's organization. The organization is not required to come back for requirements changes unless they exceed the parameters of the IT Box.

In addition to the IT Box introduction, DOD has introduced the interim DOD directive operation of the defense acquisition system, also referenced by the ranking member, issued this fiscal year. It includes guidance to adopt a modular, open systems methodology with heavy emphasis on design for change in order to adapt to the changing circumstances consistent with the agile commercial methodologies. It describes acquisition models where across each model, the policy addresses the realization that IT capabilities may evolve, so desired capabilities can be traded off against cost and initial operational capability to deliver the best product to the field in a timely manner.

In accordance with section 933 of the NDAA for Fiscal Year 2011, DOD developed a strategy for the rapid acquisition of cyber tools, applications, and capabilities for the U.S. Cyber Command (CYBERCOM) and other military cyber operation components by chartering the Cyber Investment Management Board that unites IT policy and operational requirements with identifying gaps both in resources and in capabilities.

Now, I would like to address DOD's most important asset, our people. Finding the expertise and skill sets required to develop and acquire capabilities for IT systems and cyber space operations is challenging. The talent pool is small. Industry and Government seek it, and it rarely meets the level of expertise across all areas. DOD is working on many fronts to address these challenges. For example, with the assistance of the Defense Acquisition Workforce Development Fund, DOD has established a functional area for IT acquisition to support training in the Defense Acquisition University.

DOD is working to simplify the process of IT acquisition. There is an ongoing legislative review between DOD and Congress. There is an effort to develop a cybersecurity guidebook for the program manager that assists them in understanding what cybersecurity activities are necessary to conduct at each point of the acquisition

lifecycle. The Program Assessment Root Cause Analysis Directorate contributes to our understanding of the root causes for the IT program failures in order to prevent them from reoccurring.

Finally, there is an effort to help our program management by having our cybersecurity test and evaluation procedures include early development test and evaluation involvement for all of our test activities.

I would like to conclude with the following key points.

DOD will continue its efforts to operate as affordably, efficiently, and effectively as possible. We are evolving our approach to acquisition for IT and recognize the distinct challenges that come with it. We are taking a disciplined and proactive step to improve our IT processes and compensate for them.

Thank you for your ongoing support of our men and women in uniform. I know you share my desire to ensure that they have the resources necessary to meet and accomplish their mission.

[The prepared statement of Ms. McFarland follows:]

PREPARED STATEMENT BY HON. KATRINA MCFARLAND

Thank you for the opportunity to address the Subcommittee on Readiness and Management Support of the Senate Armed Services Committee. I am honored to represent the Department of Defense (DOD) along with my colleagues. The DOD partnership among my office, the Office of the Deputy Chief Management Officer (DCMO), and Chief Information Officer (CIO), manages the DOD IT Enterprise in the areas of acquisition, policy, and the Defense Business Systems (DBS). I will focus my discussion on Information Technology (IT) acquisition policy, people, and oversight of the Acquisition of Major Defense Acquisition Programs and Major Automated Information Systems (MAIS) over which the Under Secretary of Defense (USD) for Acquisition, Technology, and Logistics (AT&L), as Defense Acquisition Executive, has Milestone Decision Authority. Ms. Takai will discuss her responsibility for overall IT Policy and as the Enterprise IT sponsor. Mr. Scheid will discuss his responsibility for the Defense Business Architecture and Defense Business Council/Investment Review Board oversight. At the Office of the Secretary of Defense (OSD) level, we oversee the planning and execution of the Services' acquisition programs and establish acquisition, logistics, maintenance, and sustainment support policies.

BACKGROUND

Section 804 of the National Defense Authorization Act (NDAA) for Fiscal Year 2010 directed the DOD to develop and implement a new acquisition process for IT systems based on the recommendations of Chapter 6 of the March 2009 Defense Science Board Report. IT represents a considerable portion of all acquisition programs within DOD. To help manage IT, DOD manages two fundamental types of software programs, National Security Systems (NSS) and DBS. NSS as defined in 44 U.S.C. 3541, are telecommunications or information systems operated by or on behalf of the Federal Government, the function, operation, or use of which involves intelligence activities, cryptologic activities related to national security, command and control of military forces, equipment that is an integral part of a weapon or weapons system, or, is critical to the direct fulfillment of military or intelligence missions. NSS includes a category of software programs called embedded software—software that operates and controls our weapon system platforms.

DBS, as defined in 10 U.S.C. 2222, are information systems, other than a NSS, operated by, for, or on behalf of the DOD, including financial systems, management information systems, financial data feeder systems, and the IT and cybersecurity infrastructure used to support business activities, such as contracting, pay and personnel management systems, some logistics systems, financial planning and budgeting, installations management, and human resource management. Because NSS tend to be broader in scope with significant interoperability needs and requirements, we use different policies and procedures to acquire these two product categories.

IT REQUIREMENT PROCESS IMPLEMENTATION

To acquire IT, one must start with defined requirements (or capabilities). DOD has worked to condense timelines, increase collaboration between communities, and

improve processes to deliver the right capabilities to the warfighter in operationally relevant timelines. The Chairman of the Joint Chiefs has modified DOD's Joint Capability Integration and Development System by instituting a major change for Information System (IS) requirements development which introduces the "Information Technology (IT) Box," enabling the delegation of authorities to specifically support the more rapid timelines necessary for IT capabilities through the Defense Acquisition System processes. The four sides of the "IT Box" include the organization that will provide oversight and management of the product; the capabilities required; the cost for application and system development; and the costs for sustainment and operations. Under this construct, upon approval of an IS-Initial Capabilities Document (ICD) or IS-Capabilities Development Document (CDD) by the Joint Requirements Oversight Council (JROC), requirements management is delegated by the JROC to an appropriate body in the sponsor's organization. The delegation of authorities and defined parameters enable faster timelines for IT programs, because the organization is not required to return to the JROC for requirements approval unless the IT Box parameters are exceeded by prescribed thresholds. The organization that requirements approval is delegated to for an IS–ICD or IS–CDD must return to the JROC to provide periodic updates.

An example of DOD's recent use of the "IT Box" was through tailoring an IT acquisition that supports the Combatant Commanders with mission planning tools through an automated and enterprise capability called the 'Integrated Strategic Planning and Analysis Network (ISPAN) Increment 2' program. The Vice Chairman Joint Chiefs of Staff delegated JROC responsibility for ISPAN non-key performance parameters to a Combatant Command (United States Strategic Command). In concert, on March 10, 2010, the USD(AT&L) approved ISPAN acquisition tailoring that included shorter development periods with multiple capability releases, early and continual user involvement, and a modular open-systems approach using successive prototyping efforts, consistent with section 804 of the NDAA for Fiscal Year 2010.

In January 2013, the Air Force completed a report after the ISPAN program had successfully delivered its increment 2 of capabilities and highlighted significant improvement in acquisition cycle-time as well as speed in decisionmaking compared to an earlier increment. For example:

- Time between Milestone B and Initial Operational Capability: ISPAN Inc. 2–15 months; ISPAN Block 1–60+ months.

This demonstrates the value of close coordination between the requirements and acquisition process for the delivery of IT capabilities.

DEFENSE ACQUISITION SYSTEM IMPLEMENTATION OF IT

On November 26, 2013, the Deputy Secretary of Defense issued an interim Department of Defense Instruction 5000.02 to implement a number of statutes and regulations that have come into existence since the last version was published in 2008. This new acquisition policy includes guidance to address the challenges associated with the different types of IT acquisition programs, such as guidance to address the fundamental challenge with DBSs where a suite of integrated applications referred to as Enterprise Resource Planning (ERP) business management software is acquired. For ERPs, positive outcomes are dependent upon understanding the needed process changes prior to starting implementation. Consistent with section 804 of the NDAA for Fiscal Year 2010, it includes guidance to adopt a modular, open-systems methodology with heavy emphasis on "design for change" in order to adapt to changing circumstances consistent with commercial agile methodologies. Finally, the new acquisition policy addresses hybrid models where significant software development is the predominant activity for a major weapon system, or in situations that combine hardware development as the basic structure with a software intensive development occurring simultaneously. Across each model, the policy addresses the realization that information technology capabilities may evolve so "desired capabilities" can be traded-off against cost and initial operational capability to deliver the best product to the field in a timely manner.

SECTION 933 IMPLEMENTATION

Following section 804 was section 933 in the NDAA for Fiscal Year 2011 which required DOD to develop a strategy for the rapid acquisition of cyber tools, applications, and capabilities for U.S. Cyber Command (CYBERCOM) and other cyber operations components of the military. It specifically requested an orderly process for determining and approving operational requirements; a well-defined, repeatable, transparent, and disciplined process for developing capabilities in accordance with the acquisition guidance and policy; allocation of facilities and other resources to thoroughly test capabilities in development, before deployment; and operational use

to validate performance and take into account collateral damage, and to promote interoperability, share innovation, and avoid unproductive duplication in cyber operational capabilities. In response to section 933, DOD chartered the Cyber Investment Management Board (CIMB). The goal of the CIMB is to unite IT policy and operational requirements and identify gaps and resources to enable the rapid acquisition and development of cyber capabilities. The CIMB is aligning existing processes and implementing new processes to:

- enable rapid cyber acquisition and balance investments based on operational need;
- align and synchronize requirements, testing and evaluation;
- facilitate oversight and improve insight of DOD cyber activities and investments; and
- enable integration and transparency among key process owners.

The CIMB is tri-chaired by the USD(AT&L), the Vice Chairman of the Joint Chiefs of Staff, and the Under Secretary of Defense for Policy. The CIMB membership includes the OSD Principal Staff Assistants to include the DOD CIO, the Services, the Defense Information Systems Agency, National Security Agency, U.S. Strategic Command, and CYBERCOM. Since March 2012, the CIMB addressed topics ranging from exploring the cyber portfolios within the science and technology base, National Security Agency, and CYBERCOM; as well as offensive and defensive cyberspace operations, defend the nation, cyber situational awareness and a holistic assessment of the cyber investment portfolio. DOD has achieved an understanding of cyber investment and mission alignment enabling future effective strategic management of total cost of ownership and return on investment.

Another DOD initiative stemming from section 933 is the Cyber Acquisition Process Pilot Plan. The plan was approved by the USD(AT&L) on July 29, 2013 and was designed to test and refine the proposed requirements, acquisition, test and evaluation processes. The goal is to select two to five capabilities and facilitate, observe and analyze as they progress through the acquisition process in order to understand where existing and dependent processes need better alignment or changes. The intended output is to refine and validate the rapid acquisition processes prior to implementation across the DOD. As you are aware, one of the tenants in DOD's Better Buying Power initiative is continual process improvement. We find ourselves sustaining changes through this process by starting with a subset of programs measuring the success of the initiatives as we execute, and introducing these changes to a larger set as they demonstrate success or reassessing the changes if they don't.

IT PEOPLE

IT has many challenges, of which cyber capabilities add complexity. Finding the expertise and skill sets required to develop and acquire capabilities for IT systems for cyberspace operations is challenging. For example, one challenge found in the cyber acquisition domain is that many cyber capabilities are not acquired or developed under a traditional acquisition program of record structure because of the funding level of the cyber development efforts. In many cases, a program manager does not exist. The talents we require span information assurance, information technology, operations, and in the case of DBSs, enterprise management. The talent pool is small and rarely meets the level of expertise across the necessary areas; those who possess the required skills are in extremely high demand. Industry faces similar challenges; DOD, other Federal organizations, and industry are all seeking the same skillsets increasing the challenge to recruit talent and retain talent.

We are working to address these IT workforce issues. With the assistance of the Defense Acquisition Workforce Development Fund, we have established a functional area for IT acquisition that is working the appropriate IT acquisition training into the Defense Acquisition University training curriculum, as an example. The USD(AT&L) chairs the Acquisition Workforce Senior Steering Board that is attended by the Service acquisition executives, the Service defense acquisition career managers, the Defense Acquisition University, and the functional career area leads. It focuses on the immediate workforce needs, challenges, and staffing levels.

We are working to simplify the process of acquisition through a legislative review in coordination with Representative Thornberry, Vice Chairman of the House Armed Services Committee. Additionally, there is also a joint effort for AT&L and the DOD CIO to develop a cybersecurity guidebook for program managers. This guidebook is being developed to provide program managers clear and concise guidance on what cybersecurity activities should be conducted at each point in the acquisition lifecycle, while emphasizing early integration of cybersecurity requirements. The purpose is to help program managers ensure cybersecurity is considered in the design of a new capability instead of later on in the process when it may be too costly or take too

long to implement it correctly. The Program Assessment Root Cause Analysis directorate works in my organization, which contributes to our understanding of the root cause of IT program failures in order to prevent them from re-occurring. Again, with the help of the Defense Acquisition Workforce Development Fund funding, we will bring back lessons learned to the Defense Acquisition University to ensure we train our people on effective program management, engineering, logistics, contracting, et cetera.

Another effort to help program managers is adjusting our cybersecurity test and evaluation (T&E) procedures to include early developmental T&E involvement in test planning and execution. The goal is to improve the resiliency of military capabilities before beginning production and deployment. Early discovery of system vulnerabilities can facilitate remediation to reduce the impact on cost, schedule, and performance.

One example of this is regression testing, which is a term for tests to ensure that software changes in one part of a system do not break or alter working functionality in another. Every software system requires regression testing. The Director for Operational Testing and Evaluation (DOT&E) is now examining regression test procedures as part of its suitability evaluations. DOT&E has also begun helping some programs convert to automated (vice manual) regression testing so as to gauge the extent of the problem DOD faces. In the last 2 years they have been able to help the Defense Logistics Agency implement automated regression testing for the Enterprise Business System.

CONCLUSION

I would like to conclude with the following key points. The DOD is evolving its approach to IT acquisition. We are off to a good start with the interim DODI 5000.02 which provides program structures and procedures tailored to the dominant characteristics of the product being acquired and to unique program circumstances, including operational urgency and risk factors. We will continue to work with the DOD CIO to implement IT Policy, and the DCMO to execute to the Business Enterprise Architecture. DOD recognizes the distinct challenges associated with acquiring IT capabilities and we are taking disciplined and proactive steps to improve our processes to compensate for them.

Senator SHAHEEN. Mr. Scheid.

STATEMENT OF KEVIN J. SCHEID, ACTING DEPUTY CHIEF MANAGEMENT OFFICER, DEPARTMENT OF DEFENSE

Mr. SCHEID. Good afternoon and thank you. Senator Shaheen, Senator Ayotte, and members of the subcommittee, my name is Kevin Scheid and I am the Acting DCMO of DOD. As the DCMO, I am the Secretary's and the Deputy Secretary's principal official for providing management oversight across DOD's military components, agencies, offices, and organizations. I report to the Deputy Secretary who is also the Chief Management Officer (CMO) of DOD.

Thank you for the opportunity to provide this update on the management of DOD's business operations.

As you are aware, DOD's basic mission is to hire, train, and equip soldiers, sailors, airmen, and marines, deploy them abroad to fight and win the Nation's wars, care for the wounded and their families, redeploy those troops home safely, and retrograde and refit the equipment capabilities to be ready and win the next fight.

DOD performs this mission through various business areas or functional areas such as human resources, logistics, acquisition, financial management, installations, and security. These are the building blocks of the defense business enterprise.

For DOD to be successful in performing these functions, my office works with DOD's senior leaders in defining the functional areas, establishing clear business goals and objectives, guiding DOD in establishing and aligning its processes, ensuring those processes are

enabled by modern, interoperable business systems, and establishing meaningful outcome-oriented performance measures.

I am relatively new in this position, having recently returned from an assignment at NATO as the Chief Operating Officer (COO) and the Deputy General Manager of a large NATO agency. On November 25, the Secretary designated me as the acting DCMO at the time of Ms. Beth McGrath's retirement.

There have been significant changes made since Ms. McGrath last testified before the subcommittee. The most important of these changes was Secretary Hagel's December 4 decision to strengthen management in DOD by directing a series of consolidations and realignments within the Office of the Secretary of Defense (OSD). My office will be consolidating with the Office of the Director of Administration and Management, a relatively small office of about 36 employees, and the Office of the Assistant Secretary of Defense for Intelligence Oversight, an office of about 9 or 10 employees.

In addition, the defense field activity of Washington Headquarter Services and the Pentagon Force Protection Agency will be realigned under the DCMO's office.

Further, the Secretary directed the transfer of oversight responsibilities for the technical aspects of defense business systems from my office to the Office of the CIO. This change would realign responsibility and accountability for business systems in DOD while requiring my office to continue leading the development of requirements for those systems.

These reforms may require changes to section 2222 of title 10 and we are reviewing if that is necessary at this time.

The Secretary's goal in strengthening the DCMO's office in this way through these consolidations is best captured, I think, in the following quote from Secretary Hagel: "This consolidation enables the role of the Deputy CMO as the Principal Staff Assistant and Advisor to the Secretary and Deputy Secretary of Defense for full spectrum oversight on both the OSD and DOD levels of management administration, coordination, and collaboration across DOD components and business functions, performance improvement, and regulatory compliance."

DOD is in the midst of implementing the Secretary's direction, and all of DOD's witnesses here today are working closely together on a path forward.

While the details are still being developed, I am confident that the focus on management and oversight will help advance DOD's progress in the business operations. As we execute these consolidations, DOD continues to make progress in the selection, acquisition, and control of IT systems.

Building on the principles contained in DOD's response to section 804 of the NDAA for Fiscal Year 2010, important steps have been taken. Under Assistant Secretary McFarland's lead, lessons from the section 804 report have been incorporated in DOD's overarching acquisition policies. Under the CIO, Ms. Takai's lead, there have been lessons learned incorporated into the JIE. Under my predecessor's lead, Ms. McGrath, we have incorporated or embedded lessons learned in the business mission areas of what we call the Integrated Business Framework (IBF) for DOD.

This framework, overseen by the Defense Business Council that I currently chair, has driven quantifiable improvements in DOD's business environment. Over the past 2 years, and we have only been through two cycles of this, we have improved the alignment of our strategies, enhanced data available for decisionmaking, and rationalized our business systems environment by reducing funds certifications by over $1 billion and retiring 60 legacy systems. We have only gone through two cycles, as I mentioned, and it is early, but this process is yielding some important results.

Before I close, and in response to a topic that you specifically raised in your letter and mentioned in your opening comments, I would like to briefly discuss DOD's progress towards its audit readiness goals.

Bringing this very large Department together, applying consistent business practices, and ensuring good internal controls is difficult, as I am sure you can appreciate. But our efforts are making progress, exhibited most recently by the Marine Corps' achievement of an unqualified favorable audit of its current year appropriation. Secretary Hagel is committed to audit readiness, as is DOD as a whole. My office continues to work with the Comptroller to implement the DOD plan to achieve audit readiness. DOD has resources, governance strategy, and senior leader commitment needed for success. While it is too soon to know for sure, we expect most budget statements to be audit ready by the goal of September 2014.

In closing, I would like to reemphasize that the Secretary is strongly committed to strengthening DOD's management, and the steps he directed in December are taking shape and leading to his vision of stronger business processes, a simplified business environment, and greater oversight. Strengthening DOD's management is a high priority for the Secretary, as well as this subcommittee and the SASC. We appreciate the committee's support and guidance in meeting these priorities over the years. Together, our collective efforts are improving the support to our soldiers, sailors, airmen, and marines, while realizing greater efficiency and effectiveness for the American taxpayers. We are committed to continuing these efforts.

Thank you for the opportunity to testify. I would be glad to take questions.

[The prepared statement of Mr. Scheid follows:]

PREPARED STATEMENT BY MR. KEVIN J. SCHEID

INTRODUCTION

Senator Shaheen, Senator Ayotte, and members of the subcommittee, I appreciate the opportunity to testify before you to provide an update on our oversight of management in the Department of Defense (DOD). DOD has always taken its duty to be a good steward of taxpayer dollars very seriously and the efficient and effective management of DOD is key to accomplishing this. As the DOD's Acting Deputy Chief Management Officer (CMO), I am the Secretary and Deputy Secretary of Defense's primary agent for providing effective management across DOD's many organizations and establishing a simplified business environment that is fiscally responsible. The main focus of my office is to work with DOD's senior leaders across the enterprise to define clear business goals, create meaningful performance measures, align activities via repeatable processes, ensure that these processes are supported by modern, interoperable defense business systems, and support the Secretary of Defense's direction to implement institutional reforms, as well as simplify DOD's business environment and lower its cost.

While I have only been part of the Office of the Deputy CMO for about 6 months and in the Acting Deputy CMO position since November 25, 2013, much progress has been made since my predecessor, the Honorable Elizabeth McGrath, last testified before you. I look forward to being able to share some of this progress with you today.

SECRETARY'S ORGANIZATIONAL REVIEW

The responsibilities of the Office of the Deputy CMO were recently enhanced when, on December 4, 2013, Secretary Hagel announced a series of organizational realignments within the Office of the Secretary of Defense (OSD). While the Secretary's announcement included numerous elements, one of his primary goals was to strengthen and elevate the role of the Office of the Deputy CMO to provide, both within OSD and across DOD, full spectrum oversight of management, administration, coordination across DOD Components and business functions, performance improvement, and regulatory compliance. This will be accomplished through the consolidation of the Office of the Director of Administration and Management, Washington Headquarters Service, the Pentagon Force Protection Agency, and a few additional organizations into the Office of the Deputy CMO structure.

Another of the Secretary's primary goals was to strengthen the Office of the DOD Chief Information Officer (CIO) to address the growing information technology (IT) and cyber challenges, improve oversight of IT resources, and further enable successful implementation of the Joint Information Environment. This will be accomplished through the transfer of oversight responsibility for the technical aspects of defense business systems from the Office of the Deputy CMO to the Office of the CIO.

DOD is in the midst of implementing the Secretary's direction and the Offices of the Deputy CMO, DOD CIO, and the Under Secretary of Defense (Acquisition, Technology, and Logistics) (USD(AT&L)) are working closely together to ensure the optimal alignment of responsibility and accountability for business processes and business systems approval and acquisition. While certain details continue to be finalized, I am confident that the renewed focus on management and oversight will help advance DOD's progress in its business operations and IT functions. I look forward to being able to share additional details about these organizational realignments, including any possible legislative changes, with the committee if and when the Secretary approves such changes.

INTEGRATED BUSINESS FRAMEWORK

In 2012, aided by changes to DOD's investment management process for defense business systems contained in section 901 of the National Defense Authorization Act (NDAA) for Fiscal Year 2012, the Deputy CMO established a new governance body, the Defense Business Council, to consolidate previously dispersed responsibilities and implement a new overarching management approach, the Integrated Business Framework. This framework is intended to align all levels of our management strategies and processes and use multiple statutory and policy levers, including investment management responsibilities, to drive positive outcomes in DOD's business operations. The framework is also aligned with the guiding principles established in the DOD's Strategic Management Plan and enables DOD business leaders to instill a cost culture, institutionalize end-to-end business processes, align business operations, and modernize and rationalize business systems.

The Integrated Business Framework is progressing. Over the past 2 years we have:

- Aligned the Strategic Management Plan and DOD's Annual Performance Plan with the National Security Strategy and Quadrennial Defense Review;
- Established, for the first time, functional strategies for each of our lines of business (financial management, human resources, etc.) that are aligned with the Strategic Management Plan and lay out the strategic vision, goals, priorities, outcomes, measures, and any mandatory enterprise initiatives for a given functional area;
- Established, for the first time, a portfolio based approach for reviewing all defense business system spending. The mechanism for achieving this, Organizational Execution Plans developed by the DOD components (the military departments, defense agencies, et cetera), include details on the component's proposed business system investments, their alignment with DOD's functional strategies and their adherence to Business Process Reengineering and Business Enterprise Architecture requirements;
- Aligned and improved budget and systems data, which has improved the visibility of our defense business systems inventory and enabled DOD business leaders to make more informed investment decisions;

• Established the Defense Business Council as the requirements validation body for defense business systems, thereby aligning strategy with investments;
• Created and implemented criteria for evaluating defense business systems spending, which resulted in not certifying obligation requests totaling $617 million, or 9 percent of the total requested amount for fiscal year 2014. During the two investment certification cycles since the NDAA for Fiscal Year 2012 was enacted, the Defense Business Council has not certified over $1 billion in requests; and
• Retired more than 60 defense business systems as legacy systems and taken steps to eliminate them from future budgets.

DEFENSE BUSINESS SYSTEMS AND IT ACQUISITION REFORM

Over the years, DOD has had many challenges with the development, deployment, and oversight of defense business systems. The Office of the Deputy CMO and its predecessor organizations have played a variety of roles in trying to address this problem from both an acquisition and an investment management perspective.

Through its hiring of recognized industry experts on large-scale IT projects and its implementation of enterprise IT solutions, the business mission area has learned many lessons about DOD's ability to agilely acquire defense business system capabilities. A primary lesson was that defense business systems required a unique approach that in many cases is different from the traditional DOD model for weapons system acquisition. Consequently, DOD began development of a tailored acquisition process for defense business systems known as the Business Capability Lifecycle.

Shortly after the Deputy CMO was established, the then-Deputy Secretary of Defense asked this new office to lead DOD's response to section 804 of the NDAA for Fiscal Year 2010, which directed DOD to develop and implement a new acquisition process for IT systems based, to the extent determined by the Secretary, on the recommendations of a 2009 Defense Science Board Report on IT Acquisition Reform. The intent was to initially focus on defense business systems and leverage progress made and lessons learned to address the full set of recommendations from the Defense Science Board Report. The broad themes contained in the 804 Report were developed in collaboration across DOD and with industry. They were sweeping in their scope and, if fully implemented, would likely require legislative changes to fully implement. In conjunction with the publication of the 804 Report, a task force was established, chaired by the Deputy Secretary and run by the Deputy CMO. Working groups established under the task force developed more detailed recommendations for implementation of the 804 Report's themes. Eventually, responsibility for the way ahead on policy implementation shifted to USD(AT&L), and they have taken important steps forward, such as incorporating aspects of the Business Capability Lifecycle into the latest release of DOD's acquisition guidance, DODI 5000.02.

Since publication of the 804 Report, the Office of the Deputy CMO has focused on further implementing the principles of the report in two primary ways for defense business systems. First, until December 2013, when USD(AT&L) rescinded its delegation of Milestone Decision Authority to the Deputy CMO for certain large defense business system acquisitions, the Deputy CMO used this delegated authority to conduct frequent oversight of these programs and cap spending authority in line with the recommendations of the report. Second, the Deputy CMO has embedded, where practicable, the principles of the 804 Report, into the execution of the Integrated Business Framework and revised investment management process as described above. The use of these principles, which include using portfolios to help govern defense business systems, use of the Defense Business Council to review problem statements of new business system investments prior to approving initiation, and review of the business process reengineering conducted on the processes systems support, is beginning to pay dividends.

CONCLUSION

DOD is committed to improving the management and acquisition of IT systems, as well as our overarching business operations. These issues receive significant management attention and are a key part of our broader strategy to build better business processes that will create lasting results for our men and women in uniform, as well as the American taxpayer. I appreciate the opportunity to discuss the Secretary's plans to strengthen management in DOD and I look forward to continuing our work with this committee in the months and years ahead.

I would be glad to take your questions.

Senator SHAHEEN. Thank you.

Ms. Takai.

STATEMENT OF TERESA M. TAKAI, CHIEF INFORMATION OFFICER, DEPARTMENT OF DEFENSE

Ms. TAKAI. Thank you, Madam Chairwoman. Thank you so much for inviting us this afternoon. I appreciate this opportunity to testify before the subcommittee on topics that are of great importance to all of us, and certainly in my world.

I provided a written statement that covers the scope of everything that the CIO does, and rather than trying to go into all of that, because I know we are very focused in a particular area, I would like to mainly focus my remarks on the JIE, if I could.

We wanted to be able to describe to you this key initiative to ensure that DOD has access to information on secure information networks—and I will come back to that because that really is pivotal in what we are doing—and also the tools necessary to execute our warfighting and business support missions.

I want to say right away that the efforts we are taking regarding the IT infrastructure is in direct support of the IT acquisition process and also in support of the business transformation efforts. It is really about being able to provide the technology that is necessary for the business systems to accomplish what they need, but also standardization to assist with the IT acquisition process in that important area.

I think our mission success depends upon the ability of our military leaders and civilians to act decisively based on the most timely and accurate information. Recognizing that information is a strategic asset pushes us to undertake a very ambitious effort to realign and restructure how our networks, hardware, and software housed in data centers is constructed, operated, acquired, and defended. This is done in order to provide better information access to our users, improve our ability to defend not only the networks and the data, but also make it responsive to our changing technological and operational factors.

This effort, called JIE, is intended to enable and empower our military's decisionmaking and our most important asset, our people, by providing warfighters and our mission partners a shared IT infrastructure that consists of federated networks with common configurations, management, and a common set of enterprise services with a single security architecture. I know that is a mouthful but it does describe what we are intending.

The ultimate benefit of the JIE is to the commander in the field. It allows for more innovative integration of ITs, operations, and cybersecurity; its related tempo is more appropriate to our fast-paced operational conditions.

Some of the other benefits are, as I mentioned, a single security architecture that enables our cyber operators at every level to see the status of the networks for operations and security, and provide standard resilience and cyber maneuver options for cyber forces. The complexity of our networks today makes it very difficult for our cyber operators to see who is on our network and be able to defend our networks as we would like them to.

As you mentioned, the consolidation of our data centers, which also includes our operation centers and our help desks, will enable

users and systems to have timely and secure access to the data and services needed to accomplish their assigned missions regardless of their location.

Finally, a consistent DOD-wide IT architecture that defines our enterprise standards and supports fielding of DOD capabilities in support of information sharing, as well as the sustainment and integration of legacy systems, will be an important part of the way that we not only acquire systems, but the way we operate and sustain.

DOD plans on utilizing the Services' existing programs' initiatives and mainly our technical refresh dollars to deploy and migrate to JIE standards utilizing specific implementation guidance. Simply stated, JIE will help improve our ability to field capability faster and more efficiently, and allow us to be better stewards of taxpayers' resources.

Now, in line with this, it is also important that we take actions necessary to increase visibility into our IT budgets and spending patterns, and strengthen our analysis of IT investments as part of our overall governance and oversight processes. I am working very closely with my colleagues here to identify ways to leverage DOD's three core processes: our requirements, budgeting, and acquisition, to address the systemic conditions resulting in our current stovepiped IT infrastructure. This is critical if we are to achieve the agility and responsiveness from IT that our warfighters demand. Working closely not only with my colleagues here but the Comptroller and the Cost Assessment and Program Evaluation Office, we will deliver the flexible, agile acquisition processes that Ms. McFarland spoke of that really meet our requirements and budgeting processes to institutionalize the agility and flexibility necessary for this domain.

Finally, maintaining information dominance for our warfighters is critical to our national security. The efforts outlined above will ensure that DOD's information capabilities provide better mission effectiveness and security, and are delivered in a manner that makes the most efficient use of our financial resources.

I very much appreciate your interest and your staff's interest in our efforts. I look forward to your questions.

[The prepared statement of Ms. Takai follows:]

PREPARED STATEMENT BY MS. TERESA M. TAKAI

INTRODUCTION

Good afternoon Madam Chairwoman and distinguished members of the subcommittee. Thank you for this opportunity to testify before the subcommittee today on information technology (IT) acquisition processes, business transformation, and the Department of Defense (DOD) management practices. I am Teri Takai, DOD's Chief Information Officer (CIO). My office is responsible for ensuring DOD has access to the information, the communication networks, and the decision support tools needed to successfully execute our warfighting and business support missions. Our mission is to ensure that these capabilities can be depended upon in the face of threats by a capable adversary in all conditions from peace to war, and particularly in the face of ever-increasing cyber threats. My focus in accomplishing these responsibilities is to ensure the effectiveness, reliability, security, and efficiency of DOD's IT capabilities for the warfighter, and ensure we are able to take advantage of future technology innovations to support DOD's missions.

I would like to give you a broad overview of DOD's IT landscape; summarize recent directions from the Secretary of Defense to strengthen the DOD CIO; and describe the Joint Information Environment (JIE), DOD's multiyear effort to restruc-

ture much of the underlying network, computing, and cyber security of DOD so as to make us more agile in deploying new decision support capabilities, make us better able to mount cyber defense of our core DOD missions, and make us more efficient and better stewards of taxpayer resources. I will also briefly describe some of the activities underway in my office related to my responsibilities for overseeing Positioning, Navigation, and Timing (PNT) and spectrum.

OVERVIEW OF DOD'S INFORMATION TECHNOLOGY

DOD's fiscal year 2014 IT budget request was $39.6 billion and included funding for a broad variety of IT, ranging from command and control systems, commercial satellite communications, and tactical radios to desktop computers, server computing, enterprise services like collaboration and electronic mail, and DOD business systems. These investments support mission critical operations that must be delivered both on the battlefield and in an office environment. They also provide capabilities that enable the Commander in Chief to communicate with and direct the military, and that support command and control, intelligence, logistics, medical and other warfighting and business support functions throughout DOD. Included in the overall IT budget are DOD's cybersecurity activities and efforts. These are designed to ensure that essential DOD missions work well in the face of cyber attacks. These cybersecurity efforts continue to receive the highest-level attention and support of DOD.

SECRETARY OF DEFENSE ORGANIZATIONAL REVIEW

Recently Secretary of Defense Hagel issued direction to strengthen the role of the DOD CIO. Specifically he affirmed the importance of my office as an Office of the Secretary of Defense Principal Staff Assistant with the responsibilities listed above. As well, he directed actions to add functions, expand authorities, and restore stature to the DOD CIO, with a priority focus on advancing the JIE as a special interest item for the Secretary. The Secretary also directed my office to improve visibility, oversight, and governance of IT resources. He reaffirmed the critical importance of addressing the challenges posed by cybersecurity.

My office has completed the development of a plan of action and milestones to implement the Secretary's direction. We are taking actions necessary to increase visibility into IT budgets and spending patterns, and are strengthening our analysis of IT investments and evolving our processes for IT governance and oversight. We are working closely with the DOD's Deputy Chief Management Officer (DCMO) and with the DOD Under Secretary of Defense (Acquisition, Technology, and Logistics) (USD(AT&L)) to strengthen the oversight and management of IT Business Systems.

INFORMATION TECHNOLOGY ACQUISITION

Consistent with the Secretary's direction, my office is working closely with others in DOD to identify ways to adapt our existing processes to ensure adaptability to technological advances and ability to defend the network against emerging cybersecurity threats. In particular, we are examining how best to leverage DOD's three core processes—requirements, budgeting, and acquisition—to address the systemic conditions resulting in DOD's stove-piped IT infrastructure. This is critical if we are to achieve the agility and responsiveness from IT systems that warfighters both demand and deserve, and improve our ability to defend against cyber attacks. My office is working closely with the offices of the DCMO, USD(AT&L), the Comptroller, the Director of Cost Assessment and Program Evaluation and others to develop a flexible, agile acquisition process that also addresses the DOD's requirements and budgeting processes to institutionalize the agility and flexibility necessary in cyberspace, while ensuring compliance with enterprise standards.

JOINT INFORMATION ENVIRONMENT

Mission success depends upon the ability of our military commanders and civilian leaders to act decisively based on the most timely and accurate data and information. Recognizing that information is a strategic asset, DOD is undertaking an ambitious effort to re-align and restructure how our many IT networks are constructed, operated and defended in order to provide better information access to the user, improve our ability to not only defend the networks and the data, but make it responsive to constantly changing technological and operational factors. The challenge is amplified because capable adversaries are extremely active in seeking to penetrate DOD systems, compromise command and control, to steal or destroy sensitive and strategic information, and to gain an upper hand on U.S. forces and warfighting capability. Consequently, DOD is pursuing the alignment of existing vast IT networks

into JIE. First and foremost, JIE will improve mission effectiveness. It is intended to enable and empower our military's decisive edge—our people—by providing warfighters and our mission partners a shared IT infrastructure consisting of federated networks with common configurations and management, and a common set of enterprise services, within a single security architecture.

The JIE will change the way we assemble, configure, and use new and legacy information technologies. It will consist of enterprise level network operations centers that will reduce the complexity and ambiguity of seeing and controlling the numerous networks within DOD; a set of core data centers—significantly reducing the current number of DOD data centers while ensuring the information is secured and available where needed; and standard, single security architecture that will reduce the number of organizationally owned firewalls, unique routing algorithms, and inefficient routing of information that currently exists today. Together with the single, authoritative identity management and access control, emerging cloud capability, mobile computing devices and data-focused applications, and common IT enterprise services, JIE will provide the information environment to flexibly create, store, disseminate, and access data, applications, and other computing services when and where needed. It will better protect the integrity of information from unauthorized access while increasing the ability to respond to security breaches across the system as a whole.

The ultimate beneficiary of JIE is the commander in the field, allowing for more innovative integration of information technologies, operations, and cyber security at a tempo more appropriate to today's fast-paced operational conditions. Specific benefits include:

- A standardized information and security architecture across software, servers, the network, mobile and fixed user computing, and identity and access control systems. Users and systems will be able to trust their connection from end to end with the assurance that the information and systems involved in a mission are correct and working even during a cyber attack. The JIE architecture will enable cyber operators at every level to see the status of the networks for operations and security and will provide standard resilience and cyber maneuver options for all cyber forces. This will minimize complexity for a synchronized cyber response, maximize operational efficiencies, and reduce risk. Most importantly, unlike the one size fits all networks DOD has now, the JIE will provide mission commanders more freedom to take operational risk with the networks since the risks can be contained to the decision support and systems specifically needed for that mission.
- Consolidation of data centers, operations centers, and help desks will enable users and systems to have timely and secure access to the data and services needed to accomplish their assigned missions, regardless of their location.
- A consistent DOD-wide IT architecture that defines enterprise standards and supports effective fielding of DOD capabilities in support of information sharing, as well as sustainment and integration of legacy systems.

DOD plans on utilizing the Services' existing programs, initiatives, and technical refresh to deploy or migrate to JIE standards utilizing specific implementation guidance.

Data Center Consolidation

An important aspect within JIE is the active consolidation of DOD's numerous data centers. These efforts are consistent with and support the Federal Data Center Consolidation Initiative being led by the Federal CIO. DOD has established four classes of data centers to assist in the development and execution of our data center consolidation strategy. These four types of data centers are:

- Core Data Center (CDC)—delivers enterprise services and provides primary migration point for systems and applications; these are our most important data centers, strategically located to provide speed of access to global information requirements;
- Installation Processing Node—provides local services to DOD installations and hosting systems not suited for CDCs, these will be located at the installation level, and will consolidate the duplicative data centers at the installations;
- Special Purpose Processing Node—provides compute and storage for fixed infrastructure or facilities, such as test ranges, labs, medical diagnostic equipment, and machine shops; and

- Tactical/Mobile Processing Node—provides support to the deployed warfighter at the tactical edge; these unique "data centers" directly support the warfighter in a disadvantaged or tactical environment, but connect back into the Generating Force information sources and core data centers.

DOD's data center consolidation efforts have been aided by section 2867 of P.L. 112–81, which was originally sponsored by the Senate Armed Services Committee. We have made significant progress in our data center consolidation, and have closed 277 data centers as of the first quarter pf fiscal year 2014.

Cloud Computing

Cloud Computing is becoming a critical component of the JIE and DOD's IT modernization efforts and will enable users the access to data anywhere, anytime on any approved device. One key objective is to drive the delivery and adoption of a secure, dependable, resilient multi-provider enterprise cloud computing environment that will enhance mission effectiveness and improve IT efficiencies. Cloud services will enhance warfighter mobility by providing secure access to mission data and enterprise services regardless of where the user is located and what device he or she uses.

My office continues to investigate new ways to leverage commercial cloud computing innovations and efficiencies to improve DOD. The nature of DOD's mission, and the risk to national security if DOD information were to be compromised, requires the careful evaluation of commercial cloud services, especially in areas of cybersecurity, continuity of operations, and resilience. To improve our cybersecurity posture with regards to commercial cloud computing, we are participating in the Federal Risk Authorization and Management Program and updating our own cybersecurity policies.

There are two key components of DOD's cloud strategy. The first component is the establishment of a private enterprise cloud infrastructure that supports the full range of DOD activities in unclassified and classified environments. The second is DOD's adoption of commercial cloud services that can meet DOD's cybersecurity needs while providing capabilities that are at least as effective and efficient as those provided internally.

Enterprise Services

As previously noted, enterprise services are those global applications that can be used by many, if not all users within DOD. They are a key element of achieving more effective operations and improved security across DOD. An example of this is Defense Enterprise Email, which is an enterprise messaging tool, built by consolidating existing disparate email servers into a global capable server and operated by the Defense Information Systems Agency (DISA) on a fee-for-service basis. The result is a common DOD enterprise email and contact address list and consolidated email service.

The enterprise directory service is being incorporated by many organizations in order to provide baseline authoritative enterprise identity data that is shareable across the enterprise via an automated synchronization service. Defense Enterprise Email is currently used by DISA, the U.S. Army, the Joint Staff, the Office of the Secretary of Defense, Defense Manpower Data Center, Office of Naval Research, Navy Recruiting Command, HQ Air Force, Air Force District Washington, U.S. European Command, U.S. Southern Command, U.S. Transportation Command, U.S. Africa Command, and U.S. Forces Japan. As of February 2014, there are 1.6 million enterprise email users on DOD's unclassified network and 150,000 users on the DOD Secret network, and continued adoption and consolidation to this capability is expected in the future.

CYBERSECURITY

Cybersecurity is one of the highest priorities of the administration and DOD. The primary cybersecurity goal of my office is ensuring that essential DOD missions are dependable and resilient in the face of cyber exploits and attacks by a capable adversary. This is also a primary concern driving the other improvement efforts, particularly JIE. This focus on mission assurance, rather than on computer or system security, is one of the primary changes in DOD's cybersecurity approach. This approach enables us to move from an approach of bolting on cyber security solutions to one where resilient, mission assurance, and cyber security characteristics will be built into the total information environment.

JIE gives certain operational commanders more freedom to take operational cyber security risks. We accomplish this by using "risk zones" in the design of the JIE computing and networks; these zones help keep the risks assumed by a particular mission from spilling over into other missions. This is also a significant change from

today's DOD networks which impose more operational constraints on commanders. Other primary cybersecurity goals include improved safe sharing with whatever partners a mission requires, and a continued need to keep a secret. Through refinement of the JIE concept, including the JIE single security architecture, we have concluded that all of these cyber security goals can be achieved, and DOD will have better joint warfighting decision support, better operational and acquisition agility, and better efficiency.

Like other IT efforts, cybersecurity is a team sport within DOD, and these efforts span many organizations. In particular, I work closely with others in the Office of the Secretary of Defense, U.S. Cyber Command, the Military Departments, and Defense Agencies to ensure cybersecurity issues are being addressed.

Single Security Architecture

A key priority in the last year has been the development of a unifying, joint cybersecurity approach for the design of the JIE. This is the JIE Single Security Architecture (SSA). Although many of the DOD's cyber security initiatives are common across all DOD organizations, each Military Service has had the ability to make important decisions about how to design computing and networks and about how to structure cyber defenses. This has led to several challenges, such as diversity in the cybersecurity protections of the DOD that does not provide a common level of protection for joint missions (because the IT for these missions is designed and operated by many organizations), and sometimes interferes with the collaborative attack detection, diagnosis, and reaction so necessary in a complex organization like DOD. Finally, the challenge caused by this diversity can interfere with a joint commander's ability to share information with external mission partners.

To solve these problems, the SSA provides for a common approach to the structure and defense of computing and the networks across all DOD organizations. This engineering of the cyber security approach "end-to-end" will significantly improve DOD's ability to resist cyber-attacks; to dampen the spread of successful attacks; and to detect, diagnose, and react to attacks in ways that are optimized for joint missions. Owing to the standardization and cyber data sharing of JIE, cyber defenders will have broad visibility into the computing and networks, and via secure remote management and automation, they will be able to much more quickly construct and execute defensive actions. In addition, the risk containment zones the SSA defines in the server computing and the network will enable joint commanders to better contain cyber risk to mission while sharing as broadly with external partners as a mission requires. It will also make development of new decision support capabilities simpler and easier since many program offices will not need to worry about most cybersecurity protections, but will instead be able to build software applications on top of the standard protections and situational awareness capabilities provided by JIE.

The DOD CIO published a new Strategy for Defending Networks, Systems, and Data in October 2013. The strategy identifies strategic imperatives to ensure the protection, integrity, and assurance of DOD cyber assets. It is focused in four key areas: establishing a Resilient Cyber Defense Posture; Transform Cyber Defense Operations; Enhance Cyber Situational Awareness; and Assure Survivability against Highly Sophisticated Cyber Attacks. In the near term, we will be finalizing the Implementation Plan for the strategy. To ensure success going forward, we will collaborate closely with others in DOD.

INFORMATION TECHNOLOGY AND CYBER WORKFORCE DEVELOPMENT

A critical component of readiness is a workforce that is trained and equipped. DOD is in the process of implementing a comprehensive strategy to transform its legacy IT and information assurance personnel, as well as critical personnel in non-traditional IT occupations, into a cohesive cyberspace workforce which includes a strong cybersecurity workforce component. The DOD Cyberspace Workforce Strategy is focused on recruiting, training, and retaining the necessary workforce to build and operate our networks as well as defend U.S. national interests in cyberspace. The workforce must be properly sized and properly trained, and there must be career progression that encourages growth and development of broad ranging skillsets, such as building a defensible architecture, acquiring secure technologies, securely operating systems and networks, analyzing cyber threats, and planning cyberspace operations. We are working across DOD to realize competitive hiring and retention initiatives, and institute robust training and education programs, to achieve a world class, mission ready cyberspace workforce.

Space-based PNT provides crucial capability to military, civil, and commercial users worldwide. We are working to better integrate the services of the Global Positioning Systemas the primary means of delivering PNT which provides our Nation

and allies the ability to precisely navigate anywhere in the world. Our PNT architecture provides our Nation and allies precise target location, the ability to strike with a minimum of collateral damage, navigation capabilities that support logistics, command and control, friendly force tracking, and precise timing. This latter feature is critical to encryption, synchronization, and integration of data networks within the communications and cyber enterprises. With this understanding, we are working, as a high priority, several infrastructure upgrades to protect this critical piece of cyber terrain.

Spectrum has become increasingly important not only to DOD's missions, but to consumers and the economy of the Nation as a whole. The use of the electromagnetic spectrum continues to be a critical enabler of our warfighting capabilities and DOD's cyber operations. Defense leadership is cognizant and sensitive to the unprecedented spectrum demands resulting from DOD's increasing reliance on spectrum-dependent technologies and the rapid modernization of commercial mobile devices. Fully recognizing the linkages between national security and economic prosperity, the DOD is fully committed to the President's 500 MHz initiative to make spectrum available for commercial broadband use, the implementation of more effective and efficient use of this finite radio-frequency spectrum and the development of solutions to meet these goals while ensuring national security and other Federal capabilities are preserved.

To that end, DOD has developed a plan that will make 25MHz of spectrum available to commercial industry on a shared basis, thus achieving a balance between expanding wireless and broadband capabilities for the Nation and the need for access to support warfighting capabilities in support of our national security.

CONCLUSION

Maintaining information dominance for the warfighter is critical to our national security. The efforts outlined above will ensure that DOD's information capabilities provide better mission effectiveness and security, and are delivered in a manner that makes the most efficient use of financial resources. I ask that you strongly support, authorize, and fund DOD's key cybersecurity and information technology modernization programs. I want to thank you for your interest.

Senator SHAHEEN. Thank you very much.

Mr. Powner.

STATEMENT OF DAVID A. POWNER, DIRECTOR, INFORMATION TECHNOLOGY AND MANAGEMENT ISSUES, GOVERNMENT ACCOUNTABILITY OFFICE

Mr. POWNER. Chairwoman Shaheen, Ranking Member Ayotte, and members of the subcommittee, I appreciate the opportunity to testify this afternoon on improving IT acquisition at DOD.

Of the $82 billion the Federal Government spends on IT annually, DOD spends almost half of this, $40 billion. Of that, about $25 billion is spent on legacy systems. Therefore, it is important that DOD not only acquires new systems, on time and within budget, but that it also efficiently manages existing systems.

Regarding systems acquisitions, too often we hear of failed projects like ECSS. These complex projects, though, can be delivered successfully when there is appropriate transparency, accountability, oversight, and program management.

Starting with transparency, the IT Dashboard was put in place to highlight the status and CIO assessments of approximately 700 major IT investments across 27 departments. This public dissemination of each project's status is to allow the Office of Management and Budget (OMB) and Congress to hold agencies accountable for results and performance. Many agencies have accurate information on the Dashboard, and that information is used to tackle troubled projects. DOD does not. DOD reports 93 IT investments on the Dashboard—81 are in green status, meaning low risk, 12 are in

yellow status, meaning medium risk, and there are no projects rated as high risk, or red.

Chairwoman Shaheen, there are many problems here. First, some of these projects should be red, based on the review that you currently mentioned in your opening statement. Second, the data is not always current since CIO ratings have not been updated since September 2012. Third, there are major investments that are not even listed on the Dashboard.

Given the amount DOD spends annually on IT and its not-so-stellar track record, Congress absolutely needs a clear picture of what these investments are and how they are performing. Therefore, DOD needs to ensure that all projects are on the Dashboard and accurately updated.

Once this transparency is improved, key IT executives need to be accountable, along with the appropriate business leaders responsible for these projects.

We have seen successful oversight performed by using a tiered portfolio-based governance structure, meaning that not all DOD major investments need to be overseen exactly the same way. Some of the 93 investments can be delegated below the CIO level. Most should be overseen by the CIO, and some of DOD's major priorities likely demand oversight above the CIO level.

Turning to program management, we recently issued a report that showcases successful IT acquisitions. One of those projects was the Defense Information Systems Agency's (DISA) global combat support system. Several best practices increased the likelihood that IT acquisitions will be delivered on time and within budget. This starts with getting the requirements right by involving the right users and prioritizing those requirements. A big takeaway from these successful stories was that each of these successful investments was an increment of a larger project. Tackling projects in increments is a best practice.

We have ongoing work that is currently looking at agencies, including DOD, and how they are tackling these large investments in more manageable pieces. That report will be issued in the spring and will show that DOD is not acquiring systems in small enough increments.

Turning now to operational systems, OMB started a data center consolidation effort in 2010 to address the Government's low server utilization rates estimated on average at 10 to 15 percent, far below the industry standard of 60 percent. This effort was to result in $3 billion in savings across all departments. DOD has done a really good job when it comes to data centers, Chairwoman Shaheen. They have identified 2,000 centers, to date. They have closed over 250 centers, and they have reported $875 million in savings. They have also reported to us in the current review that their savings alone could match OMB's government-wide goal of $3 billion by the end of 2015.

OMB recently expanded the data center consolidation effort into a larger initiative to eliminate additional duplicative spending in administrative and business systems. As part of this, DOD identified 26 opportunities where duplication existed in areas like enterprise software, security infrastructure, and network operations. DOD estimates that these 26 opportunities, which include their

data center consolidation efforts, could result in savings that exceed $5 billion. Given the magnitude of DOD's potential savings associated with duplicative systems and data center consolidation, it is essential that they have support for and track these savings, and not use poor systems or processes as an excuse for not realizing billions in savings.

In summary, by tackling duplicative IT systems and consolidating data centers, DOD can save over $5 billion through 2015 alone. Systems acquisition performance can be greatly improved by reporting accurately and timely on the IT Dashboard, improving governance, acquiring incrementally, and following program management best practices.

This concludes my statement. I would be pleased to respond to questions.

[The prepared statement of Mr. Powner follows:]

PREPARED STATEMENT BY MR. DAVID A. POWNER

Chairwoman Shaheen, Ranking Member Ayotte, and members of the subcommittee: I am pleased to be here today to discuss how best practices and major information technology (IT) reform initiatives can help the Department of Defense (DOD) better acquire and manage IT investments. As reported to the Office of Management and Budget (OMB), Federal agencies plan to spend at least $82 billion on IT in fiscal year 2014. Of this amount, DOD plans to spend about $39.6 billion, or 48 percent of the government's total IT spending. Given the size of the department's investments and the criticality of many of these systems to the security and defense of the Nation, it is important that DOD successfully acquire them—that is, ensure that they are acquired on time and within budget, and that they deliver expected benefits and results.

However, as we have previously reported and testified, Federal IT projects too frequently fail and incur cost overruns and schedule slippages while contributing little to mission-related outcomes.[1] During the past several years, we have issued multiple reports and testimonies on best practices for major acquisitions and Federal initiatives to acquire and improve the management of IT investments.[2] In those reports, we made numerous recommendations to Federal agencies and OMB to further enhance the management and oversight of IT programs. Further, we highlighted several examples of DOD investments that failed to, or only partially delivered results within planned cost and schedule estimates.

As discussed with subcommittee staff, I am testifying today on how best practices and major IT reform initiatives can help DOD better acquire and manage IT investments. Accordingly, my testimony specifically focuses on the critical success factors of major IT acquisitions and their importance to improving IT investment oversight and management. I will also address several initiatives put into place by OMB to

[1] See, for example, Government Accountability Office (GAO), Information Technology: OMB and Agencies Need to More Effectively Implement Major Initiatives to Save Billions of Dollars, GAO–13–796T (Washington, DC: July 25, 2013); Secure Border Initiative: DHS Needs to Reconsider Its Proposed Investment in Key Technology Program, GAO–10–340 (Washington, DC: May 5, 2010); and Polar-Orbiting Environmental Satellites: With Costs Increasing and Data Continuity at Risk, Improvements Needed in Tri-agency Decisionmaking, GAO–09–564 (Washington, DC: June 17, 2009).

[2] See, for example, GAO, Information Technology: Leveraging Best Practices to Help Ensure Successful Major Acquisitions, GAO–14–183T (Washington, DC: Nov. 13, 2013); Information Technology: Additional Executive Review Sessions Needed to Address Troubled Projects, GAO–13–524 (Washington, DC: June 13, 2013); Data Center Consolidation: Strengthened Oversight Needed to Achieve Billions of Dollars in Savings, GAO–13–627T (Washington, DC: May 14, 2013); Data Center Consolidation: Strengthened Oversight Needed to Achieve Cost Savings Goal, GAO–13–378 (Washington, DC: Apr. 23, 2013); Information Technology Dashboard: Opportunities Exist to Improve Transparency and Oversight of Investment Risk at Select Agencies, GAO–13–98 (Washington, DC: Oct. 16, 2012); Data Center Consolidation: Agencies Making Progress on Efforts, but Inventories and Plans Need to Be Completed, GAO–12–742 (Washington, DC: July 19, 2012); Information Technology: Critical Factors Underlying Successful Major Acquisitions, GAO–12–7 (Washington, DC: Oct. 21, 2011); Information Technology: Continued Attention Needed to Accurately Report Federal Spending and Improve Management, GAO–11–831T (Washington, DC: July 14, 2011); and Information Technology: Investment Oversight and Management Have Improved but Continued Attention Is Needed, GAO–11–454T (Washington, DC: Mar. 17, 2011).

address the transparency of IT investments and to review troubled and duplicative existing projects. All work on which this testimony is based was performed in accordance with generally accepted government auditing standards or all sections of GAO's Quality Assurance Framework that were relevant to our objectives. Those standards and the framework require that we plan and perform our audits and engagements to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives; the framework also requires that we discuss any limitations in our work. We believe that the information, data, and evidence obtained and the analysis conducted provide a reasonable basis for our findings and conclusions based on our objectives. A more detailed discussion of the objectives, scope, and methodology of this work is included in each of the reports on which this testimony is based.[3]

BACKGROUND

IT should enable government to better serve the American people. However, despite spending hundreds of billions on IT since 2000, the Federal Government has experienced failed IT projects and has achieved little of the productivity improvements that private industry has realized from IT. Too often, Federal IT projects run over budget, behind schedule, or fail to deliver results. In combating this problem, proper oversight is critical.

Both OMB and Federal agencies have key roles and responsibilities for overseeing IT investment management and OMB is responsible for working with agencies to ensure investments are appropriately planned and justified. However, as we have described in numerous reports,[4] although a variety of best practices exist to guide their successful acquisition, Federal IT projects too frequently incur cost overruns and schedule slippages while contributing little to mission-related outcomes.

Agencies have reported that poor-performing projects have often used a "big-bang" approach—that is, projects that are broadly scoped and aim to deliver capability several years after initiation. For example, in 2009 the Defense Science Board reported that DOD's acquisition process for IT systems was too long, ineffective, and did not accommodate the rapid evolution of IT.[5] The board reported that the average time to deliver an initial program capability for a major IT system acquisition at DOD was over 7 years.

As previously mentioned, and as seen in figure 1, Defense accounts for 48 percent of the fiscal year 2014 Federal Government's IT budget.

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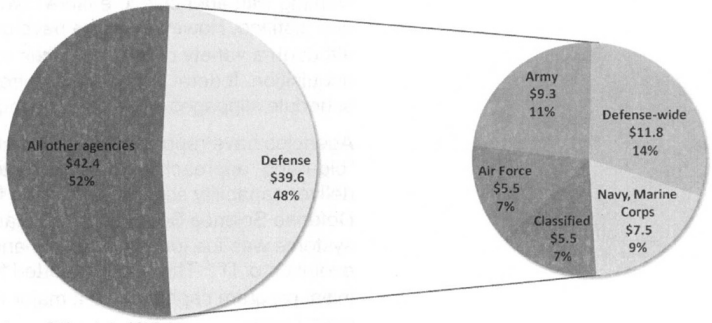
[3] GAO–13–524; GAO, Information Technology Reform: Progress Made; More Needs to Be Done to Complete Actions and Measure Results, GAO–12–461 (Washington, DC: Apr. 26, 2012); IT Dashboard: Accuracy Has Improved, and Additional Efforts Are Under Way to Better Inform Decision Making, GAO–12–210 (Washington, DC: Nov. 7, 2011); GAO–12–7; Information Technology: OMB Has Made Improvements to Its Dashboard, but Further Work Is Needed by Agencies and OMB to Ensure Data Accuracy, GAO–11–262 (Washington, DC: Mar. 15, 2011); and Information Technology: OMB's Dashboard has Increased Transparency and Oversight, but Improvements Needed, GAO–10–701 (Washington, DC: July 16, 2010).

[4] See, for example, GAO, FEMA: Action Needed to Improve Administration of the National Flood Insurance Program, GAO–11–297 (Washington, DC: June 9, 2011); GAO–10–340; Secure Border Initiative: DHS Needs to Address Testing and Performance Limitations That Place Key Technology Program at Risk, GAO–10–158 (Washington, DC: Jan. 29, 2010); and GAO–09–564.

[5] Defense Science Board, Report of the Defense Science Board Task Force on Department of Defense Policies and Procedures for the Acquisition of Information Technology (Washington, DC: March 2009).

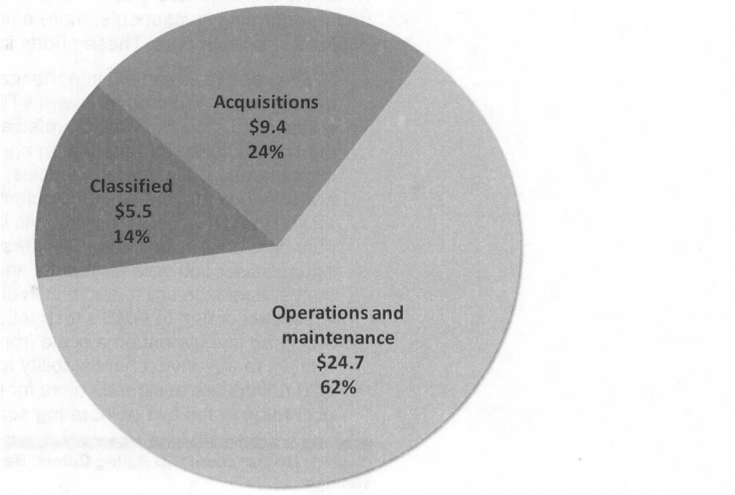
Figure 1: Defense Percentage of Federal Fiscal Year 2014 IT Spending (dollars in billions)



Source: GAO analysis of OMB data.

Of the department's $39.6 billion IT budget, approximately 14 percent is to be spent on classified systems. Of the remaining $34 billion, about one-quarter is to be spent on acquiring new investments, and the rest is to be spent operating and maintaining existing or legacy systems. This is illustrated in figure 2.

Figure 2: Defense's Fiscal Year 2014 IT Spending (dollars in billions)



Source: GAO analysis of OMB data.

Further, over the past several years, we have reported that overlap and fragmentation among government programs or activities could be harbingers of unnecessary duplication.[6] Thus, the reduction or elimination of duplication, overlap, or fragmentation could potentially save billions of tax dollars annually and help agencies provide more efficient and effective services.

[6] GAO, 2013 Annual Report: Actions Needed to Reduce Fragmentation, Overlap, and Duplication and Achieve Other Financial Benefits, GAO–13–279SP (Washington, DC: Apr. 9, 2013), Annual Report: Opportunities to Reduce Duplication, Overlap and Fragmentation, Achieve Savings, and Enhance Revenue, GAO–12–342SP (Washington, DC: Feb. 28, 2012), and Opportunities to Reduce Potential Duplication in Government Programs, Save Tax Dollars, and Enhance Revenue, GAO–11–318SP (Washington, DC: Mar. 1, 2011).

OMB Has Launched Major Initiatives for Overseeing Investments

OMB has implemented a series of initiatives to improve the oversight of underperforming investments, more effectively manage IT, and address duplicative investments. These efforts include the following:

- IT Dashboard. Given the importance of transparency, oversight, and management of the government's IT investments, in June 2009 OMB established a public website, referred to as the IT Dashboard, that provides detailed information on approximately 700 major IT investments at 27 Federal agencies, including ratings of their performance against cost and schedule targets. The public dissemination of this information is intended to allow OMB, other oversight bodies including Congress, and the general public to hold agencies accountable for results and performance. Among other things, agencies are to submit Chief Information Officer (CIO) ratings, which, according to OMB's instructions, should reflect the level of risk facing an investment on a scale from 1 (high risk) to 5 (low risk) relative to that investment's ability to accomplish its goals. Ultimately, CIO ratings are assigned colors for presentation on the Dashboard, according to the five-point rating scale, as illustrated in table 1.

Table 1: IT Dashboard CIO Rating Colors, Based on a Five-Point Scale for CIO Ratings

Rating (by agency CIO)	Color
1-High risk	Red
2-Moderately high risk	Red
3-Medium risk	Yellow
4-Moderately low risk	Green
5-Low risk	Green

Source: OMB's IT Dashboard.

- TechStat reviews. In January 2010, the Federal CIO began leading TechStat sessions—face-to-face meetings to terminate or turnaround IT investments that are failing or are not producing results. These meetings involve OMB and agency leadership and are intended to increase accountability and transparency and improve performance. Subsequently, OMB empowered agency CIOs to hold their own TechStat sessions within their respective agencies. According to the former Federal CIO, the efforts of OMB and Federal agencies to improve management and oversight of IT investments have resulted in almost $4 billion in savings.
- Federal Data Center Consolidation Initiative. Concerned about the growing number of Federal data centers, in February 2010 the Federal CIO established the Federal Data Center Consolidation Initiative. This initiative's four high-level goals are to promote the use of "green IT" [7] by reducing the overall energy and real estate footprint of government data centers; reduce the cost of data center hardware, software, and operations; increase the overall IT security posture of the government; and shift IT investments to more efficient computing platforms and technologies. OMB believes that this initiative has the potential to provide about $3 billion in savings by the end of 2015.
- PortfolioStat. In order to eliminate duplication, move to shared services, and improve portfolio management processes, in March 2012 OMB launched the PortfolioStat initiative. Specifically, PortfolioStat requires agencies to conduct an annual agencywide IT portfolio review to, among other things, reduce commodity IT [8] spending and demonstrate how their IT investments align with the agency's mission and business functions.[9]

[7] "Green IT" refers to environmentally sound computing practices that can include a variety of efforts, such as using energy efficient data centers, purchasing computers that meet certain environmental standards, and recycling obsolete electronics.

[8] According to OMB, commodity IT includes services such as IT infrastructure (data centers, networks, desktop computers and mobile devices); enterprise IT systems (e-mail, collaboration tools, identity and access management, security, and web infrastructure); and business systems (finance, human resources, and other administrative functions).

[9] OMB, Implementing PortfolioStat, Memorandum, M–12–10 (Washington DC: Mar. 30, 2012).

PortfolioStat is designed to assist agencies in assessing the current maturity of their IT investment management process, making decisions on eliminating duplicative investments, and moving to shared solutions in order to maximize the return on IT investments across the portfolio. OMB believes that the PortfolioStat effort has the potential to save the government $2.5 billion over the next 3 years by, for example, consolidating duplicative systems.

OPPORTUNITIES EXIST TO IMPROVE DEFENSE'S ACQUISITION AND MANAGEMENT OF MAJOR IT INVESTMENTS

Given the magnitude of DOD's annual IT budget, which was $39.6 billion in fiscal year 2014, it is important that the department leverage all available opportunities to ensure that its IT investments are acquired in the most effective manner possible. To do so, the department can rely on IT acquisition best practices, and initiatives such as OMB's IT Dashboard, and OMB-mandated TechStat sessions.

Best Practices Are Intended to Help Ensure Successful Major Acquisitions

In 2011, we identified seven successful investment acquisitions and nine common factors critical to their success, and noted that the factors support OMB's objective of improving the management of (1) large-scale IT acquisitions across the Federal Government, and (2) wide dissemination of these factors could complement OMB's efforts.[10] Specifically, we reported that Federal agency officials identified seven successful investment acquisitions, in that they best achieved their respective cost, schedule, scope, and performance goals.[11] Notably, all of these were smaller increments, phases, or releases of larger projects. For example, the DOD investment in our sample, Defense Global Combat Support System-Joint (Increment 7), was a smaller portion of an ongoing investment. The common factors critical to the success of three or more of the seven investments are generally consistent with those developed by private industry and are identified in table 2.

Table 2: Common Critical Success Factors

Program officials were actively engaged with stakeholders
Program staff had the necessary knowledge and skills
Senior department and agency executives supported the programs
End users and stakeholders were involved in the development of requirements
End users participated in testing of system functionality prior to formal end user acceptance testing
Government and contractor staff were consistent and stable
Program staff prioritized requirements
Program officials maintained regular communication with the prime contractor
Programs received sufficient funding

Source: GAO analysis of agency data.

Regarding DOD's Global Combat Support System-Joint (Increment 7), officials cited six factors that were critical to this investment's success. Among others, officials noted that senior department executives supported the program, end users and stakeholders were involved in the development of requirements which were then prioritized, and government and contractor staff were consistent and stable.

IT Dashboard Can Improve the Transparency Into and Oversight of Defense IT Investments

The IT Dashboard serves an important role in allowing OMB and other oversight bodies to hold agencies accountable for results and performance. However, we reported in October 2012 that opportunities existed to improve transparency and oversight of investment risk at selected agencies, including DOD.[12] Specifically, we

[10] GAO–12–7.

[11] The seven investments were: (1) Commerce's Decennial Response Integration System; (2) Defense's Defense Global Combat Support System-Joint (Increment 7); (3) Department of Energy's Manufacturing Operations Management Project; (4) DHS's Western Hemisphere Travel Initiative; (5) Department of Transportation's Integrated Terminal Weather System; (6) Internal Revenue Service's Customer Account Data Engine 2; and (7) Veterans Affairs Occupational Health Recordkeeping System.

[12] GAO–13–98.

found that among the agencies we reviewed, DOD was unique in that its CIO ratings on the Dashboard reflected additional considerations beyond OMB's instructions. For example, briefing slides prepared for DOD's 2011 CIO rating exercise identified the need to "balance" CIO ratings, and advised that yellow or red ratings could lead to an OMB review. That report further noted that DOD did not rate any of its investments as either high or moderately high risk and that in selected cases, these ratings did not appropriately reflect significant cost, schedule, and performance issues reported by GAO and others.

We also highlighted three DOD investments that experienced significant performance problems and were part of a GAO high-risk area (business systems modernization); however, they were all rated low risk or moderately low risk by the DOD CIO. For example, in early 2012, we reported that Air Force's Defense Enterprise Accounting and Management System faced a 2-year deployment delay and an estimated cost increase of about $500 million from an original life-cycle cost estimate of $1.1 billion (an increase of approximately 45 percent), and that assessments by DOD users had identified operational problems with the system, such as data accuracy issues, an inability to generate auditable financial reports, and the need for manual workarounds.[13] In July 2012, the DOD Inspector General reported that the system's schedule delays were likely to diminish the cost savings it was to provide, and would jeopardize the department's goals for attaining an auditable financial statement. DOD's CIO rated the Dense Enterprise Accounting and Management System low risk or moderately low risk from July 2009 through March 2012.

Moreover, DOD did not apply its own risk management guidance to the ratings, which reduces their value for investment management and oversight. Therefore, we recommended that DOD ensure that its CIO ratings reflect available investment performance assessments and its risk management guidance. DOD concurred with our recommendation. Nonetheless, the Dashboard currently shows that for DOD's 93 major investments, 81 are low or moderately low risk (green), 12 are medium risk (yellow), and none are moderately high or high risk (red).

TechStat Reviews Can Help Highlight and Evaluate Poorly Performing Investments

TechStat reviews were initiated by OMB to enable the Federal Government to intervene to turnaround, halt, or terminate IT projects that are failing or are not producing results. In 2013, we reported that OMB and selected agencies had held multiple TechStats, but that additional OMB oversight was needed to ensure that these meetings were having the appropriate impact on underperforming projects and that resulting cost savings were valid.[14] We noted that OMB and selected agencies had tracked and reported positive results from TechStats, with most resulting in improved governance. Agencies also reported projects with accelerated delivery, reduced scope, or termination. We also found that OMB reported in 2011 that Federal agencies achieved almost $4 billion in life-cycle cost savings as a result of TechStat sessions. However, we were unable to validate OMB's reported results because OMB did not provide artifacts showing that it ensured the results were valid. Among other things, we recommended that OMB require agencies to report on how they validated the outcomes. OMB generally agreed with this recommendation.

We also found that as of April 2013, OMB reported conducting 79 TechStats on 55 investments at 23 Federal agencies, including DOD. The four DOD investments that were reviewed included the Expeditionary Combat Support System, which received three TechStats. We recently testified that in December 2012, DOD canceled the Expeditionary Combat Support System after having spent about a billion dollars and missing multiple milestones, including failure to achieve deployment within 5 years of obligating funds.[15] The system was to provide the Air Force with a single, integrated logistics system that was to control and account for about $36 billion of inventory. We issued several reports on this system and found that, among other things, the program was not fully following best practices for developing reliable schedules and cost estimates.[16] Among other things, we had recommended that DOD ensure that any future system deficiencies identified through independent as-

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[13] GAO, DOD Financial Management: Reported Status of Department of Defense's Enterprise Resource Planning Systems, GAO–12–565R (Washington, DC: Mar. 30, 2012) and DOD Financial Management: Implementation Weaknesses in Army and Air Force Business Systems Could Jeopardize DOD's Auditability Goals, GAO–12–134 (Washington, DC: Feb. 28, 2012).

[14] GAO–13–524.

[15] GAO–13–796T.

[16] GAO, DOD Business Transformation: Improved Management Oversight of Business System Modernization Efforts Needed, GAO–11–53 (Washington, DC: Oct. 7, 2010) and DOD Financial Management: Implementation Weaknesses in Army and Air Force Business Systems Could Jeopardize DOD's Auditability Goals, GAO–12–134 (Washington, DC: Feb. 28, 2012).

sessments be resolved or mitigated prior to further deployment of the Expeditionary Combat Support System.

In addition to efficiently acquiring IT investments, it is also important for DOD to efficiently manage its existing IT systems, especially since the agency plans to spend about $25 billion in fiscal year 2014 on these systems. To do so, DOD can rely on Federal initiatives designed to reduce inefficiencies, redundancy, and duplication in IT investments, as discussed in the following section.

DOD Could Consolidate Hundreds of Data Centers, Leading to Billions in Savings

In an effort to consolidate the growing number of Federal data centers, in 2010, OMB launched a data center consolidation initiative. As part of this initiative, agencies developed plans to consolidate data centers; however, these plans were incomplete and did not include best practices. In addition, although we reported that agencies had made progress on their data center closures, OMB had not determined initiative-wide cost savings, and oversight of the initiative was not being performed in all key areas.[17] Among other things, we recommended that agencies complete inventories and plans, with which most agencies agreed. Finally, as part of ongoing follow-up work, we determined that agencies closed additional data centers, but that the number of Federal data centers was significantly higher than previously estimated by OMB. Specifically, we testified in 2013 that OMB reported approximately 3,133 data centers in December 2011.[18] However, as of July 2013, 22 of the 24 agencies had collectively reported 6,836 data centers in their inventories, an increase of approximately 3,700. Of these, DOD reported 1,922 facilities. Since DOD's original goal was to consolidate from 936 data centers to 392 and to save an estimated $2.2 billion, this increase in inventory opens the possibility of consolidating even more centers and realizing billions in cost savings.

PortfolioStat Can Be Used to Address Duplicative DOD Investments and Realize Cost Savings

OMB's PortfolioStat initiative is designed to assist agencies in assessing the current maturity of their IT portfolio management process and making decisions on eliminating duplication—which we reported on in February 2012. Specifically, we found 31 potentially duplicative investments totaling approximately $1.2 billion at DOD, but that the department had begun taking actions to address this duplication.[19] For example, according to Defense officials, four of the Navy acquisition management investments—two for Naval Sea Systems Command and two for Space and Naval Warfare Systems Command—would be reviewed to determine whether these multiple support systems are necessary. In addition, DOD reported that the Air Force was in the process of developing a single contract writing system to replace the five potentially duplicative investments we had identified. Additionally, in September 2013, we found additional potential duplication within DOD's health care and dental management investments, totaling over $30 million.[20] Again, department officials described plans to address this. The existence of this potential duplication reinforces the need for the department to continue to take firm actions to address IT duplication and inefficiencies.

We recently reported[21] and testified[22] on PortfolioStat, including DOD's efforts to address duplication through the initiative. Specifically, we noted that, although OMB had previously stated that PortfolioStat was expected to result in savings of approximately $2.5 billion through fiscal year 2015, the 26 DOD PortfolioStat initiatives alone, including data center consolidation, were expected by the department's CIO to save between $3.2 billion and $5.2 billion through fiscal year 2015, and to result in efficiencies between $1.3 billion and $2.2 billion per year beginning in fiscal year 2016. However, DOD was unable to show support for how all of these savings were calculated, citing a variety of reasons such as dependence on accurate reporting by departmental components and the lack of granular information from accounting systems. While recognizing the challenges the department faces in obtain-

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[17] GAO, Data Center Consolidation: Agencies Need to Complete Inventories and Plans to Achieve Expected Savings, GAO–11–565 (Washington, DC: Jul. 26, 2011) and Data Center Consolidation: Agencies Making Progress on Efforts, but Inventories and Plans Need to Be Completed, GAO–12–742 (Washington, DC: Jul. 19, 2012).

[18] GAO–13–796T.

[19] GAO, Information Technology: Departments of Defense and Energy Need to Address Potentially Duplicative Investments, GAO–12–241 (Washington, DC: Feb 17, 2012).

[20] GAO, Information Technology: Key Federal Agencies Need to Address Potentially Duplicative Investments, GAO–13–718 (Washington, DC: Sep. 12, 2013).

[21] GAO, Information Technology: Additional OMB and Agency Actions Are Needed to Achieve Portfolio Savings, GAO–14–65 (Washington, DC: Nov. 6, 2013); and GAO–13–378.

[22] GAO–13–685T and GAO–13–627T.

ing the support for consolidation opportunities identified by its components, we also noted that obtaining this information is critical to ensuring that planned savings and cost avoidance are realized.

Accordingly, we recommended that DOD take steps to improve its PortfolioStat implementation. The department concurred with our recommendation to obtain support for estimated savings, but disagreed with our recommendation to fully describe the consolidation of commodity IT spending under the CIO in future OMB reporting. The department stated that it did not intend to follow OMB's guidance to consolidate commodity IT spending under the CIO. However, by not following OMB's guidance, DOD is missing an opportunity to achieve additional cost savings across the department.

To manage its annual investment of over $39 billion in IT, DOD needs to leverage best practices, improve transparency of its major investments, and review troubled projects through TechStat reviews. To do so, DOD can use the common factors critical to the successful management of large-scale IT acquisitions, which should result in the more effective delivery of mission-critical systems. Further, DOD needs to continue to improve the accuracy of its information on the Dashboard in order to provide greater transparency and even more attention to the billions of dollars invested in troubled projects. In addition, more departmental TechStat reviews are needed to focus management attention on additional troubled projects and establish clear action items to turn the projects around or terminate them.

With the possibility of over $5.3 billion in savings from the data center consolidation and PortfolioStat initiatives, DOD should continue to identify consolidation opportunities in both data centers and commodity IT. In addition, better support for the estimates of cost savings associated with the opportunities identified would increase the likelihood that these savings will be achieved.

Chairwoman Shaheen, Ranking Member Ayotte, and members of the subcommittee, this completes my prepared statement. I would be pleased to respond to any questions that you may have at this time.

GAO CONTACT AND STAFF ACKNOWLEDGMENTS

If you or your staffs have any questions about this testimony, please contact me at (202) 512–9286 or at pownerd@gao.gov. Individuals who made key contributions to this testimony are Dave Hinchman (Assistant Director), Rebecca Eyler, and Kevin Walsh. (311404)

Senator SHAHEEN. Thank you all very much both for being here and for your testimony, and for what I know will be a good discussion.

I know that Senator Ayotte is going to address some of the questions that Mr. Powner raised in his testimony. When Mr. Powner says that none of the projects that are on the Dashboard—none of those are listed as high risk, is that because there is a genuine belief that none of them are high risk? I assume that means at risk of not coming to successful conclusion. Are you suggesting, Mr. Powner, that those projects are not working in the way they should when you describe high risk?

Mr. POWNER. I think in order to manage problem projects, you need to acknowledge you have a problem. So if you look at our review of the MAIS programs, there are 40 MAIS programs, I can identify several of those MAIS programs that clearly, I believe, should be red and should be managed aggressively as red projects so you get them back on track. They are overrunning. The schedules are being pushed out. I think if you acknowledge they are red, you govern those projects differently if you acknowledge that you have a problem. So that is what we would like to see. We would like to see more of those projects as red.

There are 93 major investments. There are a lot of complex projects there. It is not that they are doing a bad job that they are red. There are red projects across programs. There are red projects

in the private sector. But you cannot fix the problems unless you acknowledge you have a problem.

Senator SHAHEEN. So can I ask if you would respond to that?

Ms. TAKAI. Let me respond as it relates to the reporting on the Dashboard, and then Ms. McFarland can speak to some of the acquisition processes.

First of all, I think I want to make sure that we acknowledge that there is a challenge for us in actually getting a clear rating in terms of a red, yellow, and green. I certainly do not want to walk away from the fact that it is a very difficult situation for us in terms of being sure that we have the right categorization and we are communicating that categorization correctly. So I want to make sure I make that statement.

Second of all, I think to answer your question, certainly because of the categorization issues, I would not necessarily depict our current ratings that are out on the Dashboard as being 100 percent correct. That is right. We are now working on trying to do two things: number one, to get a better alignment of the way that we have been doing the ratings with the way the ratings have been defined in the OMB Dashboard. That is something, again because some of the complexities, we have not done. Ms. McFarland's organization and mine have been working on a new directive that will better define exactly what the status is.

The second challenge and a part of doing——

Senator SHAHEEN. Can I interrupt just a minute?

Ms. TAKAI. Sure.

Senator SHAHEEN. Are you in agreement with Mr. Powner that accurately reflecting the level of risk involved in a project is helpful in managing it properly?

Ms. TAKAI. Yes, ma'am. Certainly it is important that we understand what the challenges are. However, I would add though, as Mr. Powner said, we do often recognize that our programs need attention. That is actually one of the big benefits of our current DOD 5000 process. It really does highlight where we have issues and where we need to take action. I think we need to make sure that the actions that we are taking are accurately reflected in our ratings, so that we have visibility of the actions we are taking going forward.

Senator SHAHEEN. Is there something with respect to the way the ratings are done that make it particularly challenging for DOD, or will the 5000 process help identify that? What do you see as changing in order to more effectively be able to rate the risk involved with those projects?

Ms. TAKAI. One of the challenges that I will comment on, I know Ms. McFarland will have a comment as well, is the way we rate programs and the judgments that we make on programs today are really driven by the 5000 process. They do not necessarily fit well with the quarterly reporting process that is part of what OMB and the OMB Dashboard have. Consequently, it tends to result in us having the same rating for a longer period of time. One of the things Ms. McFarland and I are working on is how to make sure that we have a rating structure that does not appear to be different from what is being reported in our milestone decision process in the DOD 5000. That has been one of our challenges to this point,

and I think it is the effort that her organization and my organization are working together or to make sure we have better clarity.

Ms. MCFARLAND. Yes. Frankly, what Teri was talking about is what we are trying to change. When we just changed the 5000 over the last couple of months, released the interim, some of the things that you have been highlighting, along with the ranking member, in terms of how to do IT acquisition, is changing our culture internally on how we look at risk.

The challenge we have right now is that we have a system called the Defense Acquisition Management Information Research (DAMIR). It reports based on a very distinct approach from weapons systems. For us, we focus on cost, schedule, and performance. Risk is embedded in each, and we have multiple players who come in, the program manager, the OSD functional staff, and we all rate on a program. Those two from the standpoint of IT have to be aligned. Right now there is a difference in lexicon and how we think. We drafted a first effort to try to look at how we take and make those risk factors look the same so we do not report on two metrics and confuse people even more.

Senator SHAHEEN. Do you work with the GAO as you are trying to make some of these alignments to best assess what is going on?

Ms. TAKAI. Yes, ma'am. One of the things that we have been discussing is the way that we are looking at some of the ratings to make sure that they are aligned with the way the GAO is looking. Also, OMB is actually looking at those ratings because it is really a GAO reporting of what is in the OMB Dashboard. It is very important that we are consistent because otherwise the other concern I have is that if we are different, then if you go and look at another agency and you see a rating. You certainly do not want to hear DOD's ratings are a little different, which I am sure you hear a lot from us on other things.

Senator SHAHEEN. No, we never hear that. [Laughter.]

Ms. TAKAI. That is an important thing not only from the standpoint of us being aligned with OMB, but also so there is consistency of reporting so that when you look at the reporting, you are getting an accurate picture.

Senator SHAHEEN. Thank you.

Mr. Powner, did you want to add something to that?

Mr. POWNER. I would just add that the interim 5000 guidance, I think, where you could tailor it to different types of acquisition software, intensive hardware, using an incremental approach, and the Dashboard were put in place to change culture and Government. Monthly ratings by a CIO is something that is a challenge for not only DOD but for others, but it is a good challenge. If you cannot do it in a month, strive to do it in a quarter, strive to do in 6 months. That is better than what we have gotten historically. It was a push, but I think it is the appropriate push.

I would add that DOD has large acquisition in IT. There are a lot of IT acquisitions that are large and complex that need to follow the rigor of a 5000. Other IT can be acquired more incrementally. You still want rigor, but you do not necessarily have to have the exact rigor that you have with all the details in the 5000. Having that flexibility in the current interim guidance is very good. You hear about agile development or going incrementally.

We have a report that I know Senator Ayotte is very involved with for the Senate Homeland Security and Governmental Affairs Committee, where we are looking at incremental development across the Federal Government. We took 37 investments at DOD. OMB has some guidance that said everyone has to do everything in 6 months. One out of 37 at DOD is going to deliver in 6 months. DOD said that is unrealistic. I agree, but they said we will strive for 12 to 18 months. We said let us bump it up to 12 months. Of those 37 investments, only 10, so about a quarter of the investments, are going to deliver something in a year. So you still have a lot of projects that do not deliver anything for years, and that is the mode we need to get out of in the Government.

Senator SHAHEEN. Thank you.

Senator Ayotte, we have been talking about the IT Dashboard.

Senator AYOTTE. Thank you. I apologize, I had to leave for a minute.

On the Dashboard issue, as I read the GAO report, I see that essentially we can save a pretty substantial amount of money. Then when I look at it, we are spending $39 billion on IT systems for DOD in fiscal year 2014. That is a huge amount of money. I see in your report, I am really fascinated, page 5 where you basically say we have overlap, fragmentation, and we have unnecessary duplication so that there could be much more taxpayers' dollars saved if we could get that one issue right. You have probably already addressed this to some extent, but what do you think is the number one priority to get at at that issue, which is an issue rampant across Government? But here, we are talking about $39 billion just in 1 fiscal year, and that is a substantial amount of money that can go to other things.

Mr. POWNER. There is that initiative. It is called the Portfolio Stat that came out of OMB, and I believe DOD is probably one of the model agencies. They identified 26 initiatives in all these categories that they claim can save between $3.2 billion and $5.2 billion by 2015. That is right around the corner, and that is a lot of money.

The number one initiative out of those 26, Ranking Member Ayotte, is data center consolidation. To date, they have closed over 250 centers. Now, some of these are small closets and things like that, but there are some large centers that are closed. I can give you examples of those. They claim they have saved $875 million to date. By the end of fiscal year 2015, $3.1 billion. By the end of 2017, it approaches about $7 billion. It is the model data center consolidation effort, if, in fact, they carry it through.

I made a comment in my statement about how they need to track savings. There are always these comments that come up that we do not have the appropriate accounting systems, ways to calculate savings, and that kind of stuff. Use a cuff system. These numbers are so large. That cannot be an excuse for not tracking those savings. There are over $5 billion that we can save by the end of 2015. That is a lot of money that you can reinvest in other systems that are important or something else that is a priority for DOD.

Senator AYOTTE. Secretary McFarland, where are we in terms of tracking these savings? Or maybe Ms. Takai. Sorry if I am asking the wrong person.

Ms. TAKAI. Yes, Senator. We are actually tracking the savings. We are tracking the data center closures, and we are tracking the savings on an ongoing basis.

I will just give you an example of an area where NDAA language that we received actually is helping us. We are reviewing all data center expenditures, and they have to be approved by my office. It is not just a question of saving by closing down a data center, but we are actually eliminating some of the redundant spending that you just talked about. I will give you an example.

In the first quarter of this year, Navy achieved a cost avoidance of $3.4 million by disapproving three requests. They would not have even known that those dollars were going to be spent if we did not have a very tight approval process right now. As you can see, if you just take three requests versus the number, quite frankly, that come across my desk on a daily basis, we are going to be achieving the savings.

But I think the other thing I want to mention here is that in some cases these are cost avoidance, number one. They are not necessarily savings off the top line. Effectively, we were stopping spending.

The second thing I would note is that some of these savings, as we are looking at them, are being included in the efficiencies numbers that you are already seeing as the Services are coming in to report on their budget. Perhaps they are not calling them out directly because they are not thinking of IT as being a big part of their expenditure. We are tracking it in a number of different ways.

I will close by saying it is a challenge to track the savings because the expenditure at DOD is very decentralized and it is actually done at the point that the equipment is being purchased or the data center is being equipped. So one of our challenges is to be able to collect those dollars. But having said that, the fact that it is a challenge does not mean that I do not agree that we should be tracking it and that we should be racking it up.

Senator AYOTTE. It seems to me a priority, given the setting we find ourselves in, because the tracking of it is the motivation so that we have more accountability. Then we know that those dollars can be used for other, more viable purposes.

So, Mr. Scheid, I wanted to ask you. When you testified, you talked about the situation of the audit readiness of DOD. I think you said that most will be audit ready by 2014. So is the Air Force still the problem child? Are they the worst offender? Can you break it down by Services?

Mr. SCHEID. I would not characterize it as a problem child or worst offender. I can go through the Services. In the testimony, I said while it is too soon to know for sure, we expect the budget statements to be auditable by September 2014.

The Marine Corps is the pacesetter. They are out in front. They have already achieved a clean audit of their financial statements. The Department of the Navy follows right behind. They are best positioned or at low risk and have a mature system in place. The Army has installed probably the most comprehensive and modern automation through its Enterprise Resource Planning (ERP), and they are trying to leverage the investments to support the audit.

The Air Force is, as you indicated, still struggling, and attempting to assert audit readiness with largely legacy systems. They are working through those legacy systems.

Where we see a great deal of risk or more risk is in what we call the fourth estate, the fourth estate being the defense agencies and activities that are not particularly in a Military Service or attached to a Military Service. There we have, I think, 44 different entities, and half of them have already had a clean audit at one point or another. That would be like the Defense Finance and Accounting Services (DFAS), for example. But the others are all struggling with legacy systems and trying to just achieve the readiness.

We work with the Comptroller very closely on this. I co-chair the Financial Improvements Audit Readiness (FIAR) Council. As I indicated, I am new to this area, but we are working with them to ensure that in particular, and this is my predecessor's work, the systems that support audit readiness are on track. We have had these authorities to monitor, track, and work on those systems for a few years and have done work with the Services to improve that.

On the audit readiness, may I add one comment to the previous discussion? You indicated $39 billion of investments across DOD, which is a huge responsibility. About $7 billion of that are business systems that we have identified. They break down into about 1,200 individual systems.

My predecessor and the office I am in now have instituted what we call the IBF to help bring some discipline to this business space. We align it or arrange it through functional strategies, which each have functional owners, functions as in human resources, acquisition, and so forth. Then we organize these systems into portfolios. The portfolios are reviewed annually in an investment review board.

This process has helped the team reduce redundancies, identify where there are redundancies, reduce them, and identify where we should not be obligating funds. I indicated in my testimony, I think, we had cost avoidance of about $1 billion through these two cycles, and we have stopped funding 60 legacy systems. Of that $39 billion, the business systems has had increased scrutiny through this IBF that we have established and is getting some results. It is early days still and there is a lot of work ahead, but we are working in that direction.

I hope, Senator, that answers your question also on the FIAR.

Senator AYOTTE. Yes, thank you. My time is up and I know we will have a chance for follow-up questions. Thank you.

Senator SHAHEEN. Thank you.

I would like to point out, relative to the consolidation of data center discussions, that in addition to the cost savings, part of that cost savings is significant energy savings, and so that is another benefit for doing the consolidation.

Senator Donnelly?

Senator DONNELLY. Thank you, Madam Chairwoman.

Mr. Powner, we talked about 93 projects on Dashboard. Secretary McFarland, are there goals and metrics for each of those 93 projects month-by-month where we are, how we are doing, and are we on target? Could I pull up a booklet and see exactly where we are in that project?

Ms. MCFARLAND. I will share this with Teresa.

Of those 93, there is a certain number of them which we call MAIS, and for them, there are metrics. For the balance, I will turn it over to Teresa.

Ms. TAKAI. Yes, sir, there are metrics for all of the projects that are on Dashboard. We do not necessarily track month-by-month. We track major milestones for each one of those projects, and the frequency of the milestones is dependent upon the size of the project and when they will have met particular deliverables.

Senator DONNELLY. Mr. Powner, do you think we have sufficient metrics in place on these projects to make sure that we are on target and on time?

Mr. POWNER. I believe DOD has internal metrics. I do not think where we are at on those metrics is transparent necessarily on Dashboard because the data is not updated.

The other thing I would add, Senator Donnelly, is that there are some MAIS projects, nine of them that we are aware of, that are not on Dashboard. So, for instance, there is Navy Common Ground System. I do not see that on Dashboard. There is an Army Tactical Mission Command program. We did a scrub because we are doing the MAIS work for this committee right now, and it will be out at the end of the month. So I think there is a fundamental question. Have we captured all the investments and then do we actually have the right status of how they are performing? I think the answer to both those questions is no.

Senator DONNELLY. Let me ask this: in terms of best practices, I was just sitting here jotting down some names. I know DOD has concerns about security and stuff. Do folks from Amazon, Google, GE, Apple, or Microsoft come in and say, "here are our best practices"?

Ms. MCFARLAND. Yes, we do. In fact, much of what we have been doing over the last couple of years to understand best practices has been through the industry consortiums, to understand what goes on and how to perform inside of acquisition better.

Mr. SCHEID. The DSB has been helpful in the past. They worked on the 804 report. Also, the Defense Business Board is composed of CEOs, COOs, and others that have insights into these programs. They do projects, studies, and analyses, and we benefit from that.

Senator DONNELLY. This may sound like a little bit of an offbeat question, but that is okay. Is there a need for all of this to be focused or located at DOD? Would it be disadvantageous if it were spread throughout the country or that we had some computer operations, for instance, in California, New Hampshire, Indiana, Pennsylvania, or other places?

Ms. TAKAI. Actually, a very small, minute part of what we do is actually focused at DOD. Our data centers are spread throughout the country, which is actually part of the challenge of getting them consolidated, quite frankly, sir. Because they are at each base, post, camp, and station, and that is a bit of our challenge. The development processes, Ms. McFarland can speak to this, in fact, are not at DOD. They are most often near where the major focal point is as it relates to the business operation that is going to be benefiting from that system.

Senator DONNELLY. Okay.

As we look at the systems going forward, one of the concerning things is counterfeit electronic parts, electronic chips, et cetera, and I was wondering what is being done in that area.

Ms. MCFARLAND. If you are not aware, sir, we actually have a Federal Acquisition Regulation——

Senator DONNELLY. I am.

Ms. MCFARLAND. Okay. We are doing quite a bit of work in that area. I came originally from the Missile Defense Agency which really brought to bear a lot of attention on that issue. For contractor accountability, we are holding them accountable for providing spare parts or any part that is counterfeit.

Senator DONNELLY. Okay. So there is identification on all of the parts that are going into the process.

Ms. MCFARLAND. That is the requirement.

Senator DONNELLY. Thank you, Madam Chairwoman.

Senator SHAHEEN. Thank you, Senator Donnelly.

Assistant Secretary McFarland, I want to go back to section 804 that Senator Ayotte and I talked about, and you all have referenced. I am interested in the extent the efforts that are being undertaken now, with respect to trying to improve our acquisition programs, to build on what was done with section 804. Can you, or Ms. Takai, talk about the extent to which your belief, that the reforms requested under section 804 have actually been implemented and how the current process builds on that? What was done? What was not done, maybe?

Ms. MCFARLAND. Yes, ma'am. I would say about 75 to 80 percent of what the report to Congress discussed has been initiated and implemented. "Implemented" is not complete. As you are aware, the system has a slow progress, and many of the items within section 804 regard the early onset or the initiation of the program. So we have programs that did not benefit from those specific initiatives that are very important to make the products what we want them to be. We will be continuing to do cleanup in a lot of those areas.

The programs that are coming forward I mentioned in my written testimony are programs that have shown success. We have demonstrated that we can reduce by 45 months the timelines for requirements by using IT Box compared to an earlier increment. A lot of the programs are now coming forward for our review that have demonstrated that they are taking a very close and precise look at what size of an increment they can build and field.

One of the biggest hurdles that we had over the last few years was that people did not understand the full complexity of what they had to build, particularly in business systems where all of the interfaces and the exchange are very large. The enterprise exceeds the boundaries of just DOD. We interoperate with a lot of different agencies and activities. When we look through the lens of what section 804 put into place, I am seeing, and I am very cautiously optimistic, that those implementations will continue forward. They are strengthened in the new DOD 5000 directive, and we are seeing products and programs coming forward where we can actually review and institute them.

On the second note, the Services are also very interested in this. You have probably paid attention to the news. There is a lot of activity within the Services that recognize the challenges in IT and

they are putting their own personal focus on looking through what they have for those investments, where they are putting their people, and how they construct the programs. The Air Force just stood up a new board specifically to do that. We are putting emphasis on it. Can I say we are complete? No. We have a long way to go. The enterprise is huge.

Senator SHAHEEN. To make it more concrete for my understanding, can you describe a particular project that you think, as a result of the section 804 changes, has characteristics that you are translating now as you are looking at the 5000 process and adopting some of those characteristics or guidelines?

Ms. MCFARLAND. Yes, I can. The integrated pay and personnel system for the Army came forward originally with a very complex, big bang theory on how it was going to deliver capability. After we went through the process with them, they reduced that sizing of increments to be discrete elements that show a manageable and deliverable product within each of these releases. They are short form. They have very distinct parameters that they can measure and identify and have been able to control costs that way.

We have many different metrics that we are now putting in place related to this. One of the questions during program review I ask is: how many interfaces do you understand and what is it that your people will have to do to address the change? Much of what we do, particularly in defense business systems, is related to the people operating those pieces of gear. It is like using my kitchen sink for umpteen years and I am very familiar with it and you just put something in front of me that I do not understand, it still does everything according to the written requirement, but it is not familiar. I used to reach here and now I have to reach there. That is one of the biggest pieces for the success and failure of these systems.

Another one, just from memory here. We have also rolled in on top of the section 804, the Better Buying Power initiatives. Are you familiar with those?

Senator SHAHEEN. No.

Ms. MCFARLAND. One of the things that we have asked them to take a look inside of when they execute a program is once you have established what you think is the appropriate cost for delivering that, we build that into the independent cost estimate. We also ask the program managers and their teams to come in with what efforts they can do to take costs out of the program. As we look at their execution, they have to show discrete efforts that demonstrate some actual activity to look at reducing costs. It can be anything as simple as using a different contract type because it is more effective when I incentivize this contractor to deliver that methodology. We have a huge effort working with our people to change the culture to make it cost-effective.

Another aspect is simply affordability. We have a lot of challenges explaining to people what affordability is. Affordability is not making it cost avoidance or savings. Affordability is understanding how much you have to spend on something, staying within that, and understanding the total ownership cost of something when you deliver it. Even though you may wish to deliver a capability inside of IT within a certain period of time, if you cannot af-

ford it, look to find what you can afford that is meaningful that you can deliver.

Senator SHAHEEN. What kind of educational development efforts go along with the kind of program implementation that you are talking about?

Ms. MCFARLAND. Prior to this position, I was the Defense Acquisition University's president, and one of the things that I did, because I had just come off of the team for Mr. Kendall and Dr. Carter, was trying to change the curriculum in the university to focus on how to build in cost consciousness. Oddly enough, this is a trip to the past. When I entered government service in the 1980s, we had much of what is considered today the new look at acquisition that is ongoing. It was post-Cold War thinking; how do I get money out of the system? We were working on things that I have an excellent book on called "Design to Cost," for example. Myself and others were also focused on cost avoidance, and how you look at how to construct a cost-effective system. We are building that back into our training curriculum. It is not just for those students that come through because of the mandatory certification they have to take. We actually have mission assistance teams and rapid training teams that reach out to the major systems and commands to educate them.

In addition, Dr. Carter, when he was the Under Secretary of Defense for Acquisition, Technology, and Logistics, Mr. Kendall, myself, and Alan Esteves actually go out to centers of excellence and centers of mass when it comes to acquisition. For example, last week I was down at Naval Air Station Patuxent River talking on a hot topic forum for about 2 hours with about 350 acquisition professionals going through what they have to think about because it is truly critical thinking. The attitude of cost has to be thought of when you are doing a very complex system. In addition to all the demand signals we put on them for how to do acquisition, they have to also put that additional equation together.

Senator SHAHEEN. I am over my time, but since it is just Senator Ayotte and I, maybe she will not mind if I ask a follow-up question.

So given all that, the training that people are undergoing, and the focus, how is it that we can have a contract like the Air Force had that is $1 billion in and no deliverables?

Ms. MCFARLAND. This is an incredible human endeavor. That program was started around 2002 and it was done during a period of time when we were waking up to the huge investment in IT. At that time, it was the tail end of when we were thinking of acquisition through the large systems integrator, where we had decided that it was more useful to put essentially the business of doing acquisition in industry's hands. In other words, we had decided that industry could do it better.

Unfortunately, that did not work. There was also a great deal of perverse incentives in that program. If you had an opportunity to read the root cause assessment that was submitted to Senator McCain, it talks about this. If you were to take the Weapons Systems Acquisition Reform Act, it talks about six parameters and a seventh called "other," and effectively it is what could go wrong on a program, and every one of them was met. Very negative.

There was a lot of accountability across the entire spectrum of their program. It did not do business process reengineering. It gave the contractor the responsibility to develop the requirements and then build to them. In terms of how you manage constructively and contain constructively requirements, it was completely set wrong.

Have we learned from that? Oh, yes. There is nothing more humbling than to see something like that happen and have it go on as long as it did. Have we rolled it into our business process engineering lessons? Yes. Have we rolled it into the school? Yes. Have we a long way to go? Yes.

Senator SHAHEEN. Thank you.

Senator Ayotte.

Senator AYOTTE. Thank you.

In following up to that, we are talking about the ECSS system, and I wanted to get your impression, Mr. Powner, having just finished this draft GAO report, the impression of having heard about this one system. But we know that is not the only example. I want to just restate this is not an issue that is unique to DOD in terms of these systems, particularly with regard to IT systems. I wanted to get any thoughts you had on this.

Mr. POWNER. I think it is great that we are building into the curriculum, we are looking at lessons learned, and all those things. But this is where governance plays a factor. You have an investment board and you have executives who are in charge of these programs; Mr. Scheid mentioned the IBF. The IBF is darned good. It is a portfolio-based approach and if you followed it, less programs would fail.

But someone at some high level on these boards needs to ask questions. Is the Government defining the requirements and not the contractor? Are we going with an incremental approach? Are we validating those requirements? Is the business on board? Because the business was not on board for ECSS. These are basic, fundamental questions that do not really have a whole lot to do with IT. It is more management stuff, and that is what governance is all about. We see, not only at DOD but across the Federal Government, poor governance in an executive level and program offices start doing things at this detailed level without the appropriate executive oversight. This is an executive issue. That is why we fully endorse putting the CIO picture next to each investment on the Dashboard, and if the CIO is not the appropriate person, put the appropriate person who is the right executive of that department or agency.

Senator AYOTTE. As I understand it, in 2011, the Institute for Defense Analyses wrote a report titled: "Assessment of DOD ERP Business Systems." One of the primary findings spoke to this issue of leadership, that acquisition programs require that a single accountable leader has the span of control to define, implement, and execute the end-to-end business process the IT investment is intended to support.

I think I have asked this in the larger hearing as well. For a system like ECSS, was there one accountable leader? Was anyone held accountable for the failures? Because it seems to me that you have these major systems and how often are saying you are responsible and then holding people accountable? Can you speak to that, Sec-

retary McFarland, and how that culture obviously helps get better results for the taxpayers?

Ms. MCFARLAND. In terms of who and what was held accountable, obviously the contractor was one of the principal people held accountable. In terms of us, yes. We reconstructed that organization. When the program was terminated, the Air Force took it very seriously, and they are now trying to reorganize to determine how to execute a follow-on system because the ECSS's capability is still required.

In terms of how you are setting yourselves up for the future, it was an integral part of why we made the changes. In terms of how we are looking at changes since the 2010 implementation of section 804, a lot of those obviously problematic areas were incorporated into what we are doing in terms of business process reengineering in terms of governance.

Senator AYOTTE. I wanted to follow up, Mr. Scheid, as well on the audit issue. Certainly on this issue, when you listed the Services and where they were with regard to the audit situation, as well as the 44 entities that are outside the Services, you had the Air Force fourth in terms of the Services. So how are we going to get the Air Force up to speed to be audit ready.

Next, I think it would be helpful for this subcommittee to understand the 44. I know you know them. I do not know them. I would like to have a list of the 44 that are not in an update. You said half of them have actually been able to meet an audit in the past. Which ones do you feel are most at risk? Understanding that each Service Chief is going to have responsibility for the Services, certainly the Secretary as a whole and DOD is responsible for these other entities. I can understand why they would be even more vulnerable. I think a report to us on that would be helpful for us to understand, as we look at this audit issue.

Senator SHAHEEN. I agree. Perhaps you could provide that to the subcommittee.

Mr. SCHEID. Yes. I will provide the list. Now that I am thinking about it, some of those 44 may be captured in the Washington Headquarters Services (WHS). That is that one entity that works for many offices.

Senator AYOTTE. In DOD?

Mr. SCHEID. In DOD, yes. They are outside the OSD.

Let me provide that list. They are agencies and activities, and some of these activities are small and for audit purposes they are rolled up into other entities like WHS.

But an agency like DFAS is not in a Service. It is outside and it is in this fourth estate that we call it. They have been audited. I believe the number of years is 14 years. They are largely personnel. It is salaries. In terms of meeting the audit requirements, it is relatively simple as compared to a large organization with different activities.

[The information referred to follows:]

We maintain a list of 46 Department of Defense entities that fall outside the Military Services. We informally refer to this grouping as the "fourth estate."

Office of the Secretary of Defense:

1. Office of the Under Secretary of Defense (Acquisition, Technology, and Logistics) (OUSD(AT&L))

2. Office of the Under Secretary of Defense (Comptroller) (OUSD(C))
3. Office of the Under Secretary of Defense (Intelligence) (OUSD(I))
4. Office of the Under Secretary of Defense (Personnel and Readiness) (OUSD(P&R))
5. Office of the Under Secretary of Defense (Policy) (OUSD(P))
6. Office of the Deputy Chief Management Officer (DCMO)
7. Office of the General Counsel of the Department of Defense (OGC)
8. Office of the Inspector General of the Department of Defense (OIG)
9. Director of Cost Assessment and Program Evaluation (D,CAPE)
10. Director of Operational Test and Evaluation (DOT&E)
11. Assistant to the Secretary of Defense for Intelligence Oversight (ATSD(IO))
12. Assistant Secretary of Defense for Legislative Affairs (ASD (LA))
13. Assistant to the Secretary of Defense for Public Affairs (ASD (PA))
14. Department of Defense Chief Information Officer (DoD CIO)
15. Director of Administration and Management (DA&M)
16. Office of the Director of Net Assessment (ONA)

Defense Agencies:

17. Defense Advanced Research Projects Agency (DARPA)
18. Defense Commissary Agency (DeCA)
19. Defense Contract Audit Agency (DCAA)
20. Defense Contract Management Agency (DCMA)
21. Defense Finance and Accounting Service (DFAS)
22. Defense Health Agency (DHA)
23. Defense Information Systems Agency (DISA)
24. Defense Intelligence Agency (DIA)
25. Defense Legal Services Agency (DLSA)
26. Defense Logistics Agency (DLA)
27. Defense Security Cooperation Agency (DSCA)
28. Defense Security Service (DSS)
29. Defense Threat Reduction Agency (DTRA)
30. Missile Defense Agency (MDA)
31. National Geospatial-Intelligence Agency (NGA)
32. National Reconnaissance Office (NRO)
33. National Security Agency/Central Security Service (NSA/CSS)
34. Pentagon Force Protection Agency (PFPA)

Department of Defense Field Agencies:

35. Defense Acquisition University (DAU)
36. Defense Human Resource Activity (DHRA)
37. Defense Media Activity (DMA)
38. Defense Prisoner of War/Missing Personnel Office (DPMO)
39. Defense Technical Information Center (DTIC)
40. Defense Technology Security Administration (DTSA)
41. Department of Defense Consolidated Adjudications Facility (DoD CAF)
42. Department of Defense Education Activity (DoDEA)
43. Office of Economic Adjustment (OEA)
44. Task Force for Business and Stability Operations (TFBSO)
45. Test Resource Management Center (TRMC)
46. Washington Headquarters Service (WHS)

The Defense Commissary Agency, Defense Contract Audit Agency, Defense Finance and Accounting Service, and National Reconnaissance Office received favorable audit opinions for fiscal year 2013. In addition, the Military Retirement Fund, Medicare-Eligible Retiree Health Care Fund, and the Defense Health Agency-Contract Resource Management also received favorable audit opinions. In fiscal year 2012, the Defense Information Systems Agency and the Office of the Inspector General received favorable financial audit opinions.

Mr. SCHEID. On the status of the Air Force, I would prefer to take that for the record, if I may.

Senator AYOTTE. Sure.

[The information referred to follows:]

The Air Force is working hard to become audit ready. As Comptroller Hale relayed in his November 2013 Financial Improvement and Audit Readiness (FIAR) Plan Status Report, we do expect most of the Department's budget statements to be asserted as audit ready or be under audit by September 30, 2014. Significant challenges to audit readiness remain across the Department, while the Air Force is

particularly impacted by the challenge of having to work largely in a legacy environment. The long-term plan to mitigate legacy system challenges is the full deployment of Defense Enterprise Accounting Management System (DEAMS). DEAMS will be fully deployed by 2017. Further exacerbating the Air Force challenges is the fact that its FIAR consulting contract was under protest for nearly 8 months, so the 2014 goal for Air Force is particularly challenging.

Although the Air Force is arguably the Service with the most risk, it is also sprinting to put itself in position. Air Force senior leaders have committed to doing everything possible to be audit ready by the end of fiscal year 2014. In order to minimize delays resulting from the FIAR support contract protest, the Air Force implemented a rigorous and systematic process for testing key financial controls throughout the year. Each month, it is testing various controls within its various business areas. In fiscal year 2013, the Air Force tested over 10,000 transactions, applying over 57,100 test attributes. It saw its success rates improve from 40 percent to 90 percent or better on many of the samples. These overall test results demonstrate the Air Force is developing controls to sustain audit readiness beyond 2014.

The Air Force has also refined its FIAR execution strategy to focus on tracing a financial transaction from origination through reporting for each assessable unit—a "walkthrough" of the financial transaction process. The walkthroughs entail visits to the originating bases through the major commands and the Defense Finance and Accounting Service. This allows the Air Force to leverage existing process documentation and control testing prepared by these command echelons, saving time and resources. The teams are able to identify and implement corrective actions and test mitigating or compensating controls early in the process.

Mr. SCHEID. One, because of my lack of experience just being in the seat for a few months, and two, to make sure you are not misled in any way by something.

Senator AYOTTE. I appreciate it.

I have a specific question about audits. As I understand it, the NDAA for Fiscal Year 2010 charges the CMO of DOD, in consultation with the Comptroller, with revising a FIAR plan which describes that specific actions must be taken to ensure that the financial statements of DOD are validated and ready for audit by no later than September 30, 2017.

As I understand it, there is an argument going on right now in DOD as to whether to include valuations of property as part of the audit which is required to be completed by 2018. Though establishing the value of a company's property certainly is very critical in the private sector, as I understand the argument within DOD right now, some are arguing that it may be less necessary to ascertain the value of property owned by DOD.

I am not taking a side. I just want to get your opinion of what you think. What is your view on this debate? How significant of an additional undertaking is it to establish the values of property? How many additional auditors does it take? Does that take us down every M–16, every rucksack, if this requirement were lifted? I am not taking a position one way or the other. I want us to get the best information we can to make decisions on behalf of the taxpayers. Is this something that would help you meet your audit deadlines? I just want to hear the opinions of the group on this, particularly Mr. Scheid, and obviously if Mr. Powner has any opinion, I would be happy to have him weigh in as well. Is this a debate that you are aware of?

Mr. SCHEID. No, I am not aware of it. I would be glad to get more information on it.

Senator AYOTTE. Okay.

[The information referred to follows:]

I am not aware of a debate or argument going on within the Department of Defense (DOD) related to valuations of defense property.

In order to achieve a clean opinion, DOD must adhere to federal financial accounting standards, which require that capital property be fairly valued. These current standards mandate that federal agencies report property and equipment assets at full acquisition cost. DOD recently published equipment valuation guidance, which provides options for valuing our assets and costs associated with this effort. The Comptroller will meet with each of DOD's components to determine which options work best within their standard business processes.

DOD is committed to meeting its audit goals to include existence and completeness of all equipment assets. This will provide assurance of physical stewardship, control of assets, and information that is most meaningful to the management and our stakeholders. DOD is studying the cost of making and auditing property and equipment values; however, those costs are not yet known. We remain committed to becoming audit ready in a way that is cost effective.

Mr. SCHEID. I am aware that in the audit readiness timeline that I believe has been briefed to the subcommittee and others by Secretary Hale, that the mission critical asset's existence and the completeness audit readiness, the critical asset existence is part of this taking account of the physical properties, facilities, trucks, everything from aircraft to fire trucks and so forth.

Senator AYOTTE. Sorry to interrupt. I have had some people ask me if that means we have to get down to every screw. At least as I understand this debate, there is some consternation there.

Mr. SCHEID. I am not auditor. I am not an accountant. But there must be a limitation to that, particularly in such a large organization trying to get to an audit.

Senator AYOTTE. We are not trying to ask you to do something that would be unreasonable. What we want is things that would be helpful to the taxpayers.

Mr. SCHEID. Yes. This is part of the plan. I believe it is reasonable to expect us to deliver that account.

If there is a debate in DOD, I do not want to speculate on it or contribute one way or the other to it. I would rather get you the facts on it.

Senator AYOTTE. Okay. I appreciate the follow-up on that. Thank you.

Mr. POWNER. I am not aware of the issue, but I have a colleague on our financial management team. If I could take that for the record, we can get back to you on that.

Senator AYOTTE. That would be great. Thank you.

[The information referred to follows:]

See answers to Questions for the Record 11–16.

Senator SHAHEEN. Can I just ask Secretary McFarland or Ms. Takai, are either of you aware of this issue?

Ms. MCFARLAND. No, but it is fascinating.

Senator SHAHEEN. Yes, it is.

Ms. TAKAI. No, I am not aware either.

Senator SHAHEEN. I want to go back to the issue that you raised, Ms. Takai, about the JIE because I am not sure that I quite understand either what this idea is, or what it is designed to do and how it should work. I wonder if you could talk a little bit more about that. Is this viewed as an agency-wide or a DOD-wide effort? Who is in charge of it, and how is it supposed to work?

Ms. TAKAI. Perhaps I can start out with just a description, perhaps in a little bit more detail in terms of what it is.

The effort is really around being able to take the money that we spend today, because I think as Mr. Scheid said, out of our $40 billion a year, a fairly large proportion of that is spent on just maintaining and upgrading our networks, our data centers, our servers that sit within those centers, as well as buying a fair amount of services from other companies. Then, of course, we have software purchases, which is software that basically runs the computers all the way up to the way we do email. The line, which gets a little bit fuzzy, is it falls short of, for instance, an ECSS or an equivalent system or financial system. What is it that is underneath it that, first, makes it run and, second, means that you can connect it? That connection means not only from a computer terminal but also how do you connect it from a mobile device and some of the newer technologies coming in? So, I think it is important to set that context.

The next thing is that our infrastructure is, obviously, from a multiplicative standpoint, bigger than any industry. I was talking to some folks from AT&T the other night, and we concluded that AT&T and their worldwide network was probably maybe close to the equivalent of the Navy if you think about the size. So when we talked about the number of data centers, I think we also have to recognize that we have a U.S. number but we also have a deployed force and that exacerbates the issue.

The challenge that we have with that is multiple. Today, we have what I would call fairly loose standards. In other words, my office puts out standards, but the way that the technologies are implemented can vary significantly not only from Service to Service, but because of our size, we are very decentralized. Each location will actually set up their own computers. They will set up their own firewalls and so on. All of that, I think, back to Senator Ayotte's point, is a part of what can certainly lead to redundancy. It can lead to competing technologies, and certainly that has multiple ramifications.

Let me just say what the ramifications are. First of all, it means that when we try to defend our networks, that means that we have to see when there is an adversary on our network, and we have to be able to trace back and see where that adversary has gone. The way we are set up right now, you have to understand all of our networks to be able to actually do that, which of course is an impossible task. I think you have heard General Alexander say, given the way we are operating today, that is just impossible.

The second thing is, we have different ways of operating our networks. We have some big operation centers, some small operation centers, and the same is true of help desks and so on, which again is redundancy and it also makes it very difficult to run.

So the effort around JIE, as you mentioned, is not what we would call a program of record because, again, we are not suggesting that we need new money for this. We are suggesting that we need to take the money that we spend today and use that money to drive towards this standardization, this communization, this ability to eliminate the redundancy and to operate in a single way.

The overall responsibility for that program is mine. The Secretary has designated that I am responsible for working with not

only the Services but all of the component organizations in order for them to implement the JIE. As you could well imagine, that is a daunting and challenging task. We are part-way through that. The data center consolidation is one of our efforts in doing that. Our defense enterprise email that you may have heard is another area that we are focused on. But we have a suite of things in terms of the way we are doing some of our fairly detailed network configurations and so on that we are in the process of specifying and rolling out.

The Services have just delivered to me, in fact, at the end of February their implementation plan because the challenge is just like all of the issues we have been talking about here. I can lay out ground rules, but clearly each of the Services has to have a plan for how they are going to implement because each of them are in different places in terms of how much they have standardized. Those plans have come back in and we are currently in the process of bringing those together.

We also are expecting from all of our components plans to be completed at the end of March. We are going to actually look at how we are going to operate that.

Let me give you a couple of concrete examples. We started with a concept of operations in Europe because Europe, between our U.S. European Command and U.S. Africa Command, as well as Navy support, had actually started down a path of doing consolidation. Through that, we have been able to bring up one single enterprise operation center, and they are in the process of shutting down. I do not have the exact number, some number of centers. This, of course, helps CYBERCOM because they will be able to work through that operation center, as well as we have a plan for which of the data centers in Europe will be closing as part of our data centers and then how it will be consolidating.

Our second geographic area is U.S. Pacific Command (PACOM). Admiral Locklear has asked to be the second area. We have a set of workshops that are scheduled for the end of March/early April that will take advantage of the work that they have already started but make sure that the work in PACOM is aligned with the work that is happening in Europe.

The complexity is that in PACOM we have every Service, and each Service has their own way of doing networks and data centers, and so they are going to come together in PACOM to actually come together on how they will do a joint implementation.

The real complexity that we have here is that the funding sources come in from the Services. They each have a specific way of doing things. But the real benefit, in many ways, of JIE, which is why it is called "joint," is actually in the combatant commanders who have to deal with the technologies coming in from each of the Services, and through the standardization, the concept is to ensure that we are operating in a much more uniform way than we are today.

It is a huge effort. I do not want to minimize it at all. Many major corporations have done this. I can certainly cite many in Silicon Valley. Hewlett Packard has a major effort in this area. Oracle has internally. IBM, in fact several years ago, just went through the same kind of consolidation and bringing together. My back-

ground is State government, and State government is challenged as well, within their internal operations with every agency having their own.

Senator SHAHEEN. Yes, we have experienced that.

Ms. TAKAI. So if you think about what the challenges were at the State government level, which I know very well from my Michigan and California days, then you blow that up. My IT spend in California was about $5 million, and I had about 110 CIOs that I was trying to bring together. Multiply that by our numbers here. I think you can see the size. But I think to Senator Ayotte's point, you can also see the opportunity if we can continue to move this forward.

I really would come back to the comments that were made by GAO. This is not going to be a perfect process. It is not going to be a march that looks really exact and pretty, but it is, to some extent, to his point we are putting pressure on the organization to get better.

I will make one last point. If we cannot get to some level of operating in a much more standardized fashion, it makes it so much harder, if not impossible, for us to move to new technologies like the cloud technology. I have often said that if I replace all of my disparate data centers with disparate clouds, I am actually not any farther ahead. I am actually in some ways increasing my complexity because now data centers that I own and run today, I will either be using a commercial cloud capability or a different cloud capability. It is really important that we get the standardization to happen so that then, to the point, I think, that Mr. Scheid made, we can move our business systems into cloud technologies. We can get the efficiencies, but we can also ensure that we have security in those solutions so that we do not have to be concerned about, not only the fact that we are getting more efficient, but we do not want to do that at the sacrifice of security.

Senator SHAHEEN. That is helpful. Let me see if I can restate what I understand you to have said about the JIE now.

It is an effort to standardize IT systems throughout DOD so that they are more efficient and better coordinated. Is that essentially what it is?

Ms. TAKAI. That is correct.

Senator SHAHEEN. It is under your portfolio.

Ms. TAKAI. That is correct.

Senator SHAHEEN. You talked about the consolidation. Is there a list of initiatives as part of that that you hope to accomplish and a timetable to do that?

Ms. TAKAI. Yes, ma'am.

Senator SHAHEEN. Different people are in charge of that. You said the budget for all of this will come through the various Services.

Ms. TAKAI. That is correct.

Senator SHAHEEN. So I assume that they have bought into this effort either directly or indirectly.

Ms. TAKAI. We are working on that now, ma'am.

Senator SHAHEEN. As you look in the short-term, say, over the next 2 years, 5 years, and 10 years, what are you hoping to accom-

plish within the next 2 years and where do you hope to be 5 years from now?

Ms. TAKAI. In the next 2 years, we are intending to implement two or three areas in the network, and certainly we can provide more detail. I do not want to get too technical in this discussion, but it is really to standardize the networks and certain areas of the networks. That is one of the things in the 2-year period.

We will have a plan to finish on defense enterprise email.

Senator SHAHEEN. Thank you very much.

Senator Ayotte.

Senator AYOTTE. Thank you for working so hard on these issues. Thank you.

Ms. TAKAI. Thank you.

So those are a couple things in the 2-year period.

In the 5-year period, I think as we mentioned, we are projected to close over 800 additional data centers by 2021. Actually, the rest of the figures that you have asked for are what I am expecting to get out of these implementation plans because I have asked each Service to come in. I have to take each Service's plan and then lay it out by geographic area so that I do not have conflicts between that. I think once I have all the implementation plans, I will have a better ability to tell you when, but I certainly can share with your staff today what our target numbers are for the categories that we are looking at. We have that and we are very happy to share that with you.

Senator SHAHEEN. How is this effort integrated with the IT Dashboard and the work that OMB and GAO are tracking?

Mr. POWNER. Clearly this effort is integrated with the data center consolidation effort. I think that is one of the big parts of JIE. Again, just to reiterate, I think DOD has gotten off to a great start looking at data center consolidation, but again, it is just really important that we track those savings because they have already had significant savings to date. In some of the centers that I looked at that have been closed, there is some good stuff going on where you have centers that had 450 servers and you shut down 440 of them, all but 10. There are several stories like that. That is where we had unused capacity.

When we do ask DOD, what is your average server utilization, they can answer the question. Many agencies cannot. Frankly, their average server utilization is higher than most, and they got the most savings. I know they are big, but there is a good news story here on data center consolidation. That is the one area on legacy spending I think needs the most focus and continued focus.

Senator SHAHEEN. Good. That is encouraging, and it is a message that we should probably do a better job of trying to get out.

I think one of the things that has been hard, certainly for me and I think it is true of some other Members of the Senate and Congress to understand, is why we have duplicate systems being built within the Air Force and the Army. I appreciate that some of that is history and tradition, but I think given the resource challenges that we are facing in the future, the effort to be more efficient with those systems is very important. I very much appreciate what you all are doing to accomplish that and hope that we can continue to

help track those efforts so that we are better informed, and also so that we can look at how we can be helpful in that effort.

I think given that we are hoping to be out by 4:30 p.m., the one area that I would like to ask about has to do with the House of Representatives passing the Federal Information Technology Acquisition Reform Act (FITARA) because it is legislation that is designed to address some of the IT challenges that we are facing in the Federal Government. I wonder if you all could speak to what is in the FITARA legislation. It is my understanding that DOD already performs many of the requirements that are in that legislation. We already have a single Department CIO within DOD and whether this is legislation that would be helpful in the efforts to address the IT challenges that you are facing at DOD or whether you see it as redundant to what is already going on.

Ms. TAKAI. Yes, ma'am, if I could speak to that. First of all, we certainly applaud the legislation from the standpoint of intent. I think again to the comments that Mr. Powner made, it is important to have transparency. It is important to have visibility even for us as CIOs in order to be able to better manage the overall expenditures. Again, we want to make sure that the intent of the bill, we think, is very good.

Unfortunately, I think a couple of things. It looks to try to manage that by virtue of additional oversight. I think what you heard from my colleagues and I today is that we very strongly feel that it is in the processes that are implemented and it is in the measurements of how we are actually managing the process as opposed to an additional oversight. Many of the areas of oversight that were suggested in the bill are actually things that we report to OMB on today, and so additional reporting, I think, is a concern.

Many of the items that were in that bill are actually the things that the Secretary has tasked us to do already in his direction that Mr. Scheid spoke of in his reorganization effort. Obviously, our concern is that if, in fact, those reporting requirements do not fit, then we could be in a very difficult situation of an oversight from the OMB Office of CIO, oversight as a result of this bill, and then oversight as it relates to the way we are fitting into what the Secretary has asked us to do.

We are, again, more concerned about the implementation than the intent. We mentioned to your staff there are some areas where we believe that we could move forward with the intent, but do it in a little different way than the level of oversight that is suggested in the bill.

Senator SHAHEEN. Mr. Powner, do you share that view of how the House-passed legislation might affect DOD?

Mr. POWNER. Yes. I think you need to be careful on the reporting. I agree with that because we want to get into good, solid management and not just reports. There are aspects of the bill that are very solid-like data center consolidation. There are separate bills on data center consolidation. The Dashboard is in there in a small way such as encouraging the movement to cloud. I think the CIO authority thing is a big issue because CIOs do not have the appropriate authority across the Federal Government. There is a fundamental question if you grant them authority by giving them budget authority, or do you make the CIOs earn it through having certain

responsibilities associated with Dashboard and the like. That was the intent of Dashboard. If we get CIOs more engaged on all these major investments, they will be even more of a player at the table on the management team.

Again, I think there are aspects of that bill that are very solid, and I think the question on oversight is basically to cut right to the chase, what happened. A lot of things that are in that bill are exactly what Ms. Takai is saying you are already doing because OMB put in place policies to do that. There is a fundamental question of whether OMB is doing the appropriate oversight of those policies. We have some issues with that. So I think Congress is saying if OMB is not going to oversee it, then we are going to oversee it.

Bottom line on all this, let us make sure that we better manage IT acquisitions and have the right transparency and oversight, whether it is Dashboard or a similar mechanism, and let us manage the inefficiencies out of the legacy bucket because DOD spends $25 billion on legacy systems out of an $80 billion spend. That is huge. You can see here that there are a lot of inefficiencies that we can tackle through duplicate systems and data center consolidation. That intent of the bill is spot-on to try to tackle those issues. How do you go about doing it? There are many ways of doing it. But let us not lose sight of the big things there.

Senator SHAHEEN. I appreciate the comments that everybody has made. Is the reason to pass something like FITARA to address administrative changes that are going happen when we have a new Secretary of Defense, when we have a new CIO, when we have new leadership at DOD, GAO, and OMB? Is there a concern that the efforts that are underway now will change direction, will not go to completion? Is that something we should be concerned about as we are thinking about how to fully implement some of these efforts?

Ms. TAKAI. I will speak for DOD, and certainly the other agencies are in a different situation. But it is really not a concern at DOD because the functions that the Secretary has tasked me for are actually incorporated in my ongoing charter and the charter for my organization. So the next person who comes into the position will start with a set of responsibilities. I think that there is a continuity from there.

I will, though, make the comment, and I do want to follow up on an item that Mr. Powner spoke of and I think you spoke of as well, that the strategic relationship between the CIO and the head of the agency. Mr. Powner spoke about the importance of not only the CIO ownership but also of the ownership of senior executives in the organization. I think that is something that is important to reinforce in anything that we are looking at because I think we have seen with Clinger-Cohen that giving the CIO responsibility is great, but it needs to have that relationship.

Certainly, I can speak for myself that Secretary Hagel has fully endorsed the JIE. He has issued that as part of his tasking to us in terms of what we are supposed to do. That kind of involvement, back to your question about getting everyone signed up, quite frankly without that, it would be potentially close to impossible, but having his endorsement and his involvement in it, as well as our Deputy Assistant Secretary and our former Deputy Secretary, has been really pivotal for us. So I think that that is an important

part, and I think Mr. Powner spoke about that. But I would not want to lose that in this overall dialogue. It is really very critical.

Senator SHAHEEN. Thank you all very much. I very much appreciate your testimony and look forward to continuing to work with you as you make these changes. Thank you very much, Mr. Powner, for your insights.

We will keep the record of this hearing open until close of business on Friday for any other questions.

The hearing is adjourned.

[Whereupon, at 4:21 p.m., the subcommittee adjourned.]

[Questions for the record with answers supplied follow:]

QUESTION SUBMITTED BY SENATOR TIM KAINE

INFORMATION TECHNOLOGY WORKFORCE EFFORTS

1. Senator KAINE. Secretary McFarland and Ms. Takai, my first bill, the Troop Talent Act of 2013, provides avenues for Active Duty servicemembers to receive certifications for the skills they acquire through their military training as they transition to civilian life. As you both highlighted in your testimony, the Department of Defense (DOD) faces significant challenges finding and retaining personnel with sufficient training and expertise in information technology (IT). What specific efforts are being taken by DOD to ensure a mission-ready IT workforce?

Ms. MCFARLAND. Under Secretary of Defense (Acquisition, Technology, and Logistics) (USD(AT&L) Frank Kendall and DOD Chief Information Officer (CIO), Teresa Takai, jointly signed the IT Acquisition Workforce Strategic Plan in April 2012. The partnership aligns the IT acquisition workforce improvements to the larger and ongoing strategic efforts to strengthen and improve the entire Defense acquisition workforce.

A key tenet of Under Secretary Kendall's Better Buying Power 2.0 framework is to improve the professionalism of the total acquisition workforce; with respect to the IT segment of the total acquisition workforce, we have been working hard to accomplish that goal. Certification levels for the IT workforce improved from 39 percent in fiscal year 2011 to 61 percent in fiscal year 2013. In addition, as part of rebuilding the total acquisition workforce, DOD has deliberately increased the size of the IT (acquisition) workforce by 49 percent since fiscal year 2008. Turnover rates have decreased by 2 percent from fiscal year 2011 to fiscal year 2013.

In addition to increasing the size of the workforce and improving certification rates, DOD has used the Defense Acquisition Workforce Development Fund (DAWDF) to fund the DOD Information Assurance Scholarships to create a cadre of cyber-informed IT acquisition professionals with degrees.

As part of Secretary Kendall and Ms. Takai's partnership to continuously improve the workforce, they sponsor a standing joint working group that performs ongoing workforce planning, gap assessments, training reviews, and initiatives to enhance the IT workforce managing acquisitions. In 2012, the working group completed a competency model update and workforce competency assessments. The results are being used to improve training and planning for the workforce. Currently, the working group is partnering with the DOD engineering workforce working group and the Defense Acquisition University to ensure cyber competencies are integrated into training.

Ms. TAKAI. Several strategies are in place to aid DOD in recruiting and retaining a skilled workforce. DOD currently uses a suite of civilian hiring authorities: the Federal Direct Hire Authority for the IT Management 2210 series, instituted by the Office of Personnel Management (OPM), which provides DOD and other Federal agencies some flexibility in recruiting information security professionals; Expedited Hiring Authority for the Defense Acquisition Workforce (including IT acquisition workforce professionals), provided by Congress to DOD through 2017; and DOD-specific, Cybersecurity Schedule A Hiring Authority, provided by OPM through December 2014, for select IT and non-IT civilian job series. These civilian authorities, along with military and civilian recruiting and retention bonuses, are used to recruit and retain IT personnel and are essential to maintaining the health of this community. In addition to these programs, DOD has used the Information Assurance Scholarship Program for over a decade to award scholarships in IT/cybersecurity disciplines to almost 600 individuals in exchange for service to DOD.

DOD is currently in the initial stages of migrating its IT/cybersecurity workforce into a broader cyberspace workforce framework, which is aligned to the specialty areas established by the National Initiative for Cybersecurity Education. As part of this migration, DOD will work to achieve an integrated learning continuum that provides a variety of academic environments, including traditional classroom training; virtual training; hands-on laboratories; realistic, operational exercises using Information Assurance (IA) and cyber ranges; and postgraduate education opportunities in a variety of IT-associated disciplines. DOD is leveraging established training and education venues both internally and externally to maximize professional development opportunities for its evolving cyberspace workforce, and determining where gaps exist. One new initiative is our collaboration with the Joint Staff and the National Defense University on a cyber-centric Joint Professional Military Education program to educate military and civilian leaders on key cyberspace tenets.

QUESTIONS SUBMITTED BY SENATOR JOE MANCHIN III

MILITARY HEALTH RECORDS

2. Senator MANCHIN. Secretary McFarland, last year the committee expressed concerns with the progress made on military electronic health records. It is my understanding that DOD has created a new acquisition process to prepare for the next generation of health record systems for the military. Please outline DOD's new acquisition framework currently underway, along with your expected timeline, and how this new process will ensure success and efficiency.

Ms. MCFARLAND. DOD has updated the DOD Instruction (DODI) 5000.02 acquisition policy that replaced the Business Capability Lifecycle (BCL) Model that was previously used for the modernization of the military Electronic Health Records (EHR) but ensures rapid, tailored processes to deliver capabilities in keeping with the BCL concept. However, the DOD Healthcare Management Systems Modernization (DHMSM) Program's acquisition strategy remains unchanged. The program's acquisition strategy was approved on March 17, 2014. The strategy supports a full and open competitive approach for acquiring a replacement for the Military Health System legacy systems to include the DOD's interoperability objectives. The DHMSM acquisition strategy is consistent with the DODI 5000.02 and capitalizes on the robust and highly competitive health IT commercial marketplace.

3. Senator MANCHIN. Secretary McFarland, I understand that you have held 2 industry days to gauge interest and assess capabilities. Do you have concerns with industry's capability to deliver the necessary capabilities required with this system?

Ms. MCFARLAND. Since October 2013, the DHMSM Program Office has conducted 3 well-attended and highly anticipated Industry Days (October 31, 2013; December 4, 2013; February 19, 2014). The last 2 Industry Days were hosted at the Ronald Reagan Building and International Trade Center in Washington, DC, with each attended by over 500 interested health care professionals representing over 200 companies and Government organizations.

The intent of these Industry Days is to interact frequently with interested healthcare companies to gauge and enhance their understanding of the DHMSM requirement; which includes the replacement of DOD's EHR system. These Industry Days are strategically aligned with the release of an iterative set of draft Request for Proposals (RFP) which provide interested contractors and healthcare providers early and frequent exposure to the Government's evolving DHMSM requirements. These early introductions to our ongoing requirements development efforts, in advance of a final RFP, will serve to greatly enhance prospective offerors and/or interested parties understanding of the Government's future requirements while reducing ambiguity. This draft RFP process also affords industry an opportunity to offer comments, suggestions, and/or pose questions regarding any element of the RFP. Additionally, in conjunction and coordination with the draft RFP release process, the Government has issued a number of targeted Requests for Information to industry to support the technical and functional viability determinations regarding industry capablilities in delivering a commercial EHR platform in fulfillment of DOD objectives. Finally, extensive market research and product assessments/demonstrations have been performed by the DHMSM team to ensure alignment of DOD requirements with market capabilities. The totality of the aforementioned assessment lends for the programmatic certainty that the commercial market is more than capable of delivering the requisite and desired capabilities.

At the end of March, the DHMSM Program Office will release its second draft RFP and is committed to the continued release of drafts, and the holding of Industry

Days until the Government is satisfied that industry has the requisite grasp of the DHMSM requirement; and is capable of accurately bidding to said requirement—the foundation of a successful competitive acquisition.

QUESTIONS SUBMITTED BY SENATOR KELLY AYOTTE

PROGRAMS THAT USE AN INCREMENTAL APPROACH

4. Senator AYOTTE. Mr. Powner, in your written testimony, you state that many "poor-performing projects have often used a 'big-bang' approach—that is, projects that are broadly scoped and aim to deliver capability several years after initiation." By contrast, you noted when Federal agencies used "smaller increments, phases, or releases of larger projects" they were far more successful. What DOD programs are using this incremental approach?

Mr. POWNER. Congress and the Office of Management and Budget (OMB) have called for agencies to deliver investments in smaller parts or increments. In 2010, OMB called for IT investments to deliver capabilities every 12 months, and since 2012, has required investments to deliver capabilities every 6 months. The preliminary results of our ongoing review of selected agencies' implementation of incremental development indicate that only 1 of 37 selected DOD investments plans to deliver functionality every 6 months and 10 others plan to deliver functionality every 12 months. In May 2014, we plan to issue a report requested by the Chair and Ranking Member of the Senate Committee on Homeland Security and Governmental Affairs that will contain greater detail. Once our report is released, we can provide further detail and brief your staff.

5. Senator AYOTTE. Mr. Powner, what programs are not using this incremental approach?

Mr. POWNER. As previously noted, the preliminary results of our ongoing work on selected DOD investments show that several investments have not implemented OMB's guidance on incremental development. These investments likely did not plan to deliver functionality in 6–12 months because DOD's budget guidance encouraged 12–18 month deliveries.[1] While DOD's recently issued acquisition framework calls for investments to use incremental development, it does not specify how frequently functionality should be delivered.[2] According to officials at DOD's Office of the CIO, longer increments better align with DOD's acquisition framework. While we did not examine DOD's entire portfolio of IT investments, such guidance increases the likelihood that many of DOD's other investments are not following an incremental approach. We would be pleased to provide further detail and brief your staff once our report is issued in May 2014.

6. Senator AYOTTE. Mr. Powner, how does DOD determine which approach to use for which program?

Mr. POWNER. DOD's acquisition framework includes incremental approaches to software development, but does not mandate its use or specify timelines for delivery of functionality. Instead, it offers a series of basic models which are to be tailored to the unique character of the product being acquired. All of the models contain requirements and product definition analysis, risk reduction, development, testing, production, deployment, and sustainment phases punctuated by major investment decisions at programmatic and contractual decision points.

PROPER TRAINING OF ACQUISITION PROFESSIONALS

7. Senator AYOTTE. Secretary McFarland, in November 2012, DOD launched its Better Buying Power 2.0 initiative. One of the most important changes from Better Buying Power 1.0 was greater emphasis on improving and professionalizing the acquisition workforce. Ensuring that DOD has a "knowledge[able] and experienced IT workforce" was also one the "guiding principles" of the 2010 DOD report to Congress titled, "A New Approach for Delivering Information Technology Capabilities in the Department of Defense." However, the Omnibus Appropriations legislation only allocated approximately $51 million for DOD's Acquisition Workforce Development Fund, whereas section 1705 of title 10 authorizes the fund at $800 million for fiscal

[1] See, for example, Office of the Secretary of DOD, Guidance for fiscal year 2013 IT Budget Submissions, Aug. 9, 2011.

[2] Defense Instruction Interim 5000.02, Operation of the Defense Acquisition System, Nov. 26, 2013.

year 2014. Isn't investing in our acquisition workforce likely to pay for itself many times over in lower acquisition costs?

Ms. MCFARLAND. Yes. DOD supports Congress' continued and sustained investments in the defense acquisition workforce through the DAWDF. Even in the current austere fiscal environment, maintaining a cadre of highly qualified acquisition workforce is essential to executing critical missions in support of our Nation's defense. Reducing investments in the DAWDF and allowing our workforce and their skillsets to atrophy compromises our ability to effectively execute essential missions and may lead to long-term acquisition costs. For these reasons, continued investments in the defense acquisition workforce is the right strategy to improving acquisition outcomes, increasing buying power, and ensuring technological superiority for the warfighter.

8. Senator AYOTTE. Secretary McFarland, given some of the major acquisition failures in recent years, is $51 million a sufficient level of funding to ensure our acquisition workforce is sufficiently trained, especially in such technical areas as IT acquisition?

Ms. MCFARLAND. No, this level is not sufficient. The DAWDF, created by this committee, has been a major enabler of acquisition workforce improvements, including IT. We must sustain these recent workforce improvements and especially during austere times, we must continue training and efforts to strengthen the workforce we have. The President's fiscal year 2015 budget request of $212.9 million, in combination with other planned funding, is required to sustain and continue improvements. We appreciate the committee's longstanding record of support for a highly qualified acquisition workforce.

INTELLECTUAL PROPERTY

9. Senator AYOTTE. Secretary McFarland and Ms. Takai, one of DOD's most costly oversights has been the failure to secure data rights of the systems being acquired. The result is that DOD must pay significant sums to gain those rights in order to perform maintenance of upgrades to the system. I understand that the new interim DODI 5000.2, "Operation of the Defense Acquisition System," includes an Intellectual Property (IP) strategy and a preference for open systems and architectures. Please explain the importance of the IP strategy and a preference for open systems and architectures.

Ms. MCFARLAND. IP issues present significant challenges for DOD programs in a variety of ways. For example, when acquiring commercial or proprietary technologies, the standard DFARS license rights do not permit DOD to use detailed technical data or computer software source code for competitive sustainment activities. In addition, even when DOD funds technology development that results in license rights sufficient for competitive sustainment, DOD has often been unable to realize an appropriate return on that investment by securing the necessary data deliverables at competitive prices. These adverse effects are exacerbated further in major system acquisitions involving a complex mix of DOD-funded and commercial/proprietary technologies that cannot readily be segregated from one another—resulting in the entire data package being effectively restricted as if it were all proprietary/commercial.

Open Systems Architecture (OSA) describes a technical approach to system design that not only facilitates more effective operational configurations for systems, but also directly supports more effective management of the associated IP issues. More specifically, OSA focuses on modular system design, wherein discrete, functional components are linked to one another through well-defined interfaces, preferably using open standards to allow vendors and suppliers to offer competing solutions for the functional modules in a "plug-and-play" paradigm. This approach to technical design naturally results in the technical data and computer software code for the modules being more readily segregable from one another, avoiding or mitigating cases in which a commercial/proprietary module will restrict the use of a DOD-funded module.

The IP strategy required by DODI 5000.02 will serve as a foundational mechanism to help identify and manage IP issues throughout the entire program life cycle. A key element in this approach is to take advantage of the inherent benefits of modular design approaches, such as OSA, to better maintain appropriate distinctions between DOD-funded technologies and proprietary/commercial technologies. This allows programs to implement an "open business model" approach, to proactively manage technology investments both from a legal standpoint (e.g., data rights), as well as a technical/operational standpoint (e.g., data deliverables, modular compo-

nents linked through defined interfaces), ensuring the use of appropriate contractual mechanisms that will better achieve the programs' business objectives.

In addition, the IP strategy will address one of the most challenging elements of managing IP issues—the timing. IP rights are allocated early in the process, when the technology is first developed or first delivered (e.g., at development or initial production); however, DOD might not have an operational need to exercise those IP rights (which requires the appropriate data deliverables) until much later in the program life cycle (e.g., reprocurement, technical upgrades, depot level maintenance). Historically, programs have not been equipped to plan effectively for such downstream needs, electing instead to delay the acquisition of data deliverables, or additional data rights to allow competition, until those later life cycle phases when the specific needs are more well-defined. This approach typically results in DOD seeking to acquire those data deliverables and/or license rights in noncompetitive environments.

The IP strategy seeks to eliminate, or at least mitigate, these barriers to competition by requiring programs to initiate the IP strategy at the earliest stages in the program, requiring coordination and consistency with life cycle sustainment planning, and ensuring that the IP strategy is continuously updated throughout the entire program life cycle. With this overarching IP strategy in place, our programs will be better able to implement tactical measures (e.g., contract requirements, including priced options) to manage IP issues and remove barriers to downstream competition. DOD is working on a variety of mechanisms to provide training and guidance for the acquisition workforce on these considerations.

Ms. TAKAI. IP issues can be best managed by addressing them as early in the acquisition process as possible. Within our Enterprise Software Initiative (ESI), we provide broad terms and conditions as part of a master software agreement for software acquired through ESI procurement vehicles. These broad terms and conditions can then be tailored and expanded to include specific requirements related to the software acquisition. The IP strategy in DODI 5000.02 is extremely important in that it will enforce the rigor of addressing IP issues early in the lifecycle to ensure the appropriate terms and conditions are established.

OSA is an important aspect of addressing IP issues in that it relies upon non-proprietary interface standards that preclude the need to develop unique data exchanges. This requires that developers comply with the non-proprietary standards in the management of data associated with a capability thereby not locking DOD into a specific vendor solution for exchanging data.

PAST REFORM

10. Senator AYOTTE. Secretary McFarland, Ms. Takai, and Mr. Scheid, DOD has made numerous efforts in the past to overhaul and improve its IT architecture, including the establishment of the Business Transformation Agency (BTA), by then Deputy Secretary of Defense Gordon England in 2005. Please describe what stumbling blocks these past DOD efforts encountered and what steps you are taking to eliminate them for the future.

Ms. MCFARLAND. DOD's report, "A New Approach for Delivering Information Technology Capabilities in the Department of Defense", from November 2010, identified a number of strategic initiatives that have been initiated or implemented in the areas of requirements, acquisition, and portfolio management intended to improve the delivery of IT capabilities. A summary of the DOD accomplishments in several areas related to IT acquisition are:

- Requirements: For warfighting requirements, DOD developed and matured the Joint Capability Integration and Development System IT box. The IT Box represents a major change for Information Systems (IS) requirements development by enabling the delegation of authorities to specifically support the more rapid timelines necessary for IT capabilities through the Defense Acquisition System process. For business system requirements, the Chairman of the Joint Chiefs of Staff delegated requirements validation authority to the Defense Business Council (DBC) providing DOD with a forum to align business system requirements with business strategies as well as laws, regulations, and policies that are unique to acquiring Defense Business Systems (DBS).
- Acquisition: Many of the acquisition-centric initiatives were included in the interim DODI 5000.02 released by the Deputy Secretary on November 26, 2013. Significant 5000.02 changes include:
    - Acquisition Models: The interim DODI 5000.02 explains common models of acquisition in order to provide program structures and procedures tailored to the dominant characteristics of the product being acquired and to

unique program circumstances (e.g., risk and urgency). The models are: Hardware Intensive Program, Defense Unique Software Intensive Program, Incrementally Fielded Software Intensive Program, Hybrid Program A (Hardware Dominant), Hybrid Program B (Software Dominant), and an Accelerated Acquisition Program.

- Short Duration Projects: The templates in the interim DODI 5000.02 aligned to acquisition models and will enable and encourage shorter duration projects.
- Tailoring: The interim DODI 5000.02 includes guidance to adopt a modular, open-systems methodology with heavy emphasis on "design for change" in order to adapt to changing circumstances consistent with commercial agile methodologies.

- IT Infrastructure: DOD is moving towards a common IT infrastructure known as the Joint Information Environment (JIE). Through the development of common architectures and standards and smart implementation of JIE, DOD is striving to improve mission effectiveness, increase cybersecurity, and realize IT efficiencies. Increment 1 of JIE is focused on establishment of core data centers operating behind approved single security architecture under the direction of enterprise operations centers.
- Portfolio Management: DOD has taken initial steps to organize IT systems into portfolios of capabilities starting with DBS. Section 901 of the National Defense Authorization Act (NDAA) for Fiscal Year 2012, codified at title 10, U.S.C., section 2222, established DOD's single Investment Review Board (IRB), known as the DBC to manage DOD business operations including DBS spending. The DBC is managing a portfolio of approximately 1,180 DBS with an annual cost of $6.7 billion. The DBC continues to align planned DBS spending with business strategies and requirements retiring 60 DBS over the past 2 years and identifying an additional 150 legacy DBS that are planned to retire over the next 3 years. For fiscal year 2014, the DBC decided not to certify for obligation requests totaling $617 million. Additionally, in response to section 933 of the NDAA for Fiscal Year 2011, DOD established the Cyber Investment Management Board to integrate processes, align strategies, assess resource requirements, and rapidly provide acquisition governance and portfolio management for cyber capabilities.

Ms. TAKAI. Our existing IT environment consists of "stovepipes of excellence" where we have systems and infrastructure that have been designed to satisfy specific functions, but not necessarily designed and built to integrate or interoperate with other systems that do different functions. This has resulted in network and architectural complexity that is inefficient and hinders our ability to defend against cyber attacks.

My office is leading a multi-year effort to restructure much of DOD's underlying network, computing, and cybersecurity so as to make us more agile in deploying new decision support capabilities, improve cybersecurity of our core DOD missions, and make us more efficient and better stewards of taxpayers' resources. This effort, the JIE, will improve the agility and responsiveness of our IT systems in support of our warfighters, and improve our ability to defend against cyber attacks. We are implementing JIE through and with the Services using DOD's existing core—requirements, budgeting, and acquisition process.

This effort is based on DOD's leadership understanding that our IT infrastructure and systems are critical enablers for DOD operations. The support of both the Secretary of Defense and the Chairman of the Joint Chiefs of Staff has been, and will continue to be, critical to the success of this effort.

Mr. SCHEID. DOD continues to improve its business operations through efforts to better modernize, integrate, and govern its business IT systems. Over time, it became clear that the stumbling blocks to success in these improvements were related to the need for more comprehensive systems oversight and establishment of Department-wide governance. Recognizing these problems, in 2005 DOD created the BTA to provide oversight and establish governance mechanisms, including the Defense Business Systems Management Committee. Following enactment of the NDAA for Fiscal Year 2008, DOD created the position of the Deputy Chief Management Officer (DCMO), which further increased the oversight and level of visibility on DOD's business systems and processes. Changes to the law governing oversight of DBS through enactment of the NDAA for Fiscal Year 2012 further enhanced the governance of these systems.

Currently, DOD is considering its next steps forward. As Secretary Hagel announced in December 2013, he wants to better align responsibility and accountability for IT systems under the CIO; while strengthening the role of the DCMO

across DOD. These steps are intended to drive more efficient and effective business practices and make better use of scarce resources.

PROPER CONDUCT OF THE AUDIT

11. Senator AYOTTE. Mr. Scheid, section 1003 of the NDAA for Fiscal Year 2010 charges the Chief Management Officer of DOD, in consultation with the Comptroller, with devising a Financial Improvement and Audit Readiness plan which describes the specific actions which must be taken to ensure that the financial statements of DOD are validated as ready for audit by no later than September 30, 2017. Currently, there is an argument within DOD over whether to include valuations of property as part of the audit which is required to be completed in fiscal year 2018. Though establishing the value of a company's property is critical in the private sector, some argue it may be less necessary to ascertain the value of property owned by DOD. They argue that the benefits of knowing the value of a destroyer, for example, does not warrant the amount of resources required to establish this value. What are your views on this debate?

Mr. SCHEID. There is no internal DOD argument or debate about whether or not property, plant, and equipment (PP&E) valuation should be undertaken. DOD intends to be compliant with the spirit and intent of the law to be audit ready in order to achieve a clean opinion. To do that, current Federal financial accounting standards require DOD to report PP&E assets at full acquisition cost. Given this, DOD has gone ahead and published equipment valuation guidance, with various options for valuing assets and costs associated with the audit effort. Components will determine which options work best within their standard business processes.

A macro perspective would suggest that providing the value of DOD assets is prudent. The current value of DOD's PP&E represents more than 71 percent of the PP&E values reported for fiscal year 2012 for the entire Federal Government. To omit DOD's valuations ignores a large portion of Federal PP&E.

However, at a department level, it is questionable whether or not DOD would ever use valuations of its PP&E in future decisionmaking, to the extent that the practice would yield more worth or benefits than the cost of carrying out and maintaining these extremely complex enterprise-wide valuations themselves. DOD is not like the private sector, where a company's asset value plays an important role in characterizing its financial position. Further, it is not likely we would, for example, make operational judgments to send a task force into action based on the value of task force assets. DOD does believe, however, that there are certainly other elements of a PP&E audit, such as existence and completion, that could benefit DOD.

12. Senator AYOTTE. Mr. Scheid, would DOD use valuations of property?

Mr. SCHEID. At a department level, it is questionable whether or not DOD would ever use valuations of its PP&E in future decisionmaking, to the extent that the practice would yield more worth or benefits than the cost of carrying out and maintaining these extremely complex enterprise-wide valuations themselves. DOD is not like the private sector, where a company's asset value plays an important role in characterizing its financial position. Further, it is not likely we would, for example, make operational judgments to send a task force into action based on the value of task force assets. DOD does believe, however, that there are certainly other elements of a PP&E audit, such as existence and completion, that could benefit DOD.

13. Senator AYOTTE. Mr. Scheid, how significant of an additional undertaking is it to establish values for property?

Mr. SCHEID. The valuation aspect of auditability will require a significant investment of time and resources, one that DOD has never undertaken in full. Participation is not just by auditors, but by many people across DOD, in every functional area of the Defense business space, both horizontally and vertically. That said, I recognize how important this information is in reaching full auditability, as required by law. DOD is looking into the most cost effective approach to establishing values and complying with standards.

14. Senator AYOTTE. Mr. Scheid, how many additional auditors are required to establish these valuations?

Mr. SCHEID. DOD is studying the cost of making and auditing property and equipment values. Valuation is only one element in the audit of PP&E. The valuation effort will require not only auditors but also program managers, asset owners, and all other stakeholders to be accountable and determine a reasonable methodology of establishing values for their assets. This effort will require a significant invest-

ment of time and resources across DOD. The auditors will verify not only the estimated value, but also the existence of our property, whether we have inventoried and reported all of our equipment and property, and whether we own or have the right to use that property. Given the complexity of this effort, a large number of audit staff will likely be required to validate the existence of the property and assess the reasonableness of the valuation methodology developed by DOD.

15. Senator AYOTTE. Mr. Scheid, are we talking about every M–16 and rucksack, or are we talking about larger items, like F–16s and M–1 tanks?

Mr. SCHEID. In most cases, we do not need to know the value of every item of equipment to perform our mission. Our current plan is to first compute values on our newer, high-value assets using actual costs or estimating methodologies that are permitted. Older assets will be valued, if deemed necessary. We do need to know depreciated value and remaining useful life of an asset as we make decisions that will shape valuation outcomes, such as disposition of equipment in theater.

16. Senator AYOTTE. Mr. Scheid, if this requirement were lifted, would it allow DOD to achieve key audit deadlines sooner and then to maintain that audit readiness less expensively?

Mr. SCHEID. Lifting the requirement would help but would not accelerate the target date, as there are other elements and processes associated with the financial statements that DOD is readying for audit. Less stringent requirements will certainly help with sustaining an audit ready environment once achieved.

5000.02 REISSUANCE AND THE SECTION 804 REPORT

17. Senator AYOTTE. Secretary McFarland and Ms. Takai, section 804 of the NDAA for Fiscal Year 2014 required the Secretary of Defense to develop and implement a new acquisition process for IT systems based upon the 2009 recommendations of the Defense Science Board (DSB). This resulted in a report from then Deputy Secretary of Defense, William Lynn, titled: "A New Approach for Delivering Information Technology Capabilities." The report listed five Guiding Principles for crafting a new acquisition system. Those Guiding Principles included:

- Deliver Early and Often: on shifting the acquisition culture from one which focuses on a single delivery of a system to one which comprises multiple deliveries every 12 to 18 months;
- Incremental and Iterative Development and Testing: which is very similar to "deliver early and often" but also calls for the use of prototyping and moving away from the deployment of a "Big Bang" approach;
- Rationalized Requirements: which seek to move away from customized solutions toward systems using open modular platforms based on established standards to ensure interoperability and seamless integration;
- Flexible/Tailored Process: specifically an acquisition process optimized for IT; and
- Knowledgeable and Experienced Workforce.

Which of these Guiding Principles were incorporated in the DODI 5000.02 reissuance and which were not?

Ms. MCFARLAND. The interim DODI 5000.02 issued on November 26, 2013, includes a series of models that serve as examples of program structures tailored to the dominant characteristics of the product being acquired. One of those models is a very flexible process designed specifically for Incrementally Fielded Software Programs. As implied by the title, the model provides capability via a multi-increment approach. Each increment provides rapid delivery of capability through several "limited fieldings" in lieu of a single full deployment. Each limited fielding provides the user with mature and fully tested sub-elements of capability. Several limited fieldings will typically be necessary to satisfy requirements for an increment and several increments will be required to achieve the required capability. This model will apply to many IT programs and particularly to cases where commercial off-the-shelf software, such as commercial business systems with multiple modular capabilities, are acquired and adapted for DOD applications. I believe this model, combined with our continued commitment to acquire, train, and sustain a first-class acquisition workforce is consistent with the five Guiding Principles.

Ms. TAKAI. The interim DODI 5000.02 includes guidance reflecting each of the five Guiding Principles and is consistent with the intent of the 2009 DSB recommendation. An overarching theme of the policy is that acquisition program strategies and oversight should be tailored to the unique characteristics of the product being acquired. The policy describes several acquisition models that accommodate

a range of IT from command and control systems to those types of IT systems that require delivery of capability early and often. Model 3, Incrementally Fielded Software Intensive Program, specifically addresses the need to quickly deliver incremental and iterative IT capability that satisfies DOD's requirements. To meet the increased flexibility of the acquisition process, it is critical that the acquisition workforce continues to improve. The interim DODI 5000.02 includes minimum standards and expectations for the program management office and the entire acquisition chain of command.

18. Senator AYOTTE. Secretary McFarland and Ms. Takai, what more needs to be done to ensure these Guiding Principles guide DOD acquisitions?

Ms. MCFARLAND. We believe our acquisition policy is well-designed and consistent with the Guiding Principles. Our objective is to ensure that the policies are institutionalized, effectively employed, and achieve the outcomes expected. We will closely monitor and make adjustments, when needed.

Ms. TAKAI. DOD recently issued guidance that establishes a policy framework consistent with the five Guiding Principles. My office will work with the office of the USD(AT&L) to ensure this new framework is incorporated into new IT acquisition programs and adjusted as necessary to ensure IT acquisitions are successful. Additionally, we will be working to ensure these concepts are integrated into our workforce training efforts.

19. Senator AYOTTE. Mr. Powner, to what degree do you believe these Guiding Principles are guiding DOD's IT acquisition processes?

Mr. POWNER. While DOD policies reflect its guiding principles, we have found that DOD's implementation of these principles needs to be more consistent. For example, as discussed earlier, the preliminary results of our ongoing work on selected agencies' implementation of incremental development indicate that DOD was lacking in areas related to two of these guiding principles ("Deliver Early and Often" and "Incremental and Iterative Development and Testing"). Specifically, only 1 of 37 selected DOD investments was delivering functionality every 6 months and departmental guidance was not consistent with OMB's guidance. We would be happy to share further details and brief your staff once our report is issued in May 2014. Similarly, our work on DOD's business systems modernization has found that DOD needs a more strategic approach to managing its human capital, which corresponds to the "Knowledgeable and Experienced Workforce" guiding principle.[3]

[3] GAO, DOD Business Systems Modernization: Further Actions Needed to Address Challenges and Improve Accountability, GAO–13–557 (Washington, DC: May 17, 2013).

DEPARTMENT OF DEFENSE AUTHORIZATION OF APPROPRIATIONS FOR FISCAL YEAR 2015 AND THE FUTURE YEARS DEFENSE PROGRAM

WEDNESDAY, MARCH 26, 2014

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

CURRENT READINESS OF U.S. FORCES

The subcommittee met, pursuant to notice, at 2:36 p.m. in room SR–232A, Russell Senate Office Building, Senator Jeanne Shaheen (chairwoman of the subcommittee) presiding.

Committee members present: Senators Shaheen, Donnelly, Hirono, and Ayotte.

OPENING STATEMENT OF SENATOR JEANNE SHAHEEN, CHAIRWOMAN

Senator SHAHEEN. Good afternoon, everyone. I'm going to call this hearing to order. This is the Subcommittee on Readiness and Management Support, and thank our witnesses for being here, and also for your service to the country.

I'm pleased to be joined by my colleague, the ranking member of the Readiness and Management Support Subcommittee, and, of course, the other New Hampshire Senator. We sometimes call this the New Hampshire Subcommittee. [Laughter.]

Senator AYOTTE. Exactly. [Laughter.]

Senator SHAHEEN. Anyway, we are going to try and expedite opening statements this afternoon, because, as you may have heard, there are votes that are happening shortly. We want to get through as much of the testimony as we can before we have to recess to go vote and then come back. I will submit my testimony for the record.

[The prepared statement of Senator Shaheen follows:]

PREPARED STATEMENT BY SENATOR JEANNE SHAHEEN

Good afternoon everyone. This hearing will come to order.

We begin this subcommittee's second hearing of the year alongside my colleague from the Granite State. It is a pleasure to lead this subcommittee with Senator Ayotte, and I continue to appreciate her strong bipartisan support.

We are joined this afternoon by a few familiar faces from last year's readiness hearing: General John F. Campbell, USA, Vice Chief of Staff of the Army; General

John M. Paxton, Jr., USMC, Assistant Commandant of the Marine Corps; General Larry O. Spencer, USAF, Vice Chief of Staff of the Air Force; and Vice Admiral Philip H. Cullom, USN, Deputy Chief of Naval Operations (CNO) for Fleet Readiness and Logistics of the Navy. Gentlemen, I sincerely thank all of you for your dedicated and continued service to our country.

Today, our Nation continues to face a broad range of threats. Last year's Bipartisan Budget Act did not fix our force readiness problem. It only temporarily stopped the hemorrhaging of readiness.

Today, all of our Services are making tough choices as they struggle to meet their operational requirements while also addressing growing equipment and infrastructure maintenance backlogs. For example, the Navy's backlog of fleet and infrastructure maintenance requirements are growing exponentially. More than half of nondeployed Marine Corps units report degraded readiness in their ability to execute core missions. More than half of the Air Force's fighter squadrons are not prepared to support contingency requirements. And our Army can only provide a limited number of units trained for high-end, complex operations. The pain of sequestration is felt not only in our Active components, but in our National Guard and Reserve units as well.

So, today, I am interested in hearing from today's witnesses if the fiscal year 2015 budget request begins to restore any quantifiable balance caused by sequestration and what, if any, capabilities and strategic we risk losing by failing to confront sequestration in future years.

I want to thank Admiral Cullom and the Navy for last year's Shipyard Modernization Plan, which identified over $4.2 billion in facilities maintenance backlog. Yet, I remain concerned that it will take an estimated 17 years to complete the plan. And 3.4 percent for the Navy's capital investment program is frankly unacceptable, when at least 6 percent is required by law. While I understand our near-term readiness priorities often force additional risk to be taken in other areas, I continue to be concerned that the long-term viability of our domestic military installations remains in jeopardy.

Despite these challenges, I remain confident that we still possess the strongest joint force in the world. We are fortunate to have four men that exemplify those virtues here with us today. Gentlemen, I thank you again for taking the time to join us and I look forward to an informative dialogue. We will include your full statements for the record, so please summarize your written statements so we can have more time for a discussion.

Senator SHAHEEN. I would like to say at the start of the hearing, that we are all very saddened by the tragic events 2 days ago at Naval Station Norfolk. It reminds us all of our collective responsibility to keep our shipyards and installations safe. I know there's an investigation going on, but, as we await the outcome of that, we certainly are all thinking about the families, the victims, and the shipmates who are affected by this tragedy, and our prayers go with them. I hope, Vice Admiral Cullom, that you will convey that to the Navy.

I turn it over to my ranking member to see if she would like to make any comments.

STATEMENT OF SENATOR KELLY AYOTTE

Senator AYOTTE. Yes. First of all, I want to thank the chairwoman.

I also want to pass along my condolences to those who have suffered at the Naval Station at Norfolk.

I just want to thank you all for being here. This is a very important time for us, with what's happening around the world and with the challenges we face for our military.

I will be submitting my statement for the record.

[The prepared statement of Senator Ayotte follows:]

PREPARED STATEMENT BY SENATOR KELLY AYOTTE

Thank you very much, Madam Chairwoman, I join you in welcoming our distinguished panel of witnesses and thank you for holding this important hearing.

General Campbell, thank you for meeting with me yesterday. I want to thank you for your continued service and for the service of your entire family.

At a time when our country confronts increasing—not decreasing—threats, I cannot think of a more important hearing topic than the readiness of U.S. forces.

A small percentage of our fellow citizens voluntarily step forward to wear the uniform and protect our country. Congress has a sacred responsibility to make sure that those who have agreed to serve have the best possible training and equipment so that they can accomplish their missions, protect our country, and return home safely.

When Congress fails to provide proper training and equipment, we risk being confronted with two unacceptable options: deploying troops into harm's way who are unprepared or failing to respond in a crisis when our national security interests require action. The first choice is immoral, and the second is dangerous.

To avoid such horrible choices, we must have a defense budget that is based on our national security interests and the threats to those interests. When we fail to match our defense budget with the national security realities around us, the gap between the military our Nation has and the military our Nation needs grows.

Unfortunately, I worry that is exactly where we are today.

A MORE DANGEROUS WORLD

Any objective analysis of the global security environment demonstrates that the world is becoming more—not less—dangerous.

In Iran, we see the world's worst state sponsor of terrorism, implementing a shrewd strategy to undermine hard-won international sanctions in return for only slowing its pursuit of a nuclear weapons capability from a run to a walk. Meanwhile, the Iranian regime continues to support Hezbollah and Hamas, while developing an intercontinental ballistic missile capability that could strike the United States in the coming years.

In Syria, the conflict rages on with tens of thousands dead and no end in sight. The longer the fighting continues, the more foreign Islamist terrorists come to Syria, the more the conflict destabilizes the region, and the more the conflict there generates threats to our Homeland.

Al Qaeda-affiliated groups and other terrorist groups—such as al Qaeda in the Arabian Peninsula, Boko Haram, and Ansar al-Sharia—far from being on the run, represent a continued threat. Terrorist groups are growing stronger throughout Africa and the broader Middle East.

In North Korea, a young and unpredictable leader continues to expand the rogue state's nuclear program and develop ballistic missiles that could threaten the continental United States. Recently, North Korea—in a highly provocative act—launched two midrange missiles.

Meanwhile, China is utilizing its growing economic wealth to create a modern military featuring fifth generation fighters, "carrier killer" missiles, and robust cyber capabilities. In fact, Secretary of Defense Hagel recently testified that with, "... other nations pursuing comprehensive military modernization, we are entering an era where American dominance on the seas, in the skies, and in space [not to mention cyberspace] can no longer be taken for granted."

DECLINE IN READINESS

Despite this sobering array of threats to our vital interests, we are significantly reducing our defense budget.

While the 2-year budget agreement and the fiscal year 2014 appropriation have provided the Pentagon some modest budget relief, the defense budget is still set to be reduced dramatically in the coming years.

This mismatch between reality and our defense budget has resulted in a dangerous decline in readiness across all of the Services and throughout the geographic combatant commands.

For example, in fiscal year 2013, budget constraints forced the Army to cancel essential major training exercises for several brigades, the Navy to cancel multiple ship deployments, and the Air Force to stand-down dozens of squadrons—including several combat-coded squadrons.

We talk of a "rebalance" to the maritime-dominated Asia-Pacific region, but inadequate resourcing is forcing the Navy to only build two *Virginia*-class submarines

a year. As a result, the size of the Navy's attack submarine fleet is scheduled to shrink significantly over the next decade and a half.

About half of non-deployed Marine Corps units have reported degraded readiness due to equipment and personnel shortages.

Not surprisingly, General Scaparrotti, the Commander of all U.S. Forces in Korea, expressed concerns yesterday about the readiness of follow-on forces if a major conflict were to begin on the Korean peninsula.

General Scaparrotti also stated, "I am concerned about shortfalls in critical areas including command, control, communications, computers, intelligence, surveillance, reconnaissance, missile defense, [and] critical munitions . . . "

Despite the fact that al Qaeda affiliates are proliferating throughout much of Africa, General Rodriguez, the Commander of Africa Command, testified recently that only a small portion of his intelligence, reconnaissance, and surveillance requirements are being met.

These are just a few examples demonstrating the consequences of the mismatch between our defense budget and the threats we face.

CONCLUSION

The best way to keep our country safe and prevent war is to be ready to fight one. Unfortunately, I fear our country's margin of safety is shrinking because there is a mismatch between our defense budget and the threats we face.

I look forward to hearing our witnesses' assessment of the readiness of their respective Services.

Thank you, Madam Chairwoman.

Senator AYOTTE. Most of all, I want to thank each of you for your leadership during very difficult times and challenging times, and the sacrifice not only you've made, but also your families. We look forward to the testimony today.

Senator SHAHEEN. Thank you.

Joining us this afternoon are: General John F. Campbell, USA, Vice Chief of Staff of the Army; General John M. Paxton, Jr., USMC, Assistant Commandant of the Marine Corps; General Larry O. Spencer, USAF, Vice Chief of Staff for the Air Force; and Vice Admiral Philip H. Cullom, USN, Deputy CNO for Fleet Readiness and Logistics of the Navy. I'm sure they sent you because Senator Ayotte and I were both here, and you know we'll ask you about the Portsmouth Naval Shipyard. [Laughter.]

Thank you all very much. We'll begin with you, General Campbell.

STATEMENT OF GEN JOHN F. CAMPBELL, USA, VICE CHIEF OF STAFF, U.S. ARMY

General CAMPBELL. Ma'am, thank you very much.

I have provided a written statement. I'd ask you take that for the record. I would like to provide some opening comments, though.

Chairwoman Shaheen, Ranking Member Ayotte, thank you very much for the opportunity to come today and discuss the readiness of your U.S. Army. I appreciate your support and commitment to our soldiers, our Army civilians, our families, our wounded warriors, and our veterans.

Today, the Army remains globally engaged with more than 66,000 soldiers deployed, including about 32,000 in Afghanistan and about 85,000 forward-stationed in over 150 different countries.

I'd like to start by thanking Congress for passing the fiscal year 2014 Consolidated Appropriations Act. This measure provided the Army some relief from previous defense spending caps, and gives us predictability in fiscal year 2014 and fiscal year 2015. While the restoration of some funding in fiscal year 2014 helps the Army re-

store readiness, it is not sufficient to fully eliminate the void in core capabilities created over the past decade of counterinsurgency operations, and made greater by sequestration. The current level of fiscal year 2015 funding will allow the Army to sustain the readiness levels achieved in fiscal year 2014, but will only generate the minimum readiness required to meet the Defense Strategic Guidance (DSG). The anticipated sequestration reductions in fiscal year 2016 and beyond severely degrade manning, readiness, and modernization efforts, and will not allow us to execute the DSG.

To really understand our current and future readiness, I need to quickly provide context with what happened in fiscal year 2013. Due to fiscal year 2013 Budget Control Act (BCA) spending caps, the Army canceled seven Combat Training Center rotations and significantly reduced home-station training, negatively impacting the readiness and leader development of over two divisions' worth of soldiers. Additionally, 12 years of conflict have resulted in an extensive backlog in our leadership education and training programs due to reductions of schoolhouse capacity. Those lost opportunities only created a gap all the way from 2004 to 2011, because we were focused exclusively on counterinsurgency. In the event of a crisis, we'll deploy these units at a significantly lower readiness level, but our soldiers are adaptive and agile, and, over time, they will accomplish their mission. But, their success will come with a greater cost of higher casualties.

Further results of sequestration in fiscal year 2013 include the deferment of approximately $716 million of equipment reset into fiscal years 2014 and 2015. Sequestration also postponed the reset of nearly 700 vehicles, almost 2,000 weapons, and over 10,000 pieces of communication equipment, Army pre-positioned stocks, and numerous soldier equipment and clothing items. The Army was forced to cut routine maintenance for nondeployed units, thereby creating an additional $73.5 million in deferred maintenance costs that carried over to fiscal year 2014. All together, sequestration resulted in the release of nearly 2,600 civilian and contract personnel, eroding critical trade skills in fields such as engineering.

Affordability is driving the need to reduce the total Army end strength and force structure. The Army is in the process of an accelerated drawdown to 490,000 in the Active component, 350,000 in the Army National Guard, and 202,000 in the U.S. Army Reserve, by the end of fiscal year 2015. By the end of fiscal year 2017, we will further decrease end strength to 450,000 in the Active, 335,000 in the Army National Guard, and 195,000 in the Reserve component. These cuts are disproportionally on the Active Army, and they will reverse the force mix ratio, going from 51 percent Active and 49 percent Reserve in fiscal year 2012, to 46 percent Active and 54 percent Reserve in fiscal year 2017. We'll have a greater preponderance in our Reserve component, both our National Guard and our Reserve.

In conjunction with these rapid end-strength reductions, the Army is innovatively reorganizing the current operational force and eliminating excess headquarters infrastructure in order to provide greater combat power across remaining brigade combat teams (BCT). The Army will also restructure our aviation formation to

achieve a leaner, more efficient, and capable force that balances operational capability and flexibility across the total Army.

As we continue to draw down and restructure over the next 3 to 4 years, the Army will have readiness and modernization deficiencies. Fiscal realities have caused us to implement tiered readiness as a bridging strategy. This concept refers to maintaining different parts of the Army at varying levels of preparation. Under tiered readiness, only 20 percent of the total operational force will conduct collective training to a level necessary to meet our strategic requirements, and we have accepted risk to the readiness of multifunctional and theater support brigades, as well as in home-station training, facilities, equipment sustainment, and modernization. Forces deployed in Afghanistan will be fully prepared for the security assistance mission, but not for other contingencies. Forward-stationed units in the Republic of Korea will remain ready, as will those dedicated to the Global Response Force.

Uncertain and reduced funding has degraded our installation readiness and infrastructure. Base operation support levels remain under-resourced and need to be a future priority as additional funds become available.

This year and next are critical to deciding the fate of what is the greatest Army in the world and could have significant implications on our Nation's security for years to come. Cuts implemented under the BCA and sequestration have significantly impaired our readiness.

Further, I'm concerned about the impact to Army base funds in fiscal year 2015 if the Overseas Contingency Operations (OCO) budget request is not acted upon by the start of the fiscal year. Absent approval of OCO funding, we would be required to support OCO-funded missions with base funds, which would immediately begin degrading readiness across the total Army.

As we continue to draw down the Army, I can assure you that precision, care, and compassion will be hallmarks of our process. Ultimately, the Army is about people. As we downsize, we are committed to taking care of those who have sacrificed for our Nation over the last 12 years of war. Required reductions will force out many quality, experienced soldiers. We have created the Soldier for Life Program to assist those departing and separating from the Army, and a Ready and Resilient Campaign to ensure that we care for our soldiers and their families, which ultimately improves our readiness. Our wounded warriors and our goals to our families remain a top priority, and we will protect programs that support their needs.

I thank you again for your steadfast and generous support of the outstanding men and women of the U.S. Army. Please accept my written testimony for the record. I look forward to your questions.

Thank you very much.

[The prepared statement of General Campbell follows:]

PREPARED STATEMENT BY GEN. JOHN F. CAMPBELL, USA

INTRODUCTION

Chairwoman Shaheen, Ranking Member Ayotte, distinguished members of the subcommittee, thank you for the opportunity to appear before you today to discuss the readiness of your U.S. Army. On behalf of our Secretary, the Honorable John

McHugh, and our Chief of Staff, General Ray Odierno, I would also like to take this opportunity to thank you for your support and demonstrated commitment to our soldiers, Army civilians, families, wounded warriors, and veterans.

We live in a world that is as dangerous and unpredictable as it has ever been—from continued unrest in the Middle East, to proliferation of weapons of mass destruction, to the threat of non-state actors and transnational terrorist organizations. The Army remains engaged in worldwide contingencies with more than 66,000 U.S. Army soldiers from all three components—Active, Guard, and Reserve—deployed including nearly 32,000 in Afghanistan. In addition, about 85,000 soldiers are forward stationed across the globe in nearly 150 countries. The Army remains the best trained, equipped, and led land force in the world, although reduced funding levels are contributing to existing challenges in Army readiness. Together, we must ensure our force is trained and ready to prevent conflict, conduct shaping operations for our geographic combatant commanders, and if necessary, win decisively in a major combat operation while denying the objectives of—or imposing unacceptable costs on—an opportunistic aggressor in a second region.

A trained and ready Army must be able to rapidly deploy, fight, sustain itself, and win decisively against complex state and non-state threats in austere environments and rugged terrain. Readiness is measured at both the service and unit level. Service readiness incorporates installations and the critical ability of the Army to provide the required capacities (units) with the requisite capabilities (readiness) 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.

In 2013, sequestration and unanticipated costs in Afghanistan resulted in declining readiness throughout the Total Army (Active Army, Army National Guard, and U.S. Army Reserve). It will take time to recover from the actions we took in 2013 due to sequestration, and a return to this method of budgeting would increase the risk to our soldiers by not adequately preparing them to fight our Nation's wars. We must maintain balance between the three critical areas of end strength, readiness, and modernization to avoid becoming a hollow Army. An example of a hollow Army is a large force that lacks adequate training and modernized equipment, and is therefore not as effective as a smaller, well-trained force with cutting-edge technology. Yet cutting too much manpower risks not having sufficient forces to fulfill our strategic mission and deter our enemies. If we are required to further reduce Total Army end strength to 420,000 in the Active component, 315,000 in the Army National Guard, and 185,000 in the Army Reserve by the end of fiscal year 2019, we will be unable to execute the 2012 Defense Strategic Guidance.

We are at a critical juncture for readiness in our Army. In the past few months we have received relief from sequestration in fiscal year 2014 and fiscal year 2015, and are implementing a plan that builds readiness into a contingency response force that can partially mitigate current strategic and operational risks to combatant commanders. But with very tight constraints in fiscal year 2015, and potential sequestration in fiscal year 2016, readiness will quickly erode across the force. We must have predictable, sustained funding to ensure the necessary readiness to execute our operational requirements and the Defense Strategic Guidance.

As we emerge from two wars the force is transitioning from training for the conflicts in Iraq and Afghanistan to a comprehensive and realistic decisive action training environment that features regular, irregular, and insurgent enemy forces. Sequestration in 2013 cancelled much of the essential training for this conversion, and while the Bipartisan Budget Act (BBA) gives us some relief and predictability for fiscal year 2014 and fiscal year 2015, unless Congress comes together to build on that model and provide additional relief in 2016 and beyond, we will face sequestration levels again, undermining this transition.

Equipment modernization is a critical part of Army readiness and the decreasing budget has forced us to reassess many programs. The Army's equipment modernization strategy focuses on effectively using constrained resources for near-term requirements and tailoring our long-term investments to provide the right capabilities for soldiers in the future. Because of fiscal constraints, investments will focus on Science and Technology and incremental improvements to existing systems, with very few new start programs. If allowed to go into effect in 2016, sequestration-level spending caps would require a significant reduction to Army modernization accounts, with the majority of Army programs being affected. Major weapons programs would be delayed, impacting the industrial base both in the near and long term.

Finally, it remains an Army priority to care for our soldiers, civilians, and family members who have sacrificed over the last 12 years of war, and to build a resilient force ready to respond to a broad range of contingencies. While we will make every

effort to protect soldier and family programs, they will be unavoidably affected by workforce reductions, cuts to sustainment funding, and challenges maintaining Army infrastructure.

Our civilian workforce will also undergo a draw down concurrent with reductions to military end strength. Most have remained with us, but the impact of furloughs, pay freezes, and our inability to reward our most productive employees with performance-based bonuses has caused some of our highest quality civilians to seek employment in the private sector. We rely on our civilian teammates and these disruptions negatively affect Army readiness.

The Army's foremost challenge is building rapidly deployable contingency capabilities in support of the combatant commanders while simultaneously reducing its size across all components and fulfilling the existing worldwide demand for forces. We need congressional support with adequate, predictable funding, and support for a Total Force solution during drawdown. Readiness must be maintained at acceptable levels and in balance with modernization and force structure. If it is not, we put soldiers at risk, and undermine our ability to deter our adversaries.

SUPPORT THE CURRENT FIGHT

Our top priority remains the readiness of units deploying to Afghanistan and elsewhere. These units will continue to receive the highest priorities for both Overseas Contingency Operation (OCO) funds and base budget requirements. The Army retains the capability to conduct Mission Readiness Exercises (MRE) at the Combat Training Centers (CTC) necessary to support forces deploying to Afghanistan or other theaters.

There are six MREs scheduled at the CTCs in fiscal year 2014 specifically focused on Security Force Assistance missions. It is important that Congress continues to provide sufficient OCO funding for our deploying forces.

Retrograde of equipment from Afghanistan continues on pace and we are responsibly executing our duty to recover this materiel, but need sustained support. We identify the best, most modern equipment to recover and Reset for future contingencies. In February 2013, we had $28 billion worth of Army equipment in Afghanistan. Currently, approximately $15.5 billion worth of materiel remains in place, of which we plan to retain $10.2 billion. The Army will divest through foreign military sales utilizing Excess Defense Article transfers, or demilitarization of approximately $5 billion worth of equipment.

A fully funded Army Reset program is critical to ensuring that equipment worn and damaged by prolonged conflict in harsh environments is recovered and restored for future Army requirements. We estimate the need for just over $6 billion to reset the remaining equipment from both conflicts. We have been consistent in our requests for OCO funds for at least 3 years after the last equipment is withdrawn from Afghanistan. The Army will need congressional support to complete this task that we believe is so important to responsibly ensuring future readiness.

CURRENT READINESS

The Army can currently provide only a limited number of available and ready brigade combat teams (BCT) trained for decisive action proficiency, which will steadily increase through fiscal year 2014 and the beginning of fiscal year 2015. While the Army's base budget decreased over the past 2 fiscal years, the Army's responsibilities under the Defense Strategic Guidance plus commitments to combatant commanders have not receded in commensurate amounts. While the restoration of some funding in fiscal year 2014 has helped arrest the decline in unit readiness, it has not been sufficient to fill the void in core capabilities created over the past decade of counterinsurgency operations and by sequestration. We will begin to rebuild readiness during fiscal year 2014 and fiscal year 2015 by continuing to focus resources on critical unit level training at the CTCs. However, this will come at the expense of home station training, installation support, and the reset of equipment for the Total Army.

In order to achieve the most efficient readiness levels within our funding limits, the Army is implementing tiered readiness as a bridging strategy until more resources are made available. Under this strategy, only 20 percent of the total operational forces will conduct collective training to a level required to meet our strategic mission, with 80 percent remaining at lower readiness levels. Unless National Guard and Reserve Forces are preparing for deployment, they will largely be funded for readiness at the individual, crew, and squad level. Forward stationed units in the Republic of Korea will remain ready, as will those dedicated to the Global Response Force. Forces deploying to Afghanistan will be fully trained for their security assistance mission but not for other contingencies. The Army is also concentrating

resources on a contingency force of select Infantry, Armored, and Stryker BCTs, an aviation task force, and required enabling forces to meet potential unforeseen small scale operational requirements. The BBA improves the Army's ability to increase collective training in fiscal year 2014 and fiscal year 2015, but readiness will still take time to build.

TRAINING AND PROFESSIONAL MILITARY EDUCATION (PME)

Training across the Total Army serves two main purposes: preparing units to support combatant commands worldwide and developing leaders who can adapt to the complex security environment. To meet demands across the full range of military operations, the Army will shift the focus of training to rebuilding warfighting core competencies. We are reinvigorating our CTCs to challenge and certify Army formations in a comprehensive and realistic Decisive Action/Unified Land Operations training environment that features regular, irregular, and insurgent enemy forces. We will conduct tough, realistic multi-echelon home-station training using a mix of live, virtual, and constructed methods to efficiently and effectively build soldier, leader, and unit competencies over time.

From 2004 to 2011, all CTC rotations were focused on building readiness for assigned missions in a counterinsurgency environment. This shift impacted 5,500 company commanders, 2,700 field grade officers, and 1,000 battalion commanders. Recognizing the atrophy in Direct Action/Unified Land Operations training, the Army returned to conducting decisive action CTC rotations in 2011, with a plan to cycle nearly all Active Army BCTs by the end of fiscal year 2015 along with the requisite amount of Army National Guard BCTs. However, due to sequestration, the Army canceled seven CTC rotations in 2013 and significantly reduced home station training, negatively impacting the readiness and leader development of more than two divisions' worth of soldiers. Those lost opportunities only added to the gap created from 2004 to 2011.

Even with increased funding accommodated under the BBA, in fiscal year 2014 alone the Army will not be able to train a sufficient number of BCTs to adequately rebalance the force. Seventeen BCTs were originally scheduled to conduct a CTC rotation during fiscal year 2014. Current funding enables the addition of another 2 BCT rotations, for a total of 19 for the fiscal year. However, due to the timing of the additional funding, some BCTs were still unable to conduct a full training progression before executing a CTC rotation. Without the benefit of sufficient home station training, and with the years away from direct action, some BCTs begin the CTC rotation at a low level of proficiency and cannot maximize this training event.

For example, 2nd Armored BCT of the 4th Infantry Division (2–4) returned to the National Training Center in 2013 for a direct action/unified land operations rotation, its first since 2002. In the interim, 2–4 had conducted three MREs in preparation for deployments. The return to direct action in 2013 revealed that many tank platoon sergeants had never performed as a member of a tank crew, some company commanders had never maneuvered their units as a part of a combined arms team, and field grade officers often had no experience in combined arms maneuver. The lack of leader experience in these skills prevented two to four from achieving the maximum readiness that a CTC rotation would normally provide.

For BCTs that do not conduct a CTC rotation, we are using available resources to train these formations to the highest possible proficiency level (roughly battalion-level). The Army will continue to prioritize unit training at the CTCs and the fiscal year 2015 budget allows for 19 rotations.

Leader development is one of the Army's highest priorities because the increasingly complex and dangerous global security environment requires well-trained leaders. The unpredictable nature of human conflict requires leaders to not only lead in close combat but to understand the operational and strategic environment, to include its socio-economic, cultural, and religious underpinnings. Our leaders must demonstrate the competence, proficiency and professional values necessary to achieve operational and strategic mission success. We must continue to educate and develop soldiers and civilians to grow the intellectual capacity to understand the complex contemporary security environment to better lead Army, Joint, Interagency, and Multinational task forces and teams. Therefore, we will reinvest and transform our institutional educational programs for officers and noncommissioned officers in order to prepare them for the complex future security environment.

We are prioritizing our institutional educational programs for officers and noncommissioned officers. The fiscal year 2015 budget will provide for leader development by funding 8,900 officers to attend intermediate level education; 7,500 warrant officers to attend professional development schools; and 6,100 noncommissioned officers to attend their required professional military education. Additionally, the fiscal

year 2015 budget increases Army civilian leader development and funds over 150 officers to attend the School of Advanced Military Studies. While funding for some joint education has declined, we are prioritizing quality instruction and instructor development.

REGIONALLY ALIGNED FORCES (RAF)

The purpose of regional alignment is to improve the Army responsiveness in support of the combatant commands while remaining operationally available to respond to global contingencies. Regional alignment, therefore, provides combatant commands with mission-ready, tailored forces and capabilities that are further prepared with cultural, regional and language focused training. This improves the ability of these Army forces to work within the physical, cultural, and social environments and thus increases its overall readiness. Additionally, RAF keeps leaders and soldiers actively engaged internationally and acts as a positive retention tool.

In fiscal year 2014 we continue to regionally align our Corps, Divisions, and BCTs. I Corps, stationed at Joint Base Lewis-McChord, WA, and assigned to U.S. Pacific Command, provides deployable mission command capability for contingencies and enhances an already strong Army presence in the Asia-Pacific region. III Corps, stationed at Fort Hood, TX, and 1st Armored Division headquarters, stationed at Fort Bliss, TX, are both aligned with U.S. Central Command. Active Army division Headquarters (HQ) will be habitually aligned to provide at least one Joint Force-capable HQ to each combatant command. This is perhaps the most important capability the Army is providing to geographic combatant commands, as the Division HQs can access a full range of capabilities from planning to specific enablers. An example of this is the 1st Armored Division, who deployed to Jordan as part of the joint exercise Eager Lion, having already coordinated with Central Command to understand the worsening crisis in Syria. From there, a tactical command post remained in Jordan to assist the Jordanians and other partners with a wide range of activities resulting from the mass humanitarian crisis to the north.

For fiscal year 2013, several units below division-level were assigned or allocated to combatant commands. The 48th Infantry BCT, Georgia Army National Guard, is aligned with U.S. Southern Command and has deployed teams to several Central and South American countries. The 2d Armored BCT, 1st Infantry Division (2–1), currently allocated to the U.S. Army Africa Command, is the first brigade task organized to the RAF mission. Since March 2013, they have conducted 71 missions in 35 countries. For example, 2–1 helped train a Niger infantry battalion which was selected to participate in the African-led International Support Mission to Mali. Elements of 2–1 have also recently deployed to Juba, South Sudan to provide embassy protection.

Maintaining Army readiness in the Pacific is essential to the execution of the National Security Strategy and demonstrates how regional engagement supports a ready force. Land forces remain the most important actors in the region, as the Pacific theater contains 7 of the world's 10 largest armies. The U.S. Army has 80,000 Active and Reserve troops assigned to or on the periphery of the region; in terms of manpower, the Army is the largest contributor to U.S. Pacific Command. Based on persistent threats of escalation with North Korea, the Army forces on the peninsula are currently maintaining a higher readiness posture, which is also an element of the Asia-Pacific Rebalance Strategy. The Army will maintain 19,500 soldiers in South Korea—partially including a rotating Combined Arms Battalion and its enablers—as a key part of the U.S. strategy to fulfill our alliance commitments and deter an increasingly unstable North Korea.

FORCE STRUCTURE-END STRENGTH AND TOTAL FORCE POLICY

Adequate numbers of personnel and properly organized units are critical to the Army's ability to remain ready and fulfill the Defense Strategic Guidance. The Army is committed to the Total Force Policy: the Active Army gives us responsiveness and flexibility; the Army National Guard and U.S. Army Reserve give us depth and endurance. Our Army is strongest with the contributions off all three components, in the right combination.

Shaping the force requires extensive analysis consisting of cost modeling and war gaming informed by our combat experiences to match specific timelines and readiness-capability levels. Army senior leaders are in constant dialogue with the heads of the National Guard and U.S. Army Reserve to manage reductions to all components. The Army must be able to implement prudent budgetary decisions in a timely manner to address funding cuts while producing the best possible force to meet strategic requirements. Delays in resourcing will require shifting of readiness funds to

personnel accounts, further degrading readiness and contributing to the creation of a hollow Army.

Under the fiscal year 2015 budget request, the Army will decrease end strength through fiscal year 2017 to a Total Army of 980,000 soldiers—the Active component will be reduced to 450,000 soldiers, the Army National Guard to 335,000, and the U.S. Army Reserve to 195,000. The Army will be able to execute the 2012 Defense Strategic Guidance at this size and component mix, but it will be at significant risk. This reduction in end strength represents a 21 percent reduction in the size of the Active Army, a 5 percent reduction in the Reserve, and 6.4 percent reduction in the National Guard since 2011, when the Army was at a war-time high on total end strength. These cuts largely impact the Active component and they will reverse the force mix ratio, going from a 51 percent Active component and 49 percent Reserve component mix in fiscal year 2012, to a 46 percent Active component and 54 percent Reserve component mix in fiscal year 2017.

If sequestration-level cuts are imposed in 2016, the Army will be required to further reduce the Active component to approximately 420,000 (26 percent), the Army National Guard to 315,000 (12 percent), and the U.S. Army Reserves to 185,000 (10 percent) in order to meet savings goals and avoid hollowness. Under these conditions, the Army will not be able to execute the 2012 Defense Strategic Guidance.

AVIATION RESTRUCTURE

Aviation is a critically important part of the force and represents a large percentage of the Army budget. Instead of the across the board cuts imposed by sequestration in 2013, the Army sought an integrated, Total Army solution to reducing the costs of aviation, while preserving our most modern capabilities. With participation from representatives from all components, the Army developed a plan that will better meet the operational demands of our combatant commanders, sustain operational experience, and reduce costs. In the process, the Army aviation force will become smaller by 800 aircraft.

We will divest three entire fleets of aging and costly aircraft, and realign and remission remaining modern aircraft to derive the most capability and capacity from a smaller force. We will consolidate all AH–64 Apache helicopters in the Active Army, where they will be teamed with unmanned aircraft systems for armed reconnaissance or continue their traditional attack role. The Active Army will transfer 111 additional UH–60L Blackhawk helicopters to the Army National Guard and U.S. Army Reserve. These aircraft will significantly improve capabilities for support of the homeland mission, such as disaster response, while sustaining security and support capabilities to civil authorities in the states and territories. The UH–72 Lakota will replace the TH–67 as the next generation glass cockpit, dual engine training helicopter. We will transfer nearly all Active Army UH–72 Lakota helicopters to our training base at Fort Rucker, AL, and will procure an additional 100 UH–72 Lakotas to support the initial entry rotary wing training fleet. At current funding levels, this approach will enable the Army National Guard to retain all of its 212 LUH–72 aircraft for general support requirements as well as ongoing border security operations. The Active Army's overall helicopter fleet will decline by about 23 percent, or nearly 700 airframes, and the Army National Guard's fleet of helicopters will decline by 8 percent, or just over 100 airframes. The resulting Army aviation restructured force will retain our most capable and survivable combat power. Finally, this smaller, less expensive force will significantly increase the Army aviation capabilities most in demand by our Governors.

Essential Investments: People and Equipment

Soldiers, Families, and Army Civilians

The size and scale of mandatory reductions in end strength may force the Army to separate many quality, experienced soldiers. Reenlistment quotas are lower, and Officer Separation Boards and Selective Early Retirement Boards are taking place for many officers. These started with Lieutenant Colonels and Colonels, and now we are looking at senior captains and majors in year groups that were assessed to support a larger force during the height of the two recent conflicts. This force reduction in the officer corps causes a loss of valuable leadership and combat experience and thus degrades readiness. To ensure we are caring for the needs of those who have served the Nation, the Chief of Staff of the Army created the Soldier for Life Program in 2012 to facilitate the successful reintegration of our soldiers, veterans, and their families into their post-Army careers. Our veterans are our best ambassadors and critical to sustaining the All-Volunteer Force.

We will make every effort to protect our most important Family programs, but budget cuts are ultimately affecting every facet of the Army. To ensure we maintain

our focus on rehabilitating, resetting, and reshaping the force after 12 years of conflict, we continue to develop the Ready and Resilient Campaign (R2C). The purpose of R2C is to establish an enduring cultural change that integrates resilience into how we build, strengthen, maintain, and assess total fitness, individual performance, and unit readiness. The Army's culture must embrace resilience as part of our profession and as a key and critical component to readiness. The campaign leverages and expands existing programs, synchronizing efforts to eliminate or reduce harmful and unhealthy behaviors such as suicide, sexual harassment and assault, bullying and hazing, substance abuse, and domestic violence. Perhaps most importantly, the campaign promotes positive, healthy behaviors while working to eliminate the stigma associated with asking for help. The Army recently published an update to the R2C order directing the incorporation of resilience into our holistic assessment of Soldier and Unit Readiness by establishing a unified system of performance measurement that will drive actions and culture change.

MODERNIZATION

The Army's equipment modernization strategy plays 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. Yet significant budgetary constraints have forced the Army to make substantial reductions in modernization investments. Planned research, development, and acquisition (RDA) investments in fiscal year 2015 have declined 39 percent since the fiscal year 2012 budget planning cycle. The Army's Equipment Modernization Strategy calls for a mix of divestiture of selected legacy systems, incremental upgrades to existing platforms, selected investment in new capabilities, and prioritized science and technology investments to mature and develop next-generation technologies. We have also allocated funding toward building the skilled workforce needed for future innovation.

In the short-term, the Army remains focused on several efforts. We are reducing procurement to match force structure reductions. We will continue to apply business efficiencies such as multiyear contracts, planning for should-cost, and studies to facilitate smarter investing. We will tailor capabilities in development to meet requirements under affordability constraints. We will not transition four programs to the acquisition phase, to include the Ground Combat Vehicle and the Armed Aerial Scout. Additionally, we will end 4 programs, restructure 30 programs, and delay 50 programs. A notable restructure includes the Warfighter Information Network Tactical Increment 3.

Lastly, the divestiture of materiel and equipment, where appropriate, will reduce maintenance and sustainment costs and maximize resources. Over the long-term, investing in the right science and technology and applying affordable upgrades to existing systems should allow us to keep pace with technological change and improve capabilities.

ARMY ORGANIC INDUSTRIAL BASE

The Army industrial base consists of commercial and government-owned organic industrial capability and capacity that must be readily available to manufacture and repair items during both peacetime and national emergencies. The Army must maintain the critical maintenance and manufacturing capacities needed to meet future war-time surge requirements, as well as industrial skills sets that ensure ready, effective, and timely materiel repair. During fiscal year 2013, the Army lost more than 4,000 employees from the organic industrial base and will continue to lose highly skilled depot and arsenal workers to other industries due to fiscal uncertainty. Hiring and overtime restrictions, in addition to furloughs, affected productivity and increased depot carryover, not to mention the detrimental effect on worker morale. Yet we must continue to size the organic industrial workforce and leverage the commercial industrial base appropriately, while sustaining core depot and arsenal maintenance competencies to support future contingencies.

The Army is assessing key portfolios and the health of the supply chain, and has taken specific steps to mitigate impacts. Mitigation measures include advocacy for Foreign Military Sales (FMS), extended production in certain programs, and investment in key suppliers on a case-by-case basis. The FMS program helps maintain a healthy base by keeping production lines and shipping depots active. For example, we are advocating the Foreign Military Sale of Chinooks, Apaches, Patriot missile systems, Excalibur rounds, Guided MRLS, and Javelin Anti-Tank missiles to our most trusted allies. Additionally, stretching out our production requirements over

multiple years and advocating public-private partnerships for dual use items helps maintain workloads and keeps production lines open. For example, we are executing a HMMWV modernization program for the Army National Guard using a teaming agreement between Red River Army Depot and AM General.

The Army continually assesses the health of key suppliers. For example, the A.T. Kearney study on the combat vehicle industrial base identified two critical areas of the supply base that might require specific mitigation: Abrams tank transmissions and forward looking infrared radar (FLIR). To mitigate these specific production gaps we will procure up to 124 new transmissions and 560 critical sensor components on the FLIR. Similar studies have identified inspectors who test and adjust turrets and a small sub-set of welders as critical skills to combat vehicle manufacturing that must be protected.

Finally, in terms of the organic industrial base, the Army has initiated Joint Acquisition & Sustainment Reviews to highlight problems faced by Program Executive Offices and our depots and arsenals. These periodic reviews led by the Army Materiel Command and Army Acquisition Executive help us manage the challenges across the materiel enterprise.

WHERE WE NEED SUPPORT FROM CONGRESS

Congress can help the Army by providing adequate financial support for ongoing contingencies including Afghanistan and other named operations, as well as the continued costs after these missions conclude. The costs associated with Operation Enduring Freedom will persist for years to come in the form of redeployment, reset, and rehabilitation. The expense of the transfer of equipment is significant and reset will continue for 3 years after the last equipment arrives in the United States. We will, of course, provide the best available care for our wounded warriors, but this also comes at a cost.

Congress should continue recent efforts to provide the Army a more sufficient and predictable budget. The responsibility also lies with the Army to mitigate costs, but functioning under sequestration causes inefficiency and rapidly undermines readiness. Yet, in 2016, without congressional intervention, sequestration-level caps will return. We will do our part to ensure the Army is ready to defend the Nation, but I ask for Congress' help with a sufficient and predictable budget.

Finally, we need congressional support of a Total Army solution to drawdown. Troop reductions, reforms, and reorganization are necessary after 12 years of war to prioritize funding in preparation for future contingencies. Cuts must come from the Total Force—Active, Reserve, and National Guard—to maintain the balance among all components to best execute the Army's strategic mission. Any delay to this process will force further cuts to modernization and readiness and slow the process of rebalancing the force. We need congressional support to achieve a Total Army solution.

CONCLUSION

Throughout our history we have rapidly grown our Army for wars, and then downsized at war's end. Our Army will be smaller than it was in 2001 and the smallest it has been since before World War II, with less capacity to deter aggression, reassure allies, defend the homeland, and decisively defeat adversaries. Invariably, there will be a period of hollowness and decreased readiness during the downsizing, but the severity of cuts combined with the unpredictability of the current budget environment and ongoing worldwide commitments has overly complicated our challenge of keeping the force in balance. Yet we must strive to achieve this balance as we cannot predict when our Nation will chose to employ the Army again. If history is any indicator, the Army will be needed in the next two decades to fulfill our commitments, secure the Nation's interests, and defeat aggression that threatens American citizens or territory. We have also learned, in the desert passes of North Africa, in the mountains of Korea, and on the streets of Iraq, that the penalty for improperly managing the readiness of our forces ultimately falls on the backs of our fighting soldiers. It is our solemn duty to ensure our Army is prepared to fight when called upon.

Chairwoman Shaheen, Ranking Member Ayotte, and members of the subcommittee, I thank you again for your steadfast and generous support of the outstanding men and women of the U.S. Army, our Army civilians, families, wounded warriors, and veterans. Army Strong!

Senator SHAHEEN. Thank you.

I apologize, we have about 3 minutes left for a vote, so I think we're going to recess for about 10 minutes. Hopefully, we can get

this vote in, and the beginning of the next one, and we'll back to hear the rest of the testimony.

Thank you. [Recess.]

Let me officially call the hearing back to order. Senator Ayotte is about a minute behind me. As usual, the votes took a little longer than expected. I think we're going to continue with the testimony.

If I could ask, I hate to do this to all of you, having given General Campbell more time, but if you could limit your remarks to about 5 minutes, that might help us get through the testimony quicker.

What we're going to try and do for the next votes is switch off so that either Senator Ayotte or I are here during those votes.

General Paxton, if I can ask you to begin.

Thank you.

STATEMENT OF GEN. JOHN M. PAXTON, JR., USMC, ASSISTANT COMMANDANT, U.S. MARINE CORPS

General PAXTON. Thank you, Chairwoman Shaheen. To you and Ranking Member Ayotte and the rest of the subcommittee, I appreciate the opportunity to report on the readiness of the U.S. Marine Corps.

Today, your Corps is committed to continuing to remain our Nation's force in readiness and a force that's truly capable of responding to any crisis around the globe at a moment's notice. As we gather today, there are 30,000 marines forward-deployed around the world, promoting peace, protecting national interests, and securing our defense. There are more than 6,000 marines today in Afghanistan, and they continue to make a huge difference to our Nation, our allies, and the world.

In all, your marines who are forward remain well-trained, well-equipped, well-led, and at the highest state of readiness. That readiness was proven many times, but at least twice significantly in the last year, where the Marine Corps displayed its agility and responsiveness. First, in November, in the aftermath of the super-typhoon that struck the Philippines, and then shortly thereafter, in December, with the rescue of American citizens over South Sudan in December. In both of those, it demonstrated the reality and necessity for maintaining a combat-ready force that's capable of handling today's crisis today. Such an investment is essential to maintaining our national security and our prosperity in the future.

I appreciate the opportunity today to talk about readiness and our ability to maintain it in the future, and how that is tied imminently directly to the fiscal realities that our Nation and our Department of Defense (DOD) face in the budget crisis.

As our Nation continues to face fiscal uncertainty, we're making the necessary choices to protect our near-term readiness and to place the Marine Corps on the best trajectory to meet all those future defense requirements. I look forward to elaborating on examples of the choices that we have made and how they impact our training proficiency, our equipment maintenance, and our unit readiness, to name a few.

As we navigate the fiscal crisis, and as we talk here today, I would just remind you that we look at things through five lenses

or five pillars around the Marine Corps. Our first pillar is to recruit and retain high-quality people. The second one is to maintain the highest state of unit readiness. The third one is to meet all the combatant commanders' requirements for our marines. The fourth one is to ensure that we maintain appropriate infrastructure investments. The fifth one is to keep an eye on the future by investing in capabilities that we'll need to meet tomorrow's challenges.

With that, ma'am, I will curtail the rest of the oral statement and ask that you take the written statement for the record. I look forward to your questions.

Thank you, Senator.

[The prepared statement of General Paxton follows:]

PREPARED STATEMENT BY GEN. JOHN M. PAXTON, JR., USMC

Chairwoman Shaheen, Senator Ayotte, 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 Marine Corps readiness and our fiscal year 2015 budget request for operations and maintenance. We appreciate congressional support for the readiness of our force.

Today, the Marine Corps, as it has since 1775, remains the Nation's crisis response force. Continuing to fulfill this role is our top priority. We have earned a reputation as the Nation's most forward deployed, ready, and flexible force. The performance of marines over the past year underscores the fact that responsiveness and versatility is in demand as much today as it will be in the future. Marines formed the leading edge of the U.S. humanitarian response to the disaster in the Philippines and assisted in the evacuation of U.S. embassy personnel in Juba, South Sudan, all while engaging in combat operations in Afghanistan and providing forward presence around the globe.

Currently, there are more than 6,300 Active and Reserve marines forward deployed in support of Operation Enduring Freedom (OEF) in Afghanistan, a reduction of over 2,000 marines over the past year. The transition to advisory and mentoring roles has led to successes for the Afghan National Security Forces.

Additionally in 2013, the Marine Corps supported all six geographic combatant commands with task-organized units that conducted over 200 Theater Security Cooperation (TSC) engagements including TSC exercises, bilateral exercises, and military-to-military engagements with the armed forces of more than 50 partner nations to build partner capacity. In short, marines stand ready and able to respond to future incidents that threaten our Nation's interests regardless of the location or the nature of the occurrence.

CURRENT READINESS

The Marine Corps is committed to remaining the Nation's Force in Readiness, a force truly capable of responding to a crisis anywhere around the globe at a moment's notice. Readiness is the critical measure of the Marine Corps' ability to be responsive and capable. Marines are forward stationed and forward-deployed, protecting the Nation's security by conducting operations that defeat and deter adversaries, support partners, and create decision space for our national-level leaders.

We fully appreciate that our readiness today and the ability to maintain it in the future are directly related to the fiscal realities of the Department of Defense's budget. As our Nation continues to face fiscal uncertainty, we are making hard but necessary choices to protect near term readiness and place the Marine Corps on the best trajectory to meet future defense requirements. We are protecting readiness with the realization that our infrastructure sustainment and modernization investments will be negatively impacted over the long term as we prioritize limited resources to ensure a ready force now. Such tradeoffs portend future increased costs and risks to the long-term readiness of the Marine Corps.

As America's crisis response force, however, your Corps does not perceive a choice. We are required to maintain an institutional posture and mindset that facilitates our ability to deploy ready forces tonight. Programing for acceptable less-ready unit status is not an option for the Marine Corps. However, as we continue to face the possibility of full implementation of the Budget Control Act from fiscal year 2016 to fiscal year 2021, we may well be forced into adopting some short term or limited scope variations with selected less-ready units over the next few years.

Taking these realities into account, the Marine Corps' principal concerns going forward are the readiness of our nondeployed units and the reconstitution of the whole-of-force after over a decade of unprecedented sustained conflict. The Marine Corps can sustain its current operational requirements on an enduring basis; however, to maintain the high readiness of our forward deployed units, we globally source equipment and personnel from our nondeployed units, or bench. Ultimately, readiness comes at a cost and the high readiness of deployed forces comes at the expense of our nondeployed units.

Our nondeployed forces' principal unit readiness detractor is the availability of key items of equipment at the unit level with which to outfit and train units. Based on steady state operations and emerging requirements, the Marine Corps has accepted risk to both personnel and equipment readiness of our nondeployed units in order to fully support forces forward deployed. Currently, slightly more than 50 percent of our nondeployed units are experiencing degraded readiness in their ability to execute core missions. Approximately 62 percent of nondeployed units have equipment shortfalls and 33 percent are experiencing personnel shortfalls necessitated by the effort to ensure that forward deployed units are 100 percent manned and equipped. Such realities portray the imbalance of readiness across the Marine Corps. This however cannot be our long-term solution to the whole-of-force readiness, since our nondeployed operating forces serve as an insurance policy, providing a timely response to unexpected crises or large-scale contingencies. If those units are not ready, it could mean a delayed response to resolve a contingency or to execute an operations plan.

In regards to reconstitution, the Marine Corps is not conducting an "operational pause", whereby we will have the luxury of focusing exclusively on resetting wartorn equipment and reconstituting the force. The Marine Corps' focus is being ready to respond to unforeseen crises, source rotational units, and meet the ever-increasing demand for theater security cooperation, under the "New Normal." It should be noted that our reconstitution efforts remain almost exclusively reliant on Overseas Contingency Operations (OCO) funding. Overly steep reductions, or the outright loss of OCO funding, will significantly impact the ability to reset equipment thus causing depot backlogs and subsequently placing readiness at risk.

The risk to the Nation is too great to allow the readiness of the Marine Corps to be degraded. Fiscal year 2015 funding levels protect current readiness; however, they do so at the expense of the infrastructure sustainment and equipment modernization, which are keys to protecting future readiness. This is a logical choice given the current fiscal situation, but it is not sustainable over time. Ignoring the impact of this required trade-off for any sustained period will adversely affect the force in the long term, and create unacceptable risk for our national defense.

RESETTING THE FORCE

Reset is a subset of reconstitution and comprises the actions taken to restore units to a desired level of combat capability commensurate with the unit's anticipated future missions. After more than a decade of combat, this requires an unprecedented level of effort. The Marine Corps is resetting its forces "in stride" while fighting the war in Afghanistan and transitioning to meet Defense Strategic Guidance and "New Normal" requirements.

The Marine Corps' Operation Enduring Freedom Ground Equipment Reset Strategy, released in January 2012, guides the execution of our reset and divestiture strategy. The reset strategy prioritizes investment and modernization decisions to develop our force. Last year our reset liability was estimated at less than $3.2 billion. We continue to make significant progress on resetting our equipment with the help of joint partners such as U.S. Transportation Command and the Defense Logistics Agency. Today, we estimate that our remaining ground equipment reset liability, from fiscal year 2015 through the end of the reset mission, is approximately $1 billion. We anticipate further refinements as we drawdown further and gain a more refined perspective on both the totality of the costs associated with returning our equipment from Afghanistan and the detailed costs associated with resetting that gear after more than 12 years of combat. We will continue to ask for only the OCO funds we know we need to reset our force from OEF, and I note that DOD's final fiscal year 2015 OCO request will depend on policy decisions about our enduring presence in Afghanistan that have not yet been made.

The Marine Corps is on track to complete redeployment of people, equipment, and sustainment per the established timeline of the Commander, International Security Assistance Force. The Retrograde and Redeployment in support of Reset and Reconstitution Operational Group (R4OG) is a vital element to the Marine Corps' responsible drawdown from Afghanistan and the successful execution of the Ground Equip-

ment Reset Strategy. The R4OG was formed in May 2012 and represents the largest portion of the Marine Corps' contribution to the U.S. Central Command Materiel Recovery Element and is tasked with preserving the operational capacity of combat units by shouldering the load of clearing the battle space of equipment, supplies, and sustainment stocks. The R4OG is focused on accountability and efficiency within the redeployment and retrograde process. To date, the R4OG has retrograded 25,800 Marine Corps equipment items valued at more than $576 million, repaired more than 2,500 shipping containers, processed more than $230 million of excess/serviceable ammunition, and has facilitated the retrograde of more than 5 million square feet of aviation matting (AM2). Overall, since the start of OEF retrograde operations in 2012, the Marine Corps has retrograded 77 percent of its equipment items; over 75 percent of the supplies, repair parts, and ammunition; and more than 98 percent of its AM2 matting at the high point of operations in Afghanistan.

DEPOT CAPACITY

The bulk of ground equipment reset execution is occurring at our depot. The continued availability of depot capacity at our Marine Depot Maintenance Command, consisting of depots at Albany, GA and Barstow, CA is critical to our ground equipment reset strategy, and our ability to reconstitute the force by 2017. The Marine Corps' total OEF ground equipment reset requirement includes approximately 71,000 principal end items. About 77 percent of those items have begun the reset process, and just over 40 percent of our total requirements are reset complete. With support of the fiscal year 2015 baseline and our anticipated OCO request, we continue on the path to being able to complete the reset of ground equipment on time, avert backlogs, and return equipment to our Operational Forces as rapidly as possible.

With regards to Marine aviation, the Bipartisan Budget Act (BBA) provides the Department of the Navy with funding relief to buy down the previous backlog of airframes and engines; however a depot backlog still remains. The Marines Corps' F/A–18A–D depot backlog continues primarily due to increased turnaround time and reduced throughput for aircraft undergoing depot maintenance. The Marine Corps currently has 264 F/A–18s in its inventory, 132 of which are currently Out of Reporting (OOR). Having 132 F/A–18's OOR increases operational risk and creates significant challenges in managing the inventory. Each F/A–18 squadron requires 12 aircraft per squadron to maintain minimum deployable combat readiness (C2). Of our 12 squadrons, 5 are deployed at any given time. The reductions to depot throughput have resulted in nondeployed squadrons having only 6 aircraft available for training and operational support. The long-term effect on nondeployed marines F/A–18 squadrons is the inability of the unit to achieve and maintain minimum deployable combat readiness required for follow-on deployments or contingency response. Continued support for aviation depots, and F/A–18A–D sustainment and upgrade initiatives are vital for achieving aircraft flight line requirements, and ensuring the platform remains lethal, survivable, and relevant through the transition to the F–35 Joint Strike Fighter (JSF).

The Marine Corps requires continued funding to complete the reset of equipment still being utilized overseas, to reconstitute home station equipment, and to modernize the force. Any reduction in the fiscal year 2015 baseline request, as well as to the anticipated OCO request, will defer maintenance requirements to out-years, thus increasing the backlog of equipment requiring service. Sustained funding reductions such as sequestration cause a ripple effect eventually leading to a backlog that will adversely affect near- and long-term readiness. Simply put, training a unit with only half of their complement of equipment is not possible. When these units are called on to prepare for deployment, they will begin with a training deficit that may be insurmountable.

POSTURED FOR STEADY STATE AND CRISIS RESPONSE

The Marine Corps has a strategic trajectory to reconstitute to a ready force to meet the Defense Strategic Guidance for both steady state requirements and crisis response contingencies. The fiscal year 2015 budget contains funding for the Special Purpose Marine Air Ground Task Force—Crisis Response (SPMAGTF–CR) and Marine Corps Embassy Security Group expansion that were added in the fiscal year 2014 Omnibus Appropriations Bill. These initiatives will leverage the Corps' crisis response capability through lighter, more agile, forward-deployed forces to meet combatant commander and Department of State demands across the globe. Additionally the rebalance to the Pacific remains a top priority as reflected by continued resourcing of the Unit Deployment Program and operational units based in the Pacific region.

As we drawdown the Marine Corps' Active component end-strength from a wartime high of 202,000 marines, we took the appropriate steps to redesign a ready force by fiscal year 2017. Our reconstitution efforts will restore and upgrade our combat capability and seek to ensure our units are ready for operations across the range of military operations. Over the past 3 years, we undertook a series of steps to build our current force plan. In 2010, our Force Structure Review Group utilized the Defense Strategic Guidance and operational plans to determine that the optimum size of the Active component Marine Corps should be a force of 186,800. However under the fiscal year 2012 Defense Strategic Guidance and constraints of the 2011 Budget Control Act, we estimated that a force of 182,100 Active component marines could still be afforded, with the realization that reductions in modernization and infrastructure support would be difficult but necessary to sustain optimal readiness levels.

Prior to the Quadrennial Defense Review, we came to the difficult understanding that, under the threat of continued sequestration or some variant, an Active-Duty Force of 175,000 marines is what our Nation can afford, when coupled with very steep cuts to USMC modernization and infrastructure accounts. This significantly reduced force is a "redesigned" Marine Corps capable of meeting steady state requirements. We will still be able to deter or defeat aggression in one region, however with significant strain on the force and increased risk to mission accomplishment everywhere else.

The redesigned force is built to operate utilizing the familiar Marine Air-Ground Task Force construct, but it places a greater emphasis on the "middleweight" Marine Expeditionary Brigades (MEB) and their highly versatile and scalable MEB Command Element or headquarters. These MEB headquarters will be prepared to serve as a ready crisis response flag-level, JTF capable command element for the Joint Force. The redesigned force will also persistently deploy SPMAGTFs and Marine Expeditionary Units (MEU) to provide combatant commanders ready forces for a broad range of missions.

Essential for augmenting and reinforcing our Active-Duty Force is our Marine Corps Reserve. As an integral part of our Total Force, our Reserve marines have, for the past 13 years, been engaged in combat operations in Iraq and Afghanistan, as well as in regional security cooperation and crisis prevention activities in support of geographic combatant commander's requirements. This operational tempo built a momentum among our Reserve warfighters and a depth of experience throughout the ranks that is unprecedented in our current Reserve Force.

Just as we are reshaping our Active Force, so too are we reducing the end strength of our Reserve Force. Within the fiscal year 2015 budget we plan to achieve a Selected Reserve end strength of 38,500 marines by the end of fiscal year 2017, down from a current end strength of 39,600. Despite this reduction in end strength, our Reserves remain well postured to provide operational capability and capacity to the Active Force during both peacetime steady-state operations and crisis response contingencies.

Maintaining a high state of readiness within the current and near-term fiscal climate will be challenging for marines and their equipment. For example, the desired 186,800 force supported a 1:3 deployment-to-dwell ratio to meet emerging steady state demands. The redesigned 175,000 force reduces our availability to a 1:2 dwell ratio for our operational units. This 1:2 ratio is the same operational tempo we operated under during much of the past decade, while engaged in combat and stability operations in Iraq and Afghanistan. It is supportable in the short-term and mid-term, but long-term sustainability may need to be revisited.

The redesigned force will retain the ability to generate seven rotational Marine Expeditionary Units, with one deployer from the east coast, one deployer from the west coast, and one deployer from Okinawa. Special Purpose Marine Air Ground Task Forces (MAGTF) will respond to the greater demand for multi-role crisis response forces, as seen in Libya and South Sudan. The Marine Corps also remains fully committed to expanding embassy security by adding approximately 1,000 Marine Corps Embassy Security Guards as requested by Congress.

Lastly, to support the rebalance to the Pacific, we prioritized our Pacific theater forces activities in the new force structure. Despite end strength reductions, III Marine Expeditionary Force—our primary MAGTF in the Pacific—remains virtually unaltered. We also restored Pacific efforts that were gapped during Operation Enduring Freedom, including multiple exercises and large elements of the Unit Deployment Program. A rotational presence in Darwin, Australia also expands engagement opportunities and regional influence. By 2017 we will have approximately 22,000 marines operating and forward postured within the Pacific theater.

FIVE READINESS PILLARS

To achieve institutional readiness, sustain operational requirements, and be prepared for crisis and contingency response, we must restore and maintain a balance for our Marine Corps across five pillars as outlined in previous posture statements and congressional testimony, these remain:

- High Quality People
- Unit Readiness
- Capacity and Capability to Meet Requirements
- Infrastructure Sustainment
- Equipment Modernization

High Quality People

The recruiting and retention of high quality people are essential to maintaining a highly ready and professional force. We require the right quantities and occupational specialties to fulfill our role as an expeditionary force in readiness. Critical enablers of recruiting and retaining a high quality force are appropriate levels of compensation and benefits; we thank Congress for its focus on this very important issue. We rely on Congress' continued support for pay and benefits, incentive pays, and selective reenlistment bonuses to meet future challenges and shape the All-Volunteer Force to meet emerging defense strategies.

The Marine Corps is committed to attracting, mentoring, and retaining the most talented men and women, who bring diverse backgrounds, cultures, and skills in service to our Nation. The Nation's changing demographics continue to push diversity to the forefront as a strategic issue. The Marine Corps is working toward completion of the first phase of a landmark diversity initiative centered around four diversity task forces: (1) Leadership, Mentoring, and Accountability; (2) Culture and Leading Change; (3) Race and Ethnicity; and (4) Women in the Marine Corps. Recommendations from these task forces will form the basis of a comprehensive strategy to manage talent and enable the Marine Corps to improve diversity and inclusion across the Corps.

Our civilian marines support the mission and daily functions of the Marine Corps and are an integral part of our total force. They serve alongside our marines in uniform all around the world. This workforce is the leanest of all Services, with a ratio of 1 appropriated-funded civilian to every 10 Active Duty marines (1:10). Additionally, our civilian labor represents less than 5 percent of the Marine Corps' total Operations and Maintenance (O&M) budget. More than 95 percent of our civilians are located outside the Pentagon at our bases, stations, depots, and installations. Civilian marines provide stability in our training and programs when our marines rotate between units, demonstrating that our "best value" for the defense dollar applies to the total force. As we move forward we will continue to keep faith with our All-Volunteer Force of Federal civilians.

The Marine Corps' Wounded Warrior Regiment (WWR) functions as a central pillar of our pledge to "keep faith" with those who have served. Whether a marine is wounded in combat, suffering from a chronic unresolved illness, or injured in a training accident, the WWR remains committed to providing comprehensive recovery care. For the Marine Corps, recovery care is not a process. Instead it is the holistic approach to the well-being entirety of our marines and their families. Ultimately marines and their families, Congress, and the public at large can be reassured that the Marine Corps, through the WWR, will continue recovery care in times of war and relative peace.

Unit Readiness

This pillar upholds the importance of maintaining and shaping the readiness of the operating forces, to include the necessary O&M funding to train to core missions and maintain equipment. Our focus is on training to our core expeditionary and amphibious mission capabilities, while further restructuring unit and institutional training for emerging security demands. Marine Expeditionary Force and MEB readiness continues to improve with larger scale exercises focusing on honing maneuver and amphibious capabilities not often utilized over the past decade. We anticipate incremental increases in the core training readiness of units as marines and equipment flows back from Afghanistan. The availability and readiness of amphibious and Maritime Prepositioning Ships and equipment are critical components in building and maintaining readiness for expeditionary, amphibious operations. We thank Congress for the continued support to funding the needed amphibious and maritime prepositioning ships essential to protecting our Nation's defense and economy.

The fiscal year 2015 budget continues to support the Marine Corps' Service-level training program by fully funding an Integrated Training Exercise (ITX) program designed to recover full spectrum readiness. The ITX provides training for up to 10 infantry battalions, 5 artillery battalions, 5 logistics battalions, 25 flying squadrons, and additional aviation support elements. Additionally, high altitude and mountainous terrain exercises at our training center in Bridgeport, CA, will train up to 2 infantry battalions with limited flying squadrons and logistics units, and typically will include joint, coalition, and Special Operations Forces. Continued funding for Service level training is imperative as we drawdown from Afghanistan and prepares the whole-of-force for all manner of crisis and contingencies around the globe.

Capability and Capacity to Meet Requirements

Force-sizing to meet requirements, with the right mix of capacity and capability, is the essence of this readiness pillar. The confluence of the "New Normal" and possible sequestration-level funding, challenged the Marine Corps to adopt its future force posture and generate capabilities adaptable to a variety of operational requirements. The USMC Future Force Posture Plan improves the forward deployed Marine force posture and provides more flexibility in employing the Amphibious Ready Group/Marine Expeditionary Unit for geographic combatant commanders. Forward presence of marines ashore and afloat reduces response times and enables the Marine Corps to better shape the security environment for appropriate crisis response or follow-on joint force operations. Furthermore, the Future Force Posture Plan will provide reach-back capability for additional Marine Corps continental United States-based Crisis Response forces, providing the national leaders with a myriad of crisis response options, while gaining efficiencies in meeting requirements. These future force posture additive capabilities to meet "New Normal" missions will in time improve the readiness and responsiveness of the Marine Corps.

The Marine Corps provides combatant commanders with regionally focused and trained forces to meet their growing demand for theater security cooperation engagements. However, this demand continues to increase beyond the capacity of any single Service. The Navy is uniquely capable of using the sea and waterways as maneuver space as well as providing combatant commanders with persistent, self-sustaining, sea-based forces to meet the full spectrum of security cooperation requirements. The Navy and Marine Corps are executing a coordinated and integrated approach as described in the recently signed Maritime Security Cooperation Policy (MSCP). The MSCP will provide combatant commanders with maritime-specific solutions to their TSC objectives.

We have developed a cadre of officers and staff noncomissioned officers (NCO) with a sophisticated understanding of international security environments in order to facilitate engagements with partner nations and assist the Marine Corps on the asymmetric battlefields of the future. These marines support military operations with an expanding number of coalition partners in a diverse set of geopolitical conditions around the world. Our Foreign Area Officers and Staff NCOs develop professional Language, Regional Expertise, and Cultural (LREC) knowledge capabilities and insights to help MAGTF, joint, and coalition commanders understand the complex human environment where marines deploy. Today's operating environment demands a degree of LREC capability that requires years, not weeks, of training and education, as well as a greater understanding of the factors that drive social change.

Our Corps' future forces will be guided by the principles outlined in our Capstone Operating Concept: Expeditionary Force 21. This document is our vision for designing and developing the force that will continue to fulfill these responsibilities. It is however more than a vision—it is also an actionable plan and a disciplined process to shape and guide our capability and capacity decisions while respecting our country's very real need to regain budgetary discipline. True to our expeditionary ethos, we will work with a clear-eyed view of what will be asked of us and seek only what we believe is necessary. Nimble by organizational design and adaptive by culture, we will rely on open-mindedness and creativity and make the best of what we have. Through Expeditionary Force 21 we will chart a course over the next 10 years to field a Marine Corps that will be the right force in the right place at the right time.

Infrastructure Sustainment

Readiness also depends on the availability and condition of real property and infrastructure. Adequately resourcing the sustainment of Marine Corps bases and stations is essential to safeguarding unit readiness as they provide the means by which units conduct training to deploy. The need to be better stewards of our installations and facilities grows as resources become more constrained. The Marine Corps is depending on the fiscal year 2015 budget to preserve today's facilities at a condition

necessary to support those preparing for upcoming missions and deployments as well as support their families.

The Marine Corps continues to accept risk in this pillar, reducing funding for several programs that will affect long-term installation readiness including military construction (MILCON) and restoration and modernization projects. During fiscal year 2008 through fiscal year 2014, Congress generously provided the Marine Corps $11.4 billion in military construction for new facilities to maintain state-of-the-art aircraft, improved live-fire training ranges, armories, new applied and academic instruction facilities, physical fitness facilities, child care centers, barracks, and command and control buildings. We request Congress' continued support in the protection of these investments and those of facilities sustainment and demolition, family housing, environmental management, energy conservation, and essential MILCON funding to support critical programs, units, and institutions such as infantry regiments, the JSF, MV–22, and Marine Corps Security Forces Consolidation. The fiscal year 2015 budget baseline request supports the Marine Corps investment to sustain facilities and allows us to budget to 75 percent of the Office of the Secretary of Defense facility sustainment model, returning to 90 percent in fiscal year 2016 through fiscal year 2019.

Equipment Modernization

To bolster investments in personnel and unit readiness, the Marine Corps has accepted the greatest amount of risk in its equipment modernization budget. The Marine Corps' ground and aviation equipment must meet the needs of current and emerging security environments. As the Marine Corps explores options to adjust to changing fiscal realities, there is a clear imperative to upgrade and modernize legacy equipment used in OEF and Operation Iraqi Freedom. Aging ground platforms, such as the nearly 40-year-old Amphibious Assault Vehicle (AAV), underscore the need for investment in modernization and service-life extensions to guarantee dominance over future threats. Aging platforms are becoming simultaneously more expensive to operate and harder to maintain.

Our modern expeditionary force will require fixed wing aircraft capable of flexible basing ashore or at sea in support of our Marine units. The JSF is the best aircraft to provide that support today and well into the future. Likewise, a core capability of our expeditionary forces is the ability to project forces ashore from amphibious platforms and to maneuver once ashore.

The Expeditionary Fighting Vehicle (EFV) was envisioned as a "leap ahead" replacement for our current AAV that would provide high speed, long-range maneuver capability in both the seaward and landward portions of the littoral. Three years ago, we cancelled the EFV program to explore more affordable alternatives for an amphibious combat vehicle (ACV). We established an Amphibious Capabilities Working Group that examined current and emerging intelligence, surveillance, and reconnaissance capabilities, strike capabilities, and their integration into potential adversaries' approaches to anti-access, area denial. We noted, with particular concern, the impact of future loitering top-attack munitions and the proliferation of guided rockets, artillery, missiles, and mortars.

From this threat assessment, we concluded that we would either need to expand the scope and duration of our shaping operations, launch our forces from greater range than the 10–25 nautical miles offshore previously postulated, or apply some combination of these actions. Next, as part of the Marine Personnel Carrier (MPC) program we examined commercial off-the-shelf/non-developmental wheeled combat vehicles and discovered several important points. First, modern wheeled vehicles have substantially closed the maneuver performance gap that previously existed between tracked and wheeled vehicles. These new eight wheeled vehicles have exceptional cross country performance and some limited swimming capability.

We concluded that our concepts for operational maneuver from the sea and ship-to-objective maneuver remain valid, but that we will execute them by evolving a somewhat different "toolkit" than originally envisioned. The current ACV program has been re-crafted to reflect a family of systems approach to the military problem—the necessity to conduct amphibious operations from further offshore while enhancing protected mobility for the mission on land. It leverages experience gained in the EFV program, the MPC program, threat analysis, and combat experience. The ACV program will immediately pursue a medium weight wheeled armored personnel carrier with acceptable swimming capability close to shore. Concurrently, risk over the midterm will be mitigated through a survivability upgrade to a number of our current self-deploying AAVs to extend their service life through at least 2030. In concert with the Navy, we will continue to explore capabilities that better enable us to conduct extended range littoral maneuver from ship to objective via high speed surface connectors.

Informed by our planning for potential and resultant POM15 budget decisions, we have the foundation to conservatively adjust our ground combat and tactical vehicle strategy and yet enhance this core competency across a wide array of capabilities. We will develop and procure the Joint Light Tactical Vehicle, while maintaining critical modification programs for our tank, LAV, and HMMWV fleets, in conjunction with our assault amphibian modernization efforts. We will continue to assess our ground vehicle portfolio in order to inform forthcoming budgetary decisions.

PARTNERED WITH THE NAVY

We share a rich heritage and maintain a strong partnership with the U.S. Navy. Sea-based and forward deployed naval forces provide day-to-day engagement, crisis response, and assured access for the Joint Force in a contingency. The availability of amphibious shipping is paramount to our readiness. The Marine Corps' requirement for amphibious warships continues to be at 38 platforms. However, due to fiscal realities the Marine Corps and Navy agreed to a fiscally constrained minimum of 33 total amphibious warships to support two MEB assault echelons. The Navy's inventory to date is 30 total warships. When accounting for steady-state demand and maintenance requirements we are realizing that far fewer platforms are readily available for employment. In the near term, the Navy and Marine Corps are looking at alternative platforms that can complement the current amphibious inventory.

Partnered with the Navy, we will continue to pursue innovative concepts for maritime expeditionary operations with platforms such as the Joint High Speed Vessel, the Mobile Landing Platform, and the Afloat Forward Staging Base. As new maritime prepositioning force ships are integrated into the Maritime Prepositioning Ships Squadrons, they will provide additional operational benefits to the combatant commanders, such as an over-the-horizon surface connector capability and better selective access to equipment and supplies.

A critical component in building, training, and maintaining an expeditionary forward presence is the availability and readiness of amphibious ships. The combat readiness of our amphibious ships is a foundational requirement for expeditionary force presence, and when required, amphibious force projection. The Navy has acknowledged that low amphibious ship availability and readiness can present a significant challenge to the training readiness of our Naval Expeditionary Forces and is addressing maintenance readiness shortfalls. Since 2010, the average deployment length for a West Coast and East Coast Amphibious Ready Group/Marine Expeditionary Unit has been 223 days and 274 days respectively. This high duration of deployment lengths combined with a high operational tempo, reduced ship inventory, and deferred/compressed maintenance periods demonstrate the imperative to maintain planned/scheduled maintenance cycles and to build adequate inventory. These have a direct impact on the readiness of the amphibious fleet and on ensuring the ships reach their service life.

An example of the importance of ship maintenance and availability occurred during disaster relief efforts in the Philippines in the wake of Typhoon Haiyan. Although two forward deployed amphibious ships were able to provide some assistance to Operation Damayn, the larger and more capable amphibious ships could not leave port due to maintenance; restricting the amount of supplies and relief that the MEU could provide.

Continued congressional support for the Navy's shipbuilding and surface ship-to-shore connector plans is vital to the Nation's ability to retain and maintain an adequate fleet of modern combat-ready amphibious ships, which can provide continuous naval expeditionary presence and project power across the globe whenever and wherever needed. In September 2013, the Commandant of the Marine Corps, Chief of Naval Operations, and Commandant of the Coast Guard signed the Maritime Security Cooperation Policy. This tri-service policy prescribes a planning framework for Marine Corps, Navy, and Coast Guard headquarters, regional components, and force providers with the goal of providing combatant commanders an integrated maritime approach to security cooperation in support of national security objectives.

Throughout more than a decade of sustained operations ashore in Iraq, Afghanistan, and elsewhere, we continued to deploy thousands of marines aboard amphibious warships around the globe. The Navy and Marine Corps remains postured to provide persistent presence and engagement, maintaining a constant watch for conflict and regional unrest. The Navy-Marine Corps relationship has never been better; we will continue to advance our shared vision as our Nation transitions from protracted wars ashore and returns its focus to the maritime domain.

CONCLUSION

On behalf of the Marine Corps and sailors who provide this Nation with its versatile, reliable, middleweight force in readiness, I thank Congress for your constant interest in and recognition of our challenges. We are proud of our reputation for frugality and remain one of the best values for the defense dollar. In these times of budget austerity, the Nation continues to hold high expectations of its Marine Corps, and our stewardship of taxpayer dollars. The Marine Corps will continue to meet the needs of the combatant commanders as a strategically mobile force optimized for forward-presence, and crisis response. Your continued support is requested to provide a balance across the five readiness pillars, so we can maintain our institutional readiness and, as you charged more than 60 years ago, "be most ready when our Nation is least ready."

Senator SHAHEEN. Thanks very much. We will certainly include the full statement for the record.

General Spencer.

STATEMENT OF GEN. LARRY O. SPENCER, USAF, VICE CHIEF OF STAFF, U.S. AIR FORCE

General SPENCER. Madam Chairwoman, Ranking Member Ayotte, thank you for the opportunity to share the Air Force's current readiness posture.

Readiness is critical for your Air Force. The Air Force's range, speed, and agility enable us to quickly respond to national missions, and gives our Nation an indispensable advantage that we must retain as we plan for an uncertain future. Whether responding to a national security threat or humanitarian crisis, your Air Force is expected to respond in hours, not days, from home to anywhere in the globe.

The cornerstone of our success depends on airmen who are highly-trained, well-equipped, and always ready to defeat any adversary across the range of operations, from the present day counterinsurgency environment to a highly contested one. Decades of sustained combat operations have stressed our force and decreased our readiness to unacceptable levels. Our airmen have performed exceptionally well in the counterinsurgency and counterterrorism fights in the U.S. Central Command (CENTCOM) area of responsibility, as have all our other joint and coalition partners. However, our focus on the current fight has seriously impacted our readiness to effectively operate in contested environments and against potential adversaries that have access to ever-increasing levels of advanced warfighting technology. We will continue to maintain our ability to respond to today's requirements, but we must also regain and maintain our ability to effectively operate in the most demanding threat environments.

The bottom line is that, from a readiness perspective, we know we are not where we need to be, but our fiscal year 2015 President's budget submission sets the conditions that enable us to begin the road to recovery in the years ahead. But, we will need your help to get there.

The Air Force defines "readiness" as the ability, at the squadron level, to provide distinct operational capabilities within the required timeframe. This means we need to have the right number of airmen, with the right equipment, trained to the right skill level, and with the right amount of support, force structure, weapons, and supplies to successfully accomplish what the Nation asks us to do. A good readiness plan depends on an optimum level of health

in all of these areas while also balancing time between critical operational and training commitments.

Sequestration has cut the Air Force budget by billions of dollars, so our only option is to reduce our force structure. We cannot retain more force structure than we can afford to keep ready. As such, readiness requires more than just flying hours and exercises. Our plan involves preferred munitions, developing training environments, both open-air ranges and virtual simulated environments that accurately replicate the threats we may face, and modernization efforts that help us maintain our technological advantage in war. Readiness also includes facilities and installation support, because, whether it's Whiteman Air Force Base in Missouri, home of our B–2 fleet, or Kunsan Airbase in Korea, home of the Fighting Wolfpack, in many cases we literally fight and power-project from our assigned bases.

Weapon sustainment health is also critical to our readiness plan. For example, as a former vice director of the Oklahoma City Air Logistics Center at Tinker Air Force Base, I was able to see first-hand how our major logistics complexes contribute to the sustainment and readiness of aircraft such as our B–1, B–2, B–52, E–3 AWACS, and KC–135, as well as repair and management of 19 different types of aircraft and missile engines. Said another way, while adequate flying-hour funding ensures the aircraft on the ramp are ready to fly, weapon-system sustainment funding ensures we have adequate numbers of aircraft on the ramps. Keeping aircraft in the air, satellites in space, and protecting our network systems require a team effort and is a synergy of critical skills, tools, and capabilities that culminate in the ability to deliver combat power for the Nation.

To be clear, last year's sequestration trigger placed the Air Force readiness posture at an unacceptable level of risk that we are still working to recover from. The abrupt and arbitrary cuts caused the Air Force to stand down 31 Active component squadrons, 13 of which were combat-coded. Today, less than 50 percent of those combat squadrons that were stood down have returned to their pre-sequestration levels of readiness, which, again, were already less than required. The loss of time and experience flying, maintaining, supporting, and integrating those aircraft equated to a loss of critical readiness for our airmen across our operations, maintenance, logistics, and support force. If we miss training opportunities or our squadrons are forced to stand down, it may take months, or even years, to regenerate that global combat power, and we negate the responsiveness that is one of air power's inherent advantages. We desperately need your help to detrigger sequestration going forward.

Guiding our strategy and budget process were the Air Force's unique capabilities and the requirements to gain and maintain readiness for the full spectrum of operations. We describe full-spectrum operations as operations that span the range of low-intensity conflict to major regional conflicts against near-peer adversaries. We appreciate the temporary relief the Bipartisan Budget Act provides. It puts us on a gradual path to recovery. But, our analysis indicates it will not fix the Air Force's readiness during the Future Years Defense Program (FYDP). Air Force readiness is heavily in-

fluenced by ongoing operations as time and resources are consumed in supporting current operations, limiting opportunities to train to the full spectrum of potential operations.

As demonstrated recently after the conclusion of major combat operations in Iraq, there will continue to be a high demand for Air Force capabilities, even in the wake of post-combat drawdowns of deployed ground forces. If we are not able to train for the scenarios across the full range of military operations and continue with critical modernization efforts, we face unacceptable risk to mission accomplishment and to our Joint Forces.

To conclude, Madam Chairwoman, today's Air Force provides America an indispensable hedge against the challenges of an uncertain future. Properly trained and equipped, your Air Force can set the conditions for success in any conflict in any region of the world whenever we're called upon. Sequestration and the demands of sustained combat operations have decreased our ability to train across the full spectrum of operations. We have a plan to slowly fix our readiness, but we need your help to make sure we can get there. With your support, we can make the right cuts and provide our airmen with the resources they need to prepare and to respond when called upon.

Thank you. I look forward to your questions.

[The prepared statement of General Spencer follows:]

PREPARED STATEMENT BY GEN. LARRY O. SPENCER, USAF

INTRODUCTION

America's airmen and Air Force capabilities play a foundational role in how our military fights and wins wars. The Air Force's agile response to national missions gives our Nation an indispensable advantage that we must retain as we plan for an uncertain future. Whether responding to a national security threat or humanitarian crisis, your Air Force provides the responsive global capabilities necessary for the joint force to operate successfully. As our world becomes more interconnected and networked, Air Force capabilities that allow Americans to see, reach, and affect a situation anywhere on the globe within a matter of hours will become even more critical. However, the current fiscal environment requires the Air Force to make choices that place readiness into direct competition with modernization. To best support the national defense requirements, we chose to preserve the minimum capabilities necessary to sustain current warfighting efforts while investing in capabilities needed to ensure we stay viable in a contested battlespace. Moving forward, we aim to maintain a force ready for the full range of military operations while building an Air Force capable of executing our five core missions of: (1) air and space superiority; (2) intelligence, surveillance, and reconnaissance; (3) rapid global mobility; (4) global strike; and (5) command and control against a high-end threat in 2023 and beyond.

To prepare for the high-end fight, we need to maintain a ready force by focusing on the training required to win against a well-trained, technologically-advanced adversary. In the past, we have revolutionized warfighting by focusing on technology that produces game-changing capabilities for the joint force, such as stealth, Global Positioning System, and remotely piloted aircraft. These technologies, along with research, development, and test, ensured the Nation's strategic and asymmetric advantage. The Air Force has always had to balance between what we can do (capability), how much we have to do it with (capacity), and how well trained and responsive we need to be (readiness). To do this, we must be ready across the Total Force. We will continue to be committed to a Total Force that fully leverages the strengths of each component. Ultimately, this means we need to have 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 President tasks us to do and survive.

Over the past 10 years, our airmen have performed exceptionally well during major combat operations in Iraq, Afghanistan, and in other conflicts across the globe. However, these operations tend to focus on missions conducted in a permis-

sive air environment, which left insufficient time and resources to train our airmen across the full range of Air Force missions, especially missions conducted in highly contested, non-permissive environments. While the decline in full-spectrum readiness started before sequestration, it has been exacerbated since the law took effect because of the loss of large force exercises (e.g., Red Flag, Green Flag, etc.) and the cancellation of advanced mission training opportunities, especially on our military ranges. To ensure success in the future, we must get back to full-spectrum readiness by funding critical readiness programs such as flying hours and weapons system sustainment, while also balancing deployment tempo and home-station training. This is not going to be a quick fix and it will take us years to recover. If we are not able to train for scenarios across the full range of military operations, we may not get there in time and it may take the joint team longer to win.

READINESS

The Air Force delivers global vigilance, global reach, and global power for America through our five core missions. By integrating capabilities across these core missions, we bring a unique set of options to deter war, deliver rapid, life-saving responses to threatened areas anywhere on the planet, and strike precisely wherever and whenever the national interest demands. The cornerstone of our ability to provide airpower to the Nation and contribute our core missions to the joint team lies in our readiness. Readiness ensures our military can provide the President with a range of options to deter or defeat aggression against our Nation, allies, and our collective interests. To support the 2012 Defense Strategic Guidance, as updated during deliberations on the 2014 Quadrennial Defense Review, the Air Force must always be prepared to respond anywhere in the world. The Air Force defines readiness as the ability at the unit level to provide distinct operational capabilities within a specified timeframe. It encompasses personnel requirements, training, flying hours, weapons system sustainment, facilities, and installation support. A responsive readiness posture depends on high levels of health in all these areas. Because protecting future readiness includes modernizing weapons system and their associated equipment, creating combat readiness in the near-term is a complex task involving the intersection of personnel, materiel, and training. This also includes balancing time between operational and training commitments, executing funding from multiple sources, informed level of risk, and effectively managing resources to achieve the desired state of readiness.

Due to end strength and force structure changes, we had to mitigate the risk associated with a smaller military which requires a more ready combat force. If we want to sustain current force levels while personnel and operational costs continue to rise, there will be fewer resources available to support our installations, maintain current aircraft fleets, and invest in future capabilities. Combatant commanders require Air Force support on a 24/7 basis. Many of our mission sets are high priority missions that cannot be accomplished adequately or safely at low readiness levels as suggested by a tiered readiness construct. In support of our national defense strategy, airmen must be able to quickly respond across the full-spectrum of operations and shift between theaters of operation. Slipping to a lower state of readiness that requires a long build up to full combat effectiveness negates the essential strategic advantages of airpower and puts joint forces at increased risk.

The President's budget reflects our effort to develop and retain the capabilities our Nation expects of its Air Force within the constraints placed upon us. Maintaining the fiscal year 2015 President's budget top line level of funding will provide us with the flexibility to make strategic resourcing choices to maximize combat capability from each taxpayer dollar. If we maintain funding at this level, we can continue a gradual path of readiness recovery while preserving our future readiness, including munitions inventories, protecting our top three acquisitions programs, and protecting investments, such as the new training aircraft system and the next generation of space systems. The fiscal year 2015 President's budget includes an Opportunity, Growth, and Security initiative that will help us reduce risk in high-priority areas, including our readiness posture by accelerating the modernization of our aging fleets and improving our installations around the country. Guiding our strategy and budget process were the requirements that we must remain ready for the full range of operations and to focus on the unique capabilities the Air Force provides the joint force against a full-spectrum, high-end threat now and in the future.

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, and we continue to see an increase in the costs of WSS requirements, which are driven by sustainment strategy, complexity of new systems, operations tempo, force struc-

ture changes, and growth in depot work packages for legacy aircraft. With recent force structure reductions, we must carefully manage how we allocate WSS in order to avoid availability shortfalls. Per the Office of the Secretary of Defense's directive, we plan to fund WSS to 80 percent of the requirement in fiscal year 2015. This facilitates recovery of $260 million of unaccomplished depot maintenance in fiscal year 2013. If sequestration continues, it will further hamper our efforts to improve WSS. Depot delays will result in the grounding of some affected aircraft. The deferments 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 3 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. Although service-life extension programs and periodic modification have allowed our inventory to support 22 years of enabled operations, the cost of maintenance and sustainment continues to rise. 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. To illustrate the challenges we have with our legacy aircraft, we can compare our older aircraft to an older car. When you first buy a new car, maintenance costs are relatively low, especially if the car is covered with a warranty. However, as the car ages, maintenance costs rise as more and more components begin to break or you need to do more preventive maintenance. The same holds true for our aircraft. The longer we fly our legacy aircraft, the more they will break and require increased preventative maintenance just like an old car. We are now nearing a point where it costs more to sustain our aircraft than it does to replace them. We have tankers that are on average 52 years old, bombers that are upwards of 30 years old, and fourth generation fighters that are an average of 25 years old. 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 risk our technological edge and superiority.

Flying Hour Program and Training Resources

The emphasis on readiness in the Defense Strategic Guidance reinforced the Air Force focus on the importance of maintaining our flying hour program as part of our full-spectrum readiness. Just as with WSS, if sequestration funding levels continue, it will affect our ability to improve flying and training readiness. The flying hour program will continue to rely on Overseas Contingency Operations funding to support Operation Enduring Freedom, aircraft in the U.S. Central Command area of responsibility, and the redeployment of forces from Afghanistan. In addition to funding, readiness is influenced by ongoing operations as time and resources used in supporting current operations limit our opportunities to train across the full-spectrum of potential mission sets. 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, which in turn challenges our reconstitution and training cycles when our airmen return from a deployment. Because there will continue to be a high demand for Air Force capabilities in future operations, balancing these rotational and expeditionary requirements with the full-spectrum training required to meet the Defense Strategic Guidance will be a critical element of our strategy in the future.

The fiscal year 2015 President's budget increases flying hours in the operation and maintenance accounts which will allow the Air Force to fly at levels needed to begin improving readiness. The additional funding will help us recover flying hour-related readiness due to the fiscal year 2013 sequester and reduced flying in the first 3 months of fiscal year 2014 in order to produce a small readiness increase in fiscal year 2014 and fiscal year 2015. The fiscal year 2015 President's budget request supports adding additional hours to the flying hour program in fiscal year 2016–fiscal year 2019 to return the program back to the full requirement as much as possible to meet the minimum training requirements.

To complement full-spectrum training, the Air Force remains committed to the long-term effort to increase our live, virtual, and constructive operational training capability and capacity by funding improvements in these types of training devices and networks. Adjustments to the flying hour program will continue to evolve as the fidelity of our devices and simulators improve. Increasing our virtual capabilities will minimize fuel consumption and aircraft maintenance costs while ensuring high quality training for our aircrews.

Full-spectrum training also includes the availability and sustainability of air-to-air and air-to-ground training ranges. Many of our ranges are venues for large-scale joint and coalition training events and are critical enablers for concepts like Air-Sea

Battle. We intend to sustain these critical national assets to elevate flying training effectiveness for the joint team which will in turn improve individual and unit readiness. The same holds true for our munitions. The fiscal year 2015 President's budget includes funding that addresses the shortfalls in our critical munitions programs and realigns funds in order to accelerate production and reduce unit cost. These investments also support and maintain our industrial base so we are able to train the way we intend to fight.

CONCLUSION

The Air Force will continue to serve America's long-term security interests by giving our Nation unmatched options against the challenges of an unpredictable future. Your American airmen are proud of the critical role they play in our Nation's defense. We hire the best people we can find and we train them better than any other airmen in the world. My job is to ensure that whenever America calls, our airmen are ready and capable of fighting and winning our Nation's wars. Through detailed planning, we aim to improve our near-term readiness while continuing to build the force so it is ready for the full range of combat operations against a high-end threat in 2023 and beyond.

The Air Force is a vital element of the best military in the world. When we are called, we answer, and we win. That is what we do. In the last several decades, Air Force airpower has been an indispensable element of deterrence, controlled escalation, and when tasked by the Nation's senior leadership, destruction of an adversary's military capability—all accomplished with minimal casualties to U.S. servicemembers. However, investments in Air Force capabilities and readiness remain essential to ensuring that the Nation will maintain an agile, flexible, and ready force. This force must be deliberately planned and consistently funded in order to be successful. 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. 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 SHAHEEN. Thank you.

Vice Admiral Cullom.

STATEMENT OF VADM PHILIP H. CULLOM, USN, DEPUTY CHIEF OF NAVAL OPERATIONS, FLEET READINESS AND LOGISTICS, U.S. NAVY

Admiral CULLOM. Chairwoman Shaheen, Ranking Member Ayotte, first let me express Admiral Ferguson's appreciation for your invitation to testify, and pass on his regrets that he was unable to attend. I appreciate the opportunity to be with you today to discuss the readiness of our Navy. I'm grateful for the chance to be at the table with these distinguished leaders of our Joint Force.

It's my special honor and privilege to represent the 633,000 men and women of the Navy, sailors and civilians, who deliver a ready Navy every day.

In recent testimony, the CNO and Commandant of the Marine Corps both emphasized that the most important thing the Navy/Marine Corps team does for the Nation is to deliver ready, forward presence. In fiscal year 2013, the Navy worked hard to preserve readiness during the extended Continuing Resolution and budget sequestration. This year, we have given priority to readiness again in how we apply the funding you provided above the sequestration level. The Navy continues to deliver ready, certified forces forward, and we will not compromise on that. It is a fundamental element of our responsibility to our sailors and their families, and to the combatant commanders.

With the budget you've provided for this year, fiscal year 2014, we're meeting our forward-presence commitment to the combatant commanders, we are able to execute the depot maintenance plan for our ships and aircraft, and we have restored our normal training and readiness progression within the fleet.

Our maintenance plan continues to execute the reset of surface ship material condition after a decade of high-tempo operations, but, because of the need to drydock ships for much of this work, it must continue for at least 5 more years. To do all of these things, we accepted increased risk in two of the mission areas of the DSG due to slowed modernization and restricted ordnance procurement. We also continue a significant level of risk to the long-term viability of our shore infrastructure.

The Navy budget submission for fiscal year 2015 continues our commitment to the readiness of the force, but also continues to carry forward the risks I mentioned. To sustain readiness at this level, we have proposed a phased modernization plan for 11 *Ticonderoga*-class cruisers and 3 *Whidbey Island*-class dock landing ships. This plan ensures the availability of 11 modernized cruisers through the 2030s, when they would otherwise be past their service life and require replacement, all at a time of expected ship construction funding limitations while building the *Ohio*-class replacement strategic deterrence submarines. While we accept some capacity risk in the near-term, without this approach we face even greater challenges to sustain the readiness of the fleet as a whole.

Despite the DSG mission risk and challenges to near-term capacity, the President's budget provides a way forward to a ready and capable Navy in 2020. If we must return to sequestration levels in fiscal year 2016 and beyond, we will continue to strive to have a ready Navy, but it would require us to become smaller and less capable. Our soldiers, sailors, airmen, and marines are the finest we have ever had, and they go into harm's way every day. Each of us at the table has led them in forward operations. Navy leadership greatly appreciates the work of the members of this subcommittee to support our sailors. We must ensure that we continue to provide them the right training and capable equipment to meet the challenges they face today and will face in the future.

I look forward to your questions.

Thank you.

[The prepared statement of Admiral Cullom follows:]

PREPARED STATEMENT BY VADM PHILIP H. CULLOM, USN

Chairwoman Shaheen, Senator Ayotte, 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 2015 budget request. Through the uncertainty of the past two years, our decisions continue to be guided by the three tenets Chief of Naval Operations (CNO) established when he first took office: Warfighting First, Operate Forward, and Be Ready. You will see that theme in deeds throughout my testimony.

Over the past 2 years, sequestration reductions and continuing resolutions have challenged our ability to operate most efficiently and to fully deliver the capabilities and readiness required to support the 2012 Defense Strategic Guidance (DSG). However, we have appreciated the actions of Congress to help rebuild readiness and extend our planning horizon by supporting increases over sequestration funding levels through fiscal year 2015 in the Bipartisan Budget Act of 2013 and the fiscal year 2014 Consolidated Appropriations Act. In applying these additional funds, Navy has

prioritized near- to mid-term readiness. The fiscal year 2015 Navy budget submission reduces risk in some primary DSG missions when compared to a sequestration-level scenario, but it accepts greater risk as compared to 2014 President's budget levels. In addressing this shortfall, it is important that we make balanced choices between capability and capacity, cost and risk, across a wide range of competing priorities. We must balance current and future readiness to continue to deliver a ready Navy, now and in the future.

My testimony today will focus on the current readiness of the force and the related strategic risk, force structure management, and the resource requirements to sustain a ready Navy.

OUR NAVY TODAY

At present, 104 ships (36 percent of the Navy) are deployed around the globe protecting the Nation's interests, including 2 Carrier Strike Groups and 3 Amphibious Ready Groups with their embarked Marine Expeditionary Units. We continue our efforts to reassure allies and strengthen partnerships, with particular emphasis in the Asia-Pacific region, by leading or participating in more than 170 exercises and 600 training events annually with more than 20 allies and partners in the Pacific and Indian Oceans. The bilateral Talisman Saber 2013 exercise featured 10 Royal Australian Navy ships and 14 U.S. Navy ships including the USS *George Washington* (CVN 73) Strike Group, the USS *Bonhomme Richard* (LHD 6) Amphibious Ready Group, and about 28,000 people. Navy units also played key roles in the multi-national, multi nongovernment agency effort for Operation Damayan, supporting the typhoon recovery operations in the Philippines, underscoring yet again the importance of being "where it matters, when it matters." We are now preparing for the biennial Rim of the Pacific 2014 exercise this summer. It will be the largest in its 43 year history, with participation from 23 nations, including for the first time, the Chinese People's Liberation Army (Navy).

All Navy units continue to deploy independently certified as qualified in their required mission areas and capabilities. This will not change. However, budget uncertainties plague total force readiness. In fiscal year 2013, we were left with no choice but to curtail or delay some deployments and our capacity to respond to contingencies was reduced as training for non-deployed forces was slowed. Additional funding appropriated by Congress above the sequestration level enabled the Navy to contribute increased resources to readiness accounts. A normal training and deployment cycle for ships and air squadrons is being restored, and additional funding is available for post-deployment units to improve contingency response capacity. With limited resources, funding current readiness at the expense of other accounts slows platform modernization and restricts weapons procurement, and erodes shore infrastructure.

Additionally, we ended fiscal year 2013 with a significant aviation depot backlog for the first time in quite a few years (16 airframes and 55 engines). Overtime restrictions and hiring freezes impacted productivity in both public shipyards and aviation depots. With workload increases we were already seeing from the growth in maintenance requirements driven by high operational tempo over the last several years, costs and maintenance periods increased, resulting in operational impacts across the Fleet and increased schedule uncertainty for our sailors and their families.

READINESS RISK

In his written statement for the full committee hearing on the fiscal year 2015 Department of the Navy Posture, the CNO addresses in detail the current and projected level of strategic risk in terms of the 10 missions of the DSG. Today, I would like to highlight three areas of readiness-specific risk for consideration:

- Balance between readiness funding and force structure, both current and future. The fiscal year 2015 Navy budget submission, with anticipated Overseas Contingency Operations (OCO) funding, provides the operations and maintenance funding necessary to maintain, train, and operate the proposed operational Fleet structure and sustain required levels of readiness. The Navy proposed a phased modernization for 11 *Ticonderoga*-class cruisers that will add 137 operational "ship years" with fully modernized and relevant ships. A similar plan is proposed for three *Whidbey Island*-class LSDs requiring modernization. We would prefer to maintain routine deployments with these ships and continue a normal modernization schedule, but without the associated readiness funding this will create an imbalance, negatively impacting readiness across the Fleet.

• Return to sequestration-level funding in fiscal year 2016 and beyond. Additional force structure adjustments, most notably inactivation of one nuclear aircraft carrier and one carrier air wing, would be required to fund adequate readiness of the remaining force structure if sequestration funding levels were our fate across the remainder of the Future Years Defense Program (FYDP). This would result in a smaller and less capable Navy with insufficient capability and capacity to execute at least 4 of the 10 primary DSG mission areas. Continuing to address this challenge on an annual basis without a realistic FYDP planning horizon sub-optimizes decision-making, impacts future readiness and safety, risks long-term gaps in the professional development of our personnel, and ultimately increases cost.
• Continued leverage of OCO funding for readiness. Navy readiness accounts remain leveraged in OCO as in previous years, representing future risk to readiness, modernization, and force structure. Additionally, while surface ship maintenance reset is appropriately funded with OCO, it will require continued funding across the FYDP because some work requires a dry-dock maintenance availability with intervals that average eight years. I also note that the Department of Defense's final fiscal year 2015 OCO request will depend on policy decisions about our enduring presence in Afghanistan that have not yet been made.

OUR NAVY TOMORROW

The Navy fiscal year 2015 budget request continues the near- to mid-term readiness of the Fleet, but risks future readiness from slowed modernization, restricted weapons procurement, and limited shore infrastructure sustainment. With continued OCO funding, the budget request will meet the adjudicated requirements of the fiscal year 2015 Global Force Management Allocation Plan (GFMAP), including at least two Carrier Strike Groups (CSGs) and two Amphibious Ready Groups (ARGs), operating forward, fully mission-capable, and certified for deployment. Compared to a program at the revised BCA caps (e.g., the sequestration level), the 2015 President's budget improves our ability to conduct the 10 primary missions of the DSG but with increased risk in at least 2 primary mission areas compared to the 2014 President's budget. We continue to expand forward presence and relieve stress on the rest of the force through traditional and innovative approaches, including the use of new platforms like Joint High Speed Vessel and Mobile Landing Platform, to ensure the Navy/Marine Corps team is where it matters, when it matters, to achieve the security interests of the Nation.

Maximizing our presence overseas also requires us to maximize operational efficiencies. Our fiscal year 2015 request includes investments in energy efficiency that provide our forces with endurance, range, and flexibility while on station, which results in our Navy's persistent, distributed presence in theaters of enormous distance like the Pacific.

Generating the Force

Navy manages force generation using the Fleet Response Plan. This cyclic process is designed to synchronize periodic deep maintenance and modernization necessary to the readiness and training of the Fleet to achieve GFMAP forward presence objectives and provide contingency response capacity. The reality of the past decade has been the continuing employment of our contingency response capacity to generate increased presence, while driving up maintenance requirements and in turn squeezing the time available to complete required maintenance and training. In testimony over the last several years, we have described this practice as unsustainable. In fiscal year 2015, Navy will begin implementation of the Optimized Fleet Response Plan (O–FRP) 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, O–FRP also aligns supporting processes and resources to improve readiness outcomes. In addition, it provides a more predictable schedule for our sailors and their families.

Ship Operations

The baseline Ship Operations request for fiscal year 2015 provides for 45 underway operational tempo days per quarter deployed and 20 days non-deployed, and would support the highest priority presence requirements of the combatant commanders, including 2.0 global presence for CSGs, 2.0 ARGs and an acceptable number of deployed submarines. Navy's OCO request will provide a level of funding that meets the full adjudicated fiscal year 2015 GFMAP ship presence requirement, high-

er operational tempo for deployed forces, and sufficient operating funding for organizational (individual ship) level maintenance and training.

Air Operations (Flying Hour Program)

The Flying Hour Program funds operations, intermediate and unit-level maintenance, and training for 10 Navy carrier air wings, 3 Marine Corps air wings, Fleet Air Support aircraft, training squadrons, Reserve Forces and various enabling activities. The fiscal year 2015 baseline program provides funding to maintain required levels of readiness for deployment or surge operations, enabling the Navy and Marine Corps aviation forces to perform their primary missions by funding the average T–2.5/T–2.0 USN/USMC training readiness requirement in the base budget. OCO funding will be requested for higher deployed operating tempo.

Fleet Training, Training Ranges, and Targets

We are sustaining investments in key training capabilities, including Fleet Synthetic Training, Threat Simulation Systems, and the Tactical Combat Training System as well as improving training capabilities for our surface force sailors. Our request continues procurement of high speed, maneuverable surface targets to emulate the anti-access fast assault craft threat, and continues development of the next generation of aerial targets.

Physical and electronic encroachment on our Navy ranges, operating areas, and special use air space continue to impact our ability to conduct training, testing, and evaluation activities. Our fiscal year 2015 budget request continues to mitigate challenges presented by traditional and emergent encroachment, such as urban expansion, electromagnetic spectrum and frequency loss, ocean observing systems deployment, and foreign investment proximate to our installations and ranges.

Readiness Investments Required to Sustain the Force—Ship and Aircraft Maintenance

The Navy maintenance budget requests are built upon our proven sustainment models, continue our ongoing investment in improved material readiness of our surface combatants, and move forward the integration of new capabilities into naval aviation.

The fiscal year 2015 budget request funds 80 percent of the ship maintenance across the force, supporting both depot and intermediate level maintenance for carriers, submarines, and surface ships. OCO funding will be requested to execute the full requirement, including continued reduction of the backlog of maintenance in our surface ships resulting from the recent years of high operational tempo and deferred maintenance. The request also funds 80 percent of our aviation depot maintenance requirement, and supports the transition to new electronic attack, helicopter, and maritime patrol aircraft.

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. Our baseline funding request in fiscal year 2015 represents 42 percent of the enduring requirement, necessitating supplemental funding to meet the full requirement. As U.S. force levels in Afghanistan decrease, Navy expeditionary forces remain instrumental to the retrograde and reset of equipment and personnel, providing engineering and maneuver support to the joint ground combat elements. Continued OCO funding for the reset of deployed equipment will be critical to the long-term readiness of the force.

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 top line. Due to fiscal constraints, the Department of the Navy will not meet the mandated capital investment of 6 percent across all shipyards and depots described in 10 U.S.C. 2476 in the fiscal year 2015 baseline budget. The Navy projects an investment of 3.5 percent in fiscal year 2015. The 2015 President's budget does, however, fund the most critical deficiencies related to productivity and safety at our naval shipyards.

OUR NAVY INTO THE FUTURE

As we look to the future, we see continuing need for Navy forces on station to meet the mission requirements of the combatant commanders. Global operations continue to assume an increasingly maritime focus. The Navy chiefly maintains regional stability in the deterrence of aggression and the assurance of our allies. Our Navy is operating where it matters, when it matters—and we see no future reduction of these requirements. As the CNO has testified, a return to revised BCA cap spending levels in fiscal year 2016 and beyond will lead us to a Navy that would be insufficient in size and capability to conduct the missions of the 2012 DSG.

Fortunately, we retain the most critical and foundational element of the future force, our sailors. They are the highest quality, most diverse force in our history and continue to make us the finest Navy in the world. On behalf of all these men and women of the U.S. Navy—Active, Reserve, and civilian—thank you for your continued support.

Senator SHAHEEN. Thank you all very much.

You've all referred to the effects of sequestration on readiness. Can I ask you to talk a little bit more about the specific capabilities that we will lose and, if we continue sequestration into fiscal year 2015, what the impact will be on our ability to do surge capacity? Also, if sequestration continues beyond that, to what extent are the effects from those cuts reversible, and at what point do we then have a very long period in order to reverse damage done by the cuts? I don't know who would like to go first on that.

General Paxton?

General PAXTON. In the case of the Marine Corps, probably the most immediate example, in terms of a capability that is at risk and then the time to regenerate, I'd refer to our fixed-wing aircraft, for example, the F–18s. We have what's called "out of reporting cycle," and that's when we have either maintenance that needs to be done on the aircraft, or parts and supplies that are delayed in arriving there. The Commandant was on record, a year ago, about stating exactly where our "out of reporting cycle" was for the F–18s, and then what he predicted would be the case with sequestration.

Most of our fixed-wing squadrons have 12 aircraft, give or take. The prediction was that we would have eight or nine that would be on the line—it would be three or four off-line, and that we were at risk of getting down to seven or eight. We would have four or five aircraft that you could not maintain.

Indeed, even with OCO money, even with some reversions from cash, we are, this year, many of our squadrons, between six and seven aircraft that are on the line, and we have five or six that are "out of cycle reporting." We are up around the 46 or 48 percent mark for "out of cycle reporting." We estimate that that will continue, at least for the next year.

Those are aircraft that, not only do you not have on the line, but, at the same time, you have the same number of pilots there.

Senator SHAHEEN. Right.

General PAXTON. You have the same number of pilots training on fewer aircraft. You then have to sequence that with night-illumination cycles to get time flying with goggles. You have to sequence it with ships' availability, which is a whole different challenge that Admiral Cullom can talk about, so you get deck bounces to keep qualified.

In essence, it's a downward spiral. Is it reversible? Absolutely. If the money were to materialize, if you will, we could buy the parts

and we could perhaps hire some more civilians, and we could fix the backlog of depot maintenance, but it would take us months to do it. It wouldn't be days or weeks; it would be months to do it. With each time, the month would affect another deployment cycle for, for example, another Marine Expeditionary Unit (MEU) that goes out.

I'm not sure if that answers your question. It is reversible, but it would take a while, ma'am.

Senator SHAHEEN. It's certainly very helpful. If sequestration played out through the remainder of the years that the BCA projected, are there capabilities that we just plain-old lose at the end of that?

General PAXTON. I'll go very quickly through that question, Senator, and then turn it over to General Spencer.

We absolutely would lose capabilities, and the regeneration time would then be exceptionally long, because in the case of the Marine Corps, we don't want to mortgage your near-term readiness. We would continue to source the two MEUs that are out, east coast and west coast, and the next ones behind them. The result would be, instead of having a uniformed or maybe a little bit of a bathtub in readiness, we would be forced, as some of the other Service Vice Chiefs said, into some degree of tiered readiness. Then you would have no surge capability because you would have entire squadrons where there were either no aircraft or no trained pilots.

Senator SHAHEEN. Thank you.

General Spencer?

General SPENCER. Yes. Madam Chairwoman, just to be clear, we have the sequestration level, and the President's budget which is above that. In general, we tried, as best we could, to put reversible things in between sequestration and the President's budget. Just in case the sequester stood, we could reverse those. But, I want to be clear, the sequestration level cuts are not reversible. Let me give you some specific examples. I know some of the reductions we've proposed already might have been controversial, but if we go to the sequestration level, we will divest the entire KC–10 fleet, that entire fleet of tankers. We will stand down and divest all of our Global Hawk Block 40s. We will stand those down. We will, as you probably know, we were on our way, be at 50 orbits of Intelligence, Surveillance, and Reconnaissance (ISR) now, growing to 55. We would have to reduce that to 45 orbits. We would have to reduce investments in our KC–46 fleet and our F–35s. We'd have to reduce the number of buys. Same with the MC–130J, and would go right on down the line. We'd make cuts in science and technology (S&T), cuts in new engine technology, stop radar ISR sensors, it would slow our readiness recovery, and infrastructure. At the sequestration level, we're not talking about coming back from that. We would have to take out fleets, significantly impacting our readiness, and there's no reversibility in there.

General CAMPBELL. Yes, ma'am?

Senator SHAHEEN. General Campbell?

General CAMPBELL. I'd just add that, for the Army, it's $75 billion over the next 5 years, and, for the Army, it's about people. We're cutting BCTs and we're cutting end strength. But, our guidance is to keep a balanced force, so we're mortgaging the future of

all our Services here. We're not able to put the right money into our S&T. We're not able to put our money into modernization of equipment. We keep pushing this to the right, and we just get smaller and smaller.

The other thing that we don't talk a lot about is the morale, the impact it's going to have on the All-Volunteer Force as we move forward. I think that's pretty critical as they see us continue to come down and then not provide them the right resources to properly train. For the Army, going from 570,000 on the Active down to 490,000, then down to 450,000, and with full sequestration, we go down to 420,000. The Chief and Secretary of the Army have said we cannot do the DSG at 420,000. At 450,000, it's at significant risk. We go below 450,000, and that's that redline. But, again, that's the people, and that's trying to keep it in balance. We can keep more people, we can keep more force structure, but then we have zero readiness, we have no modernization. For us, it's a balance. At the 450,000/335,000 for the Guard, we're at that redline balance where we need to be.

I'm really worried about the number of people that we have to bring down. We've been able to go from 570,000 to 490,000 with attrition, for the most part. Going from 490,000 to 450,000 is going to get much harder. This has been on the backs of these great men and women over the last 12 years, and what we're going to have to do with involuntary separations is going to be pretty huge here. I can talk more if you want that.

Senator SHAHEEN. Thank you.

Admiral Cullom, I'm going to come back to you, but I'm going to give Senator Ayotte a chance to ask questions first.

Senator AYOTTE. Admiral, why don't you answer that, because it's an important question, in terms of the impact on sequestration on the Navy, and also about our shipyards. Senator Shaheen and I are obviously concerned about the attack submarine fleet, our capacity to keep the right workforce, and make sure that we actually have the capacity we need. It's so needed, obviously, not just in the Persian Gulf, but also in the Asia-Pacific region.

Admiral CULLOM. Yes, ma'am. Thanks, Senator, for letting me respond to that, because we start out as a tiered force from the very get-go, so we don't have a place to go if we're looking to be able to get to a lower sequestered level. We probably need to look no further than what happened as a result of last year's sequestration. We took two air wings down to a tactical hard deck. The others were down to minimum hours that they needed to be able to deploy. There was an impact to the Fleet Readiness Centers that General Paxton was mentioning. That left us with work in process that was actually on the factory floor, if you will, at the end of the year. That's the first time in a long time, at the end of the year, that we actually had airframes and engines that were just sitting on the floor, and the backlog behind it. That is a pretty significant impact.

Then you go to the impact on the public yards. We saw, and you see every day up in New Hampshire, the hiring freeze, the overtime, and the furloughs. That delayed the starts, and it's extended the availabilities of the ships. There's a real impact to those things.

If we go to a sequester level, and we stay at that level for any length of time, we think that limits our options and the Nation's decision space, because it compels us to go back and inactivate a carrier strike group, that's both the carrier and the air wing that goes along with it, because there's nowhere else to get enough money to be able to do that.

There's a long-term impact as well on surge ability. In case a contingency comes up, the additional contingency operational capacity for the carrier strike groups has to be ready within 30 days.

Additionally, modernization and recapitalization would also be dramatically reduced; a pretty significant impact.

Just in terms of presence, there was a 10 percent drop in global presence as a result of the sequester, just the last time. That was just for 1 year. When you start to extend that over several years, it has a cumulative effect that is decidedly not good.

Senator AYOTTE. Admiral, we've heard in the past the testimony about what the size of our fleet would be if we went down the sequestration road, not only over the FYDP, but over the full window. Do you have those numbers, both the overall size of the fleet, as well as the attack submarine fleet? Even with building two replacements of *Virginia*-class submarines, we're only meeting half the combatant commanders' requirements now.

Admiral CULLOM. Yes, ma'am. As the CNO mentioned the other day, the combatant command demand signal over the request and the requirement that we have out there is for 450 ships. That's what it would take to be able to do what they need us to do. Sequester could take you down to the sustainable force, to the 240–260 range, in that ballpark.

Senator AYOTTE. Right.

Admiral CULLOM. Of course, ships are aging out; that's one of the reasons behind the cruiser phased modernization. We would like to keep as many ships around as we can to handle contingencies in the future.

Senator AYOTTE. I think we all agree. We have to go over and vote and we're going to come back and continue.

Senator SHAHEEN. I think we are. We have two more votes, so rather than trying to run back and forth, we're going to recess again, go do those two votes, and come back and finish the hearing.

Senator AYOTTE. Great.

Senator SHAHEEN. Thank you for your patience, everyone.

Senator AYOTTE. Thanks. We'll come back. There are obviously many more questions, given the concerns we have. [Recess.]

Thank you. Senator Shaheen is on her way back. I'm going to just continue the questioning that we were on when I left.

I was talking to General Campbell, as well as to General Paxton. As I understand the force reduction levels that are proposed for the Army, as well as for the Guard and Reserve, here's what I'm trying to understand. Even without sequestration, we're proposing significant reductions, are we not? There's some plus-up in the proposal that, in addition to sequestration, as I understand, has been submitted to us by the administration. With that, we're brought to 420,000 Active, 315,000 Guard, 185,000 Reserve. Is that right?

General CAMPBELL. Ma'am, the 420,000/315,000 is with full sequestration.

Senator AYOTTE. That's with full sequestration.

General CAMPBELL. Yes, ma'am.

Senator AYOTTE. Okay. Where are we without full sequestration?

General CAMPBELL. We're trying to hold at 450,000/345,000.

Senator AYOTTE. Okay. That's what I wanted to clarify.

Here's what I need to understand. What risks are we taking on by doing that? What I mean is, let's say we have one conflict to respond to. Let's say that, unfortunately, we have to respond to aggression by North Korea, where none of us wants to end up in a land war, but let's say we had to go into a land war. What are we able to do? In other words, even with the 450,000, what are we able to do? With the 420,000, with the sequestration, what are we able to do? What risks are associated with that?

I think it's really important for people to understand that we used to have a theory that we could fight two conflicts, then we went down to one-and-a-half conflicts. Where does our posture now leave us, in terms of ground forces, General? Where is our posture left if we go forward with sequestration? I'd love to hear from both of you on this point, because, obviously, the Marine Corps is experiencing reductions, as well.

General CAMPBELL. Yes, ma'am, thank you for the question.

What I'd tell you is, start worst-case first. At full sequestration, and General Raymond T. Odierno, USA, the Army Chief of Staff, testified to this yesterday, the Army leadership feels we'd really have a hard time to do a prolonged multi-phased major contingency operation. In the past, as you talked about, we could do two different places. We've gone to, really, one, and maybe hold off on the other at 490,000.

Senator AYOTTE. Like Iraq and Afghanistan.

General CAMPBELL. Right. We couldn't do that at 420,000.

Senator AYOTTE. You cannot do that at 420,000.

General CAMPBELL. No, ma'am. At 490,000, we feel comfortable that we can complete the DSG. There's a little bit of risk there. At 450,000, that risk goes much higher. Below 450,000, we don't think we'd be able to do it.

Senator AYOTTE. When you describe a 420,000, which is the sequestration scenario, and you say one major contingency, you seemed to qualify what we'd be able to do in that one major contingency. Can you help me understand that?

General CAMPBELL. Depends on what exactly you're dealing with, for how long, and what mobilization you get you have to go through.

It took us 2 to 3 years to grow brigades from scratch. People say it's easy to reverse this. It's not that easy, 2 to 3 years. What Congress gave us with Iraq and Afghanistan was temporary end strength relief and some wartime allowance; that really helped us as we grew over the last couple of years. Remember, we had brigades where we had to drop down to two maneuver battalions to get the right number of brigades over into Iraq when we had the surge. We're now trying to make those brigades back, because we know we need to fight with three maneuver battalions, plus a reconnaissance piece, and we're trying to reorganize those brigades back and make them more capable. Going to 420,000, we would probably not be able to do that.

Senator AYOTTE. Wow.

General Paxton, what would you say with regard to our ability to fight a conflict? Where would we be left, in terms of our capacity?

General PAXTON. If I may, Senator, build the context first.

We were about 185,000 on September 10, 2001, and we grew to 202,000, and that was with congressional authorization and funding. We knew we were going to have to come down, that that was unsustainable, with both conflicts. We had studied this in great detail. The optimal size for your Marine Corps is 186,800, and we have testified to that. That's a balanced and a ready Marine Corps.

If full sequestration kicks in, the next level of balance for us, which we don't like but could do, is 175,000. That's what we've testified to. At 175,000, we have, for example, 21 infantry battalions. If the balloon goes up, it's a one major contingency operation force, and we're all in, everybody goes.

Senator AYOTTE. Everyone. There's nobody left behind?

General PAXTON. No, and it may take time, as General Campbell said. Some of these are phased arrivals, so some of our operation plans, and we'd have to answer this in a classified session.

Some of them will arrive at different times, and we will use that time to see what extra monies we could get to build readiness. But, we would be flowing according to that operational plan and that timeline.

Senator AYOTTE. How do we deal with issues like dwell time?

General PAXTON. If I can, the 175,000 force is, as we spoke about 2 weeks ago at a 1:2 dwell.

Senator AYOTTE. Okay.

General PAXTON. That stays at 1:2.

Senator AYOTTE. Good.

General PAXTON. 186,800, we could get many units back close to a 1:3 dwell, which would be optimal.

But, at a BCA force, and all in, that's at a 1:2 dwell, too. We believe, because of the 1:2 dwell, that our steady-state demand signal may be one of the most pressing circumstances, even if a major theater war or major contingency operation doesn't happen. Because, as we said before, to sustain aircraft readiness, ship readiness, and people training, we're going to be pressed to sustain that in the long haul, Senator.

General CAMPBELL. Yes, ma'am, if I could just add to that.

Senator AYOTTE. Yes.

General CAMPBELL. At 420,000, some of the assumptions that went into the planning to bring it down to even those lower forces were assumptions such as not rotating. We would not rotate forces. I think that's a flawed assumption. See what we've done in Iraq and Afghanistan.

Senator AYOTTE. What does that mean, if you don't rotate forces?

General CAMPBELL. That means they go over and they stay.

Senator AYOTTE. What does that do to their morale?

You obviously need to be able to have some dwell time. Not that you wouldn't have dwell, but they're staying. That's a huge issue for them.

General CAMPBELL. That was one of the assumptions, yes, ma'am. The other assumption was, whatever we did would be over very quickly.

Senator AYOTTE. So this is not a sustainable assumption?

General CAMPBELL. Right.

Senator AYOTTE. We can ask them, but the damage we would do to them would be irresponsible.

General CAMPBELL. Right, if you have an assumption that's—you're going to be gone for X amount of time and come back, as we've seen over in Iraq and Afghanistan, that's not a very good assumption, either.

Senator AYOTTE. No, it isn't.

General CAMPBELL. I didn't even get into the number of aircraft that we're going to lose through BCA. Right now, with the aviation restructure, it would take about 600-plus on the Active side, about 111 from the Guard side; 4 combat aviation brigades would go away—1 on the National Guard, 3 on the Active. The multifunctional brigades, we talk in terms of BCTs all the time, but BCTs are only 30 percent of the total Army. There's a lot of other stuff that we do every single day.

The combatant commanders have all the set-the-theater forces, so 35,000 soldiers every single day do theater logistics, intelligence, signal, et cetera, for all the combatant commanders. At some point, we're going to have to go back to the combatant commanders and say we can't do that. The world we live in today becomes more dangerous. Many of the things that we continue to do for emerging crises, like a Terminal High Altitude Area Defense in Guam or Patriots to Turkey, are covered underneath our base. That's something we have to take out of that we don't program for.

Senator AYOTTE. Thank you. I appreciate it.

Senator SHAHEEN. As I understand, the Army budget brief suggested that units will continue to build progressive readiness and achieve the highest training and readiness levels, based on available resources. Am I correct in that, General?

General CAMPBELL. Yes, ma'am. I talked about tiered readiness.

Senator SHAHEEN. Right.

General CAMPBELL. Progressive readiness is really what we've had the last 12 years with an Army Force Generation model, where there's predictability, and you went through and, at certain times, you continue to have time to build up. You had a Latest Arrival Date, in either Iraq or Afghanistan, and so you had time to build up to that. All of our units went through that and progressive modeled both the Active and the National Guard.

Tiered readiness really focuses on certain units, and that's where the money has to go to. Everybody going to Afghanistan, if you're in Korea, if you're the Global Response Force, you get the resources. Everybody else, you have what you have, and your training readiness will continue to go lower.

That's the difference.

Senator SHAHEEN. That's what we're looking at if we're looking at year upon year of sequestration, is that correct?

General CAMPBELL. Absolutely.

Senator SHAHEEN. The tiered readiness?

General CAMPBELL. Yes, ma'am.

Senator SHAHEEN. Can I just ask the other branches if you are also looking at tiered readiness? General Spencer, you said you don't have tiered readiness.

General SPENCER. That's right, Senator. Without going classified, based on the timing that the Air Force is required to show up in the war plans, we cannot do tiered readiness; we have to be ready to go right now. We couldn't do it.

Senator SHAHEEN. Is that also true of the Navy, Admiral Cullom?

Admiral CULLOM. Senator, I said that the Navy was in tiered readiness, and had been for 200 years with ships at sail. When General Campbell was talking about the progressive readiness, that is, in essence, what my definition was of tiered readiness: only the folks that are going out to deploy or those that are in a surge capacity that are needed to be able to deploy.

To give you an example, for this year, although we say we have two carrier strike groups that are out there today, and we can provide a certain number in surge capability, the reality is that a good portion of our carriers, and the carrier strike groups associated with them, will actually be deployed and underway sometime during that fiscal year. It isn't as if those carrier strike groups stay at a tiered readiness level that is perpetually at a certain level and then continues to grade down. They're always in a cycle of working out for that deployment and then ultimately deploying. In this case, for this year, six of nine carrier strike groups will actually be deployed or operating out at sea and away from American shores.

Senator SHAHEEN. How about the Marine Corps, General Paxton?

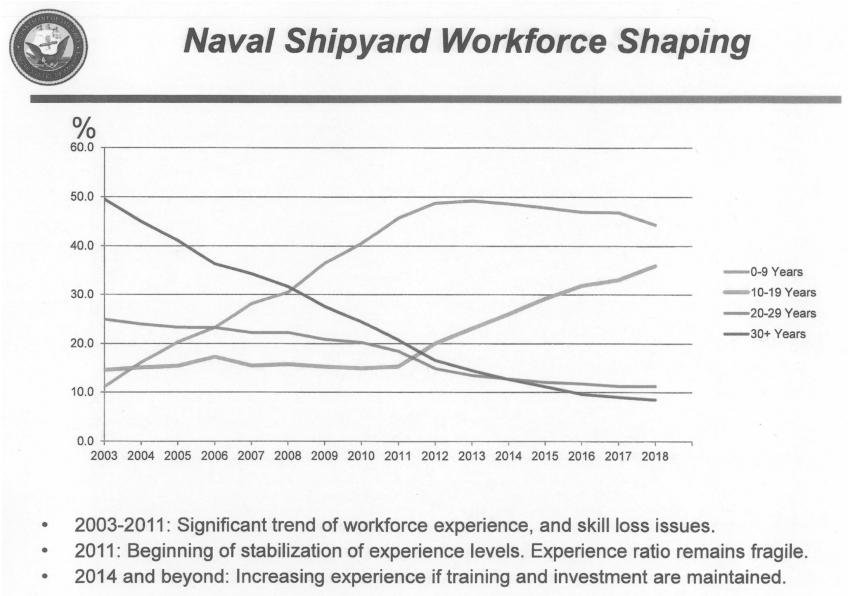
General PAXTON. Senator Shaheen, we do not tier readiness, either. We have units, obviously, that are in different readiness cycles, depending on when they came back from deployment and when they may have to go again. In a BCA force, though, if we go to a 1:2 dwell and then the balloon goes up, it's obvious that, at some point, we have to look at something other than either full readiness or no readiness.

If I may, there are two issues here, and I'll pile onto what General Campbell said a little while ago. Even in one major contingency operation, regardless of where that theater of operation may be, we're all in. The issue then becomes that there are no combat casualty replacements, there are no extra logistics. There is no surge capacity to deny, to delay, to deter anywhere else in the world. We're all in, in that one fight.

In essence, when we get together in uniform and we talk about this, we're not presenting national command authority options, because it's an option of one: everything goes. Then the units that go, you can't even distinguish on the triangle whether you want a well-trained, well-equipped, or a well-maintained unit, because you're going to get what you get.

Senator SHAHEEN. Admiral Cullom, I want to go back to follow up on Senator Ayotte's questions about the workforce at our public shipyards. Obviously, this is a concern for us, with the Portsmouth Naval Shipyard as part of our State. There's a graph here, that I think everybody has, that shows the aging out of our shipyard workforce and depot workforce.

[The chart referred to follows:]



Senator SHAHEEN. It's a concern that we've been hearing in Portsmouth, at the Naval Shipyard. There are a lot of people with a lot of years in, and they're looking at the future, with continued sequestration and potential furloughs and it's discouraging people, not only in terms of staying beyond once they get their years in, but also discouraging our ability to recruit and retain new workers who are going to be able to achieve that level of experience.

I had a chance to raise this with Admiral Samuel J. Locklear III, the Commander of U.S. Pacific Command, earlier this week, and he talked about the importance of our shipyards, making sure that we have the readiness we need to function.

I wonder if you can talk about how you view recruiting people to replace those workers that we're going to be losing, and how we can continue to retain that level of expertise.

Admiral CULLOM. Yes, Madam Chairwoman.

That's a great graph, because what it really shows you is the reductions in force (RIF) of some junior personnel that we had on board the shipyards back during the 1990s timeframe. During that timeframe, those would be the people that, today, had they stuck around, had they been here, would be our experienced technicians. Much of what we do today really does require some pretty high technical ability.

We went from 8 shipyards and, I think, about 70,000 workers down to 4 shipyards with 21,000 workers. That very clearly shows you that they all left.

Now, we're faced with a pretty junior workforce. We're doing a lot of great work in mitigation at the shipyards. The folks from Naval Sea Systems Command have put significant investment in

the training of personnel and in additional supervision, to help bring the young workforce that we have there now, to develop those skill sets, to learn from those people who have been around, and to bootstrap our way back to the experience levels that we, in fact, need.

That does imply, and does end up producing, some amount of other indirect costs to it, but it's necessary if we're going to provide the technical skill sets that we need with the very complex platforms and ships that we have today.

Senator SHAHEEN. I just want to ask one followup to that, because a number of you have mentioned the effect of morale on continuing budget cuts and looking at continued furloughs in areas. To what extent is that going to influence our ability to continue to recruit good people and retain them at our public shipyards and depots?

Admiral CULLOM. Ma'am, I think there will be a challenge with that. We are very lucky, very blessed, to have civil servants that work in the shipyards and amongst all the commands. Even in the Pentagon, we have civil servants that do tremendous work, and have a great deal of experience.

Our folks in the shipyard are experiencing challenges. We ought to be very concerned about whether or not they will be able to continue to show what I call, "psychic income." It's what they get because they know they're doing very important things, that they are producing ships. I'm the beneficiary of many a ship that was produced up in the yards up there. I have to tell you, they are well built by craftsmen who care about knowing that young men and women are going to man-up those ships and take them to sea and into harm's way. We can't afford to lose them.

Senator SHAHEEN. Thank you.

General Campbell, would you like to comment on depots and whether there's a similar issue?

General CAMPBELL. Yes, ma'am.

The same thing. We have some great civilian employees out there. We have to build that trust back with them. Most of them hung with us, despite 205,000 put on furlough, loss of 20 percent of pay for 6 weeks, and not knowing how long that's going to go on. It also impacted families, because many of the workers would work in hospitals or clinics that would impact families, and we had to cut that down. Negative pay on the morale, no pay raises for the last 3 years, and no incentive pay impacted that they're leaving to go seek employment in the private sector. They're very dedicated, but they look to the future, and they say that we can't tell them the predictability out there. That's been all of our biggest frustration, to deal with the unpredictability of the budget issues that we've been facing for the last couple of years. We did it last year; we all had to do that. If we have to do that again this year, then I think that there'll be more of a mass exodus.

Senator SHAHEEN. Thank you.

Senator Ayotte.

Senator AYOTTE. Thank you.

General Campbell, can you tell us what you are going to have to do with involuntary terminations? Assuming there's no sequestra-

tion with the proposed budget from the administration and assuming we do have sequestration, what's the scenario there?

General CAMPBELL. Yes, ma'am. As we've gone from 570,000, working our way down to 490,000 on the Active side, most of that we've been able to do with normal attrition. In the end, and we're probably about 520,000 today, as we get down to 490,000, probably only about 5,000 will be involuntary separation. But, involuntary separation is really a big category. It's two-time non-selects for different promotions, it's people that reach what we call a retention control point. They've been in at certain rank too long, it's us going back and being very tough on reenlistments and just saying, you cannot reenlist. You're qualified, but as we look at everybody here, you're not as good as this next guy. We have to keep the very best. There's a qualitative service program, where we take a look at our senior noncommissioned officers and how much time they have, and some of those have to go.

Five thousand is really getting down to 490,000. When we go from 490,000 to 450,000, that number's going to go up significantly. Talking to our personnel folks, it's probably going to be in the neighborhood of about 35,000 involuntary separations that we're going to have to work with. If we go from 450,000 to 420,000, that number's going to go up more.

We've done colonels and lieutenant colonels this year, with a selective early retirement. All of those were eligible for retirement, and we worked through that, some great counseling, and it was about 150 lieutenant colonels, probably 100 colonels, when we worked through that piece. But, we're now working on captains and majors, and those numbers will be much larger. These are young captains that could be company commanders in Afghanistan today, and they come back and we tell them thanks for your service. It's going to be very tough.

Senator AYOTTE. That is tough. Also, what about employment for them? You are going to be putting a lot of people out.

General CAMPBELL. Ma'am, we have Soldier for Life, where we really do work hard on transition.

Senator AYOTTE. Right.

General CAMPBELL. A year-plus out, we provide them the right skill sets to help them get jobs as they get out. Industry is working with us, a lot of partnerships to do that, so we're very thankful. We have to pay the unemployment if they can't get jobs. Last year for the Army, it was above $500 million that we paid in unemployment. It behooves us to continue to work hard to make sure that we set all of our soldiers up. They're all going to be better citizens for it, they're going to provide to the country as they get out, whether they've served a couple of years or all the way through retirement. We work very hard on our Soldier for Life program, and we're appreciative of all the great support that we have with partnerships out there with business in many of the communities.

Senator AYOTTE. Sure. I think that it's important, but unless I'm missing something, we're doing this pretty quickly. It's not the way we would want to do it, right?

General CAMPBELL. Yes, ma'am. I think, from 570,000 to 490,000, we were able to set a time and a ramp that we thought

we could work personnel policies to take care of our soldiers and their families.

Senator AYOTTE. Right.

General CAMPBELL. Now, it is from 490,000 to 450,000, much quicker.

Senator AYOTTE. Yes.

General CAMPBELL. From 450,000 to 420,000 is much quicker, and it's going to get much harder.

Senator AYOTTE. General Paxton, obviously the Marine Corps is smaller.

General PAXTON. We are smaller, ma'am, the exact same challenges that the Army has, we have there. We do not RIF right now. We don't have any intention to RIF. We don't see the need to do that. But, there's a lot of hard work that goes into how you shape the force, strike the balance between the sessions, and how many new folks you bring in, and then how you properly grade-shape the force so you could get equitable reenlistments, equitable promotions, and equitable opportunities for command. The ability to predict what the money would be, the ability to predict what the timeframe would be, as General Campbell brought up, is really critical. BCA just accelerates the speed with which you make some of those decisions.

General CAMPBELL. Ma'am, to add on and put it into context, keeping it going and continuing to grow for the future, we have to bring in about 60,000 new soldiers every year. We have to bring in about 4,000 new officers every year. Despite coming down, we still have to bring that in, to continue to grow the right grade structures as we move forward. That's going to continue to make it tougher, as well.

Senator AYOTTE. I don't know if the Air Force and the Navy want to add anything on this.

General SPENCER. Senator, I will. I wanted to go back to, if I could, the earlier question on the depots, because that's a really big deal for us with our civilians.

Senator AYOTTE. Sure.

General SPENCER. We didn't treat our civilians very well last year. We sequestered them, we carried thousands of vacancies, and we then furloughed them. They hear rumors. Every time a cut comes up, why don't you just go cut more civilians instead of taking the cut there?

Coincidentally, I have two sons; one works in a shipyard in Newport News, the other works as a computer operator for the Defense Intelligence Agency. I have to tell you, they both called me last year, asking, should I get out of DOD? They are committed to service like I am, and so they want to be a part of DOD, they wanted to serve their country, but they have families. Fortunately, they didn't jump ship, if you will, but they were really worried.

I think we need to be really careful about our civilian employees. Just in the Air Force, as an example, we have 180,000 civilian employees. Roughly between 4,000 to 5,000 of those work in the national capital region. I think sometimes there's a view that all civilians work in staff jobs. Not that staff jobs are not important, but the vast majority of our civilians are out turning wrenches, they're out at depots. For example, at our training like at Laughlin Air

Force Base, TX, they do aircrew training and they train new pilots. Their entire maintenance of their T–38 fleets are all done by civilians. When we start talking about cutting civilians or laying off civilians, that's really direct mission that we're cutting.

Admiral CULLOM. Ma'am, for the Navy, we don't see a need for a RIF, but, like General Paxton, there are the issues associated with force-shaping, and then, for us, the reallocation to be able to fill gaps at sea. We have gaps on many ships at sea, and we need to reallocate our current force structure to some of those ships.

Senator AYOTTE. I think I'll start with General Campbell, in particular, and General Paxton about OCO. As I understand it, after the last piece of equipment leaves Afghanistan, you're going to need 3 years of OCO funding to reset. Can you tell me if there is a firm commitment to include this reset funding in the budget?

You know what I always find fascinating about OCO around here? Everyone looks at it for everything, to fund every project. Can you tell me what you're going to need for OCO funding in the coming years?

General CAMPBELL. Yes, ma'am. The critical piece is what you just said there. We've been very consistent, since I was a colonel back in the Pentagon in 2004–2005, when we talked about having the ability to reset our equipment 2 years after we came out. It will now take 3 years after the last piece of equipment comes out to reset all that equipment.

Today, we have about $15 billion worth of equipment in Afghanistan. We need $10 billion of that back to be able to reset. There's $5 billion that we can work with the Afghans, with other countries, that we can divest but we need to get $10 billion of that back.

But we've been very consistent, about 3 years to take care of all the aircraft and all the ground combat vehicles to come back in. We do use OCO for the training piece, because everything going to Afghanistan, we've been able to use OCO. But last year, when we had the sequestration issues, we had to take from the base, because of the OCO issue, at about $3.2 billion.

As I talked about in my opening statement, if we can't get the OCO at a certain point, then we have to go back into the base, because we're not going to leave our men and women without what they need in Afghanistan. But that'll impact readiness in the end.

General PAXTON. Senator, we are continuing to move our gear, which is a recapture, reset, and reconstitution of our gear. We've brought about 79 percent out of Afghanistan, to date, but when General Campbell and I testified in front of both of you last year, it was closer to the 3-year mark for the Marine Corps. At that time, it was $3.2 billion. But due to a lot of hard work over the last year, that delta is now down to about $1.2 billion or $1.3 billion. We're going to need probably 2-plus years and about $1.2 billion, and hopefully in OCO monies. That's what we'd like to plan around, to get that gear reset, ma'am.

Senator AYOTTE. Good work on the number.

General PAXTON. Thanks.

General SPENCER. Senator, if I could add, because reset is one thing, and we have reset requirements as well, but there's another part. You may have heard the term "OCO to base." As some of the other Services, we are coming out of Afghanistan and Iraq with

more bases than we went into it with. There is this enduring requirement of al-Udeid and al-Dhafra. Those bases have been coined "enduring." Right now, those bases are being funded out of OCO. In addition to having to reset the force, we have to figure out what we're going to do with our budget to now absorb these enduring bases that remain.

Admiral CULLOM. Yes, ma'am, on the Navy side—and I'd actually divide it into three areas. Our OCO, as you said, there's a lot of stuff that goes into that, is certainly an enduring piece for the Navy as well. On the enduring side, ship maintenance and aviation depot maintenance, there's certainly a good portion of that that definitely funds enduring things. CENTCOM facilities like Isa Air Base, Fujairah, or Jebel Ali are also funded with that.

The reset piece for the Navy, because we've been resetting, if you will, in stride, we've also been double-pumping our carrier strike groups. As we've done that, there wasn't the time to be able to do a lot of the reset. Reset, for us, of 10 years of operations, and, because with the drydocks up there, there's only so many drydocks, and getting them through that takes a certain period of time. For us, that's about a 5-year process because they drydock once every 8 years. That's going to take us a little bit longer on that reset piece.

Then there's the continuing operations piece. I would suggest, although Navy is at $9 billion for 2014 in the total OCO amount, that will certainly come down as we pull out of Iraq. If we look and think that should go back to where it was prior to September 11, 2001, the Navy, prior to September 11, 2001, was somewhere a little bit north of about $1 billion a year for our supplemental monies. It's going to take more than that, in the kind of continuing operations that we have in this extraordinarily complicated world, particularly with the rebalance to the Pacific, as well.

Senator SHAHEEN. Thank you.

Senator Hirono.

Senator HIRONO. Thank you, Madam Chairwoman.

General, I appreciate your thoughts about the importance of the civilian component to our mission. I agree with you.

Admiral Cullom, the Pearl Harbor Naval Shipyard Apprentice Program provides an opportunity to train and educate young people in the workforce, providing for development and retention of the best and the brightest, ensuring that we attract and retain the most capable workforce, and provide for educational and professional development. I have had the opportunity to attend many of the graduations each year of this excellent program, and have spoken with the graduates. They consider the work at the shipyards to be of utmost importance. It's what they do to serve the country. For a number of them, it's generational, that their fathers and even their mothers who are now being trained more and more. This is important work.

Given that we have been so successful with this program in the past, what are your thoughts about the future of the program? Is it right-sized? Does it need to be expanded, especially as we see the experience level in the shipyards going down for the foreseeable future?

Admiral CULLOM. Yes, ma'am. Thank you for the question and your thoughts about it, because it certainly is a family tradition for many families, from generation to generation. In some cases, it's three or four generations who have been serving in that way to ensure that we have the kind of ships, and I would also suggest, the aircraft in our aviation depot maintenance facilities as well.

The training programs are absolutely essential. They're not just out there busting rust on the deck of the ship, they're actually out there doing some pretty complicated repairs and also, in many cases, helping us do the modernizations that are pretty essential for the ships to be relevant for far into the future.

I think we're happy with where the program is right now. I think there are opportunities for us to look at where that can be expanded, where it fits within the work that we have to do. Certainly, as we were just talking about, with reset, there'll be plenty of work to do.

Senator HIRONO. I note in your—is this your chart? Whose chart is this?

Admiral CULLOM. Yes, ma'am.

Senator HIRONO. 2014 and beyond will have increasing experience in your workers, if training and investment are maintained. Is that a big "if" for you, or do you expect that it's all going to happen?

Admiral CULLOM. The training is continuing. We have a fairly good program for that. As we were just talking about, the training programs are essential to be able to build that level back up so that we get beyond just having apprentices that would get into journeymen, and we really develop that expertise. We're in the process of doing that, but we're also recovering from that whole decade between 1990 and 2000, where we sent many of those junior workers away. In that process, we lost. I would say we created a notch of experience.

Senator HIRONO. Are you saying that we're doing enough and we're putting enough resources to train the workforce that we need to keep our shipyards and, basically, our military, our Navy, going?

Admiral CULLOM. Yes, ma'am. I think we are. It's a fine balance with that, because if you put too much into that, then you add to the indirect cost associated with that. But clearly we're trusting the judgment of our shipyard commanders, the shop personnel, and the shop foremen to ensure that they are making the case for which training programs are the most relevant, and we evaluate those all the time. Naval Sea Systems Command evaluates those for how effective they are and what they're doing. I think, for right now, we're okay.

Senator HIRONO. We know that there's been a pretty big cut to the military construction funds, and that's important. So too are resources for restoration, sustainment, and modernization funds, keeping our shipyards at their peak form and capabilities. I know that there's pressure everywhere in the DOD budget; tradeoffs have to be made while managing RIFs. Admiral, how important are these funds to the shipyards, and what is your outlook for sustainment, restoration, and modernization at our shipyards?

Admiral CULLOM. Yes, ma'am, you're exactly right. We recognize that the shipyards are absolutely critical to being able to maintain

our warfighting readiness. To be able to do that, they have to have the infrastructure in the shape that it needs to be in, to be able to properly support, so the lights work, so that the plumbing and the equipment works, and they can be able to do the repairs.

The budget funds the most critical of the deficiencies related to productivity and safety, but we are, right now, working very aggressively to look for opportunities, either through reprogramming or realignment, to try to be able to get that funding up to the 6 percent, where it should be.

Senator HIRONO. Thank you, Madam Chairwoman.

Senator SHAHEEN. Thank you.

Senator Donnelly.

Senator DONNELLY. Thank you, Madam Chairwoman.

This would be to all of you. I'm concerned about the persistent issue of suicides among our servicemembers. It's often considered a personnel issue, but I consider it a readiness issue as well. As we look at this, I was wondering, do you also consider this a readiness issue as well as a personnel issue?

General CAMPBELL. Sir, absolutely, sir. We've been working very hard with a lot of different programs and partnerships outside of each post, camp, or station. All the Services have taken a hard look at this. We're putting behavioral health providers in and we've raised those numbers at each post, camp, or station. We've made behavioral health teams at the brigade level. We did that in Afghanistan and it really helped out. We're bringing it back to the continental United States. We've increased behavioral staff by 150 percent, where it was 1,300 in 2003, to over 3,200 in 2013, so we continue to work through that.

Each post, camp, or station does a holistic look at all behavioral health, all suicides, everything we put under the umbrella of ready and resilience. Resilience, for us, is about providing soldiers, family members, and civilians some of the skill sets to help them when they face some of those hard things in life, whether it's relationship issues or financial issues. By looking at resiliency, it really is tied to readiness. One suicide is bad. We continue to work through all those.

It's much tougher for our National Guard and our U.S. Army Reserve, based on the geographical dispersion, that they have the availability to get to some of the post, camp, or station, but they're doing some very innovative things in each of the States, with partnerships with armories, that kind of thing. We'll continue with that program.

Senator DONNELLY. A recent report that came out indicated that some of the servicemembers who committed suicide, when they looked, said there were previous mental health or had suicidal thoughts before they ever joined. I was wondering if there's any look at how we can improve or update our screening process.

General CAMPBELL. Sir, we've been looking at that very hard. I don't have the numbers here with me that talks about the number that we think had some sort of behavioral health issue before they came in, so I will provide that information for the record.

[The information referred to follows:]

The Army never had the ability to know fully whether or not an individual had a behavioral health condition or treatment before joining the Army. During the ac-

cessions process, medical records are reviewed and soldiers are asked if there is any history of behavioral health care. Certain conditions, when identified, render accession candidates ineligible for entry into the uniformed services.

There are no civilian data systems that track pre-existing behavioral health conditions beyond what is self-reported or disclosed in copies of medical records provided by the applicant. Therefore, there are soldiers who come into the military with mental health problems that were either unrecognized or unreported at the time of accession.

After a suicide, the Army can correlate existing behavioral health conditions recorded in the military electronic medical record with other risk factors that were present in the decedent. Suicide event reporting is detailed, and collateral data are often obtained. Nonetheless, unless behavior health care obtained prior to entry is disclosed by servicemembers during treatment or in other forums (such as direct questioning during accession training), there are no comprehensive mechanisms to determine if there was a behavioral health condition or episode of care prior to entry into the Service.

General CAMPBELL. I think, with some medical testing, with some biomarkers that they've been working here for a couple of years, there'll be some tests that we can do in the future that could maybe help identify that a little bit better.

Our screening continues to get better and we are identifying soldiers at high risk and returning from deployments and being able to make sure that we cover down to provide them resources. But we have to switch gears a little bit and make sure we do that as soldiers come in as well.

Senator DONNELLY. I was fortunate. Ranking Member Ayotte and I were in Israel for just a few days, and when we were there, we were fortunate to get a briefing from the Israeli Defense Forces (IDF) suicide prevention team. One of the things they have done is pushed it pretty far down into the chain of command to have people who are looking and keeping an eye out. Basically, instead of up here, it starts down here and works up. A lot of the leaders right there on the ground are the ones who are telling people higher up in the chain that this person is struggling a little bit and we'd love to get him help.

I just recently received a report back from DOD and they said, we're not seeing that that provides much help. I would like to say here, that when we talked to the IDF, their numbers dramatically were reduced, the lower they went into the chain of command. People who are with them every day could just give a heads-up to other folks, saying this person's really suffering a challenge now. If you could take it back to DOD that they may want to take another look at this?

General CAMPBELL. I don't know who you talked to in DOD, sir, but I think all of us would tell you, the lower that we get the better. You have to know everything about that soldier, where he lives, if he's married, not married, financial issues. That's all about being good teammates, taking care, and having a battle buddy. I think all of the Services do that very well, and we'll continue to look at other ways to make sure we do that. But if we can set policy and procedures at the four-star level, it doesn't matter, it has to happen on the ground with battle buddies taking care of each other, making sure that they understand if they have an issue, that there's no stigma to going to get help.

We have folks, like Medal of Honor recipient Ty Carter, who has come back and has had some issues. His platoon sergeant grabbed him and said, you need to get some help. He became suicidal. He

got that help, now he's a spokesperson. If somebody with that type of valor can go forward and say, "I need help," we have to continue to spread the word. But it starts at the lowest level.

Senator DONNELLY. We really appreciate your help and your words on this, because having a good teammate, as we work with DOD on this, to enable us to, as you said, have your battle buddies be able to give that information, we would appreciate the chance to work with you so we can try to further educate some of the other folks who are working on this issue. Thank you.

In regards to force structure, General Campbell, you and I were fortunate enough to get a chance to talk a little bit yesterday, and I know there are proposals that are out there. The proposals that are out there, how would you characterize them, in terms of referencing what the force structure looked like pre-September 11, 2001, to today? Are they going to be fairly similar, in terms of mix, or how would we look at that?

General CAMPBELL. Sir, I think first of all, it depends on whether or not we go to full sequestration. If we get help from Congress not to go to full sequestration, that will really help.

But, I would tell you it has to be a balance. We're trying to balance the end strength, the force structure, the readiness, and the modernization. Prior to September 11, 2001, the Active Army was at about 483,000 to 484,000; we're going to down to 490,000, then down to 450,000. The National Guard was probably at about 350,000, they went up to about 358, they're going down to 350,000, then maybe 335,000.

It's going to be lower than pre-September 1, 2001. The world we live in continues to be dangerous, but we are doing some things to help ourselves out, to remain in balance, to reorganize the BCTs, both on the Active and the Guard side, and to make sure we have the most capable brigades that we can have. But, they're going to be smaller.

Senator DONNELLY. Okay.

General CAMPBELL. There are some very tough decisions, as we go forward, on aviation restructure. We talked a little bit about that.

Senator DONNELLY. Other tough decisions are in areas of compensation in other areas, as well. As you look at compensation changing some of the ways it's going to be handled for the future, if there are compensation changes, do you think we'll still be able to retain the quality and the people we need to protect and defend our Nation? That would be for any of you.

General CAMPBELL. Sir, we talked a little bit about it earlier, about the morale and the impact. What I think we really have to do is to make sure we do a holistic look, and we don't keep piecemealing these soldiers and these families, where we're going to take some of this, next year we're going to take this, next we're going to take this. We have to do a one-time, "here's what it is," because they understand that we have to get smaller, they understand that they have to pay a little bit of sacrifice here, but they also understand that they're part of one-half of 1 percent in this Nation that stood up and said, "Send me to protect everybody else."

Senator DONNELLY. Right.

General CAMPBELL. They deserve something special; everything that we can do for them, we ought to do.

But, what we're really trying to do, I think all the Services would tell you, is that we're not trying to take away, we're just trying to slow down the ramp of where we're at on compensation. We were very blessed over the last 12 years for what Congress has provided us and all of our soldiers. But, the cost of a soldier today, both for medical and everything else, has gone up incredibly. We can't continue on that path and be status quo without making some very tough decisions, and we just have to be smart how we go about it.

Senator DONNELLY. Senator Ayotte and I were also in Afghanistan, and, when we were there, the parliamentarians from their country said to thank all of the members of our military for everything they've done to try to provide them with a country where their kids can grow up in peace, where their families can grow old, and where their country can have a solid future. I wanted to pass on, from all of those folks, and there was a number of them, how much they appreciate everything you have done to give them that chance.

Senator SHAHEEN. Thank you very much, Senator Donnelly and Senator Ayotte, for sharing what you heard in Afghanistan.

Gentlemen, I think everyone here would agree that our men and women who are serving in our military are among the best and brightest in this country, and we probably have the most outstanding force we've had, certainly in my lifetime, and probably in the history of this country. But, there have been some high-profile scandals recently that I think we need to ask about as we're talking about the impact on readiness.

Admiral Cullom, there was a recent cheating scandal at the Navy Nuclear Power School in South Carolina. There was more scandal in the Air Force. There have been several very high profile stories about leadership on the part of some of our leaders serving in the military, and their leadership styles and questions about bullying and other behaviors. I wonder if you can talk about what systemic efforts are underway to address these kinds of challenges, if there are any.

I know that there are investigations underway of both of the scandals that I mentioned, and I'm not going to ask you to comment on those, but if you would, talk about what efforts are being looked at to address some of these challenges.

Admiral?

Admiral CULLOM. Yes, ma'am, I'll start out.

With regard to the Nuclear Power School issue, it certainly has the direct attention of the Navy leadership. Admiral John M. Richardson, USN, the Director of the Naval Nuclear Propulsion Program, is certainly very involved in trying to get to the heart of this. We will follow up with Congress when the investigation is complete.

The safety of the nuclear powerplants has been something of paramount importance to us, and we've done, I think, a pretty good job well over 55 years in doing so. But, that doesn't come without a constant vigilance that you have to have for what the appropriate standards are for personal responsibility, for the rigorous oversight that you have to have for a program like that, as well as the high-

ly-trained personnel and what you put into them to instill them with the right standards. The foundation of the conduct throughout the Navy really is integrity, on all these issues, but particularly acute in that area.

I'm a nuclear-trained officer myself, and I can tell you that I'm pretty confident that the knowledge and the standards are there. There are a few people that choose not to follow those. But we have to make sure that we look at and that we examine. We are in the process of examining that right now to get to the heart of it.

But, the culture there, as well as the culture throughout, I think, all of our Services, is that it demands accountability for these things, that we have to make sure that people understand what they need to achieve, and what they need to get to for that.

From the leadership side of the house, the CNO has instituted a Navy leadership development strategy to strengthen our profession and to reemphasize those things. That involves professional ethics, modules that are incorporated through not only at the flag officer level, but all the way down to newly commissioned officers. That's certainly one thing we think will certainly help from the leadership perspective, but it has to be instilled from the ground all the way up. That's what generates the trust, the trust that we have for each other as battle buddies, the trust that, frankly, families have. When they offer up a young man or woman into the service of their country, that's what they expect out of the leadership in charge. They will have that trust and have that sense of accountability for it, and to ensure that we all operate by the right standards.

Senator SHAHEEN. Thank you.

General Spencer.

General SPENCER. Senator, we're similar to the Navy. I can tell you what I do know so far about the cheating scandal. Our young nuclear officers take periodic tests and some were found to be cheating on the tests. What was interesting, though, is we found that they weren't cheating to pass the test, which is a score of 90, they were cheating to score 100. We're confident that they know their job, because as soon as we heard about it, we retested not only them, but all three missile wings, and they had a pass rate of 96 percent. So we know they can do their job. They are tested in a simulator periodically. We watch them do their job. We give no-notice inspections. We know they can do their job. But there was something there that we're getting to the bottom of. There is no excuse for cheating, period, so that's an issue that we're addressing. This sense of 100 versus 90, and why is that so important, it has compelled us to examine training versus testing. In other words, is it more important to just miss a question and then someone explain to you why you missed the question, or, is it more important to get the question. We're weighing testing versus training.

You may be aware, in terms of ethical behavior, Secretary of Defense Chuck Hagel is in the process of standing up an ethical office. All of us already meet every week with the Secretary of Defense on sexual assault issues, and Secretary Hagel is having a similar structure for ethical behavior as well.

Senator SHAHEEN. I was not aware of that.

Do either of you want to add?

General CAMPBELL. Yes, ma'am, if I could just add to that. I think for all of us, we talk about the three Cs: Competence, Character, and Commitment. We really have to continue to work through that, and trust between soldier to soldier, trust between soldiers and their leaders, and trust between the soldier and the American people. In some areas, we've lost a little bit of that, based on some of the incidents that you talked about.

I would tell you, though, as I see it, and I work all the general officer discipline as a Vice Chief, I think all the Vice Chiefs do that for Active, Guard, and Reserve, the number is very, very small.

Senator SHAHEEN. Sure.

General CAMPBELL. High profile makes the paper, and we hold ourselves to a higher standard. We should. That's what the American people expect. But it's a very small number. It's not like a newspaper person has an aha moment and found out something. We give it to them. We do the investigations. We give the information to them. It's not like they're doing investigative reporting to find somebody.

I feel very confident, and I'm still confident, that we have the very best men and women that come in. But we have to continue to get better. We're doing 360-degree surveys on lieutenant colonels, colonels, commanders, and command sergeants major now, so they get an assessment of how their peers and their subordinates feel. We do much more on command-climate surveys at all different levels. General Spencer talked about Secretary Hagel's meeting on sexual assault. We do that every single week. The Vice Chiefs go. All the Services are doing best-practices from each other, to help each other out, to continue to go.

I think we have to come back and show you that we are making a difference, and continue to keep the trust of the American people. I think you know that all of the Services, as they do their polls every year, are very high in the trust of the American people.

This is a very small percentage. That doesn't mean it's good. We have to continue to do everything we can to get better. But I feel very confident that we're working at this very hard.

Senator SHAHEEN. Thank you.

General Paxton, anything you want to add?

General PAXTON. As always, General Campbell hit it all, ma'am. We've increased the 360-degree surveys. We've increased command-climate surveys. As is always the case, even if you have great people and good habits, every now and then you just need to turn the lens inward, and maybe you've focused on some training, or focused on some deployment, or focused on some retrograde, and you just need to go back and reinstill some basics. The Commandant, himself, has done that with his ethics lecture, his heritage brief, and his reawakening brief. We're comfortable that we have the right people focused on the right issues here, ma'am.

Senator SHAHEEN. Thank you.

Senator Ayotte.

Senator AYOTTE. Thank you.

General Spencer, I wanted to ask you about the Special Victims' Counsel (SVC) program that was being done as a pilot program in the Air Force, and we really took the lead on that, and extended

it throughout the Services with the recent legislation we passed to address military sexual assault. This is something that I think is a very important step forward to make sure that victims have advocacy for them and within the system.

I wanted to see, from your perspective, how your program was going, because it's really the first one that we're going to now work to extend to the rest of the Services.

General SPENCER. Sure. Thanks, Senator. In a word, the SVC program has been great. We're cautiously optimistic about what we're finding, but our reporting is up, which we think is good. In fact, 10 percent of our reports that go up are for those that had sexual assault before they even came into the military. We think we're restoring confidence in the system to report.

One of the big things that we point right at the SVC for is our restricted or unrestricted rate has gone up 41 percent. A victim or an alleged victim who works with the SVC is now a lot more willing to come forward and pursue the case. That's been a real success story for us.

We've had 681 clients since we started this in January 2013. Ninety-two percent say they were extremely satisfied with the service, and 98 percent said if they knew of another victim, they would recommend a SVC. It has worked very well for us, and we think it's been very successful.

Senator AYOTTE. Excellent, because you're going to lead the way for the rest of the Services as they implement this program. I'm glad to hear that it's going well in the Air Force, because, obviously, all of you will be implementing this program and looking to the Air Force for their experience on it. I think it's a really important step forward for victims.

I wanted to get back to General Paxton, because I knew there was something you wanted to add on OCO, and give you that opportunity if there's something.

General PAXTON. Thank you, Senator. I had almost forgotten.

This goes to bridging the point that General Campbell and General Spencer made when Senator Shaheen was asking earlier. Out there in an asymmetric world, we obviously want to organize, train, and equip our people to succeed on the most dangerous battlefield. In order to do that, the gear that we have purchased has become more expensive, and there's more of it. It's roughly costing us five-and-a-half times more to equip a soldier or a marine today than we did on September 10, 2001, and three-and-a-half times more to equip the battalion or the grassroots-level unit, in terms of moving capability, a vehicle that will withstand an improvised explosive device, that has an V-shaped hull, Enhanced Small Arms Protective Insert plates for the individual, enhanced communications gear, optics for the rifles, night-vision goggles, and things like that.

Number one, that's the cost in OCO to equip them. Then, number two, as they come back after 12 years of the fight, we have to figure out what that right balance is, how much of that we hold, how much of the old stuff we get rid of. Our motor pools need more room, our armories need more room. We want to make sure that the good money that you provided for us, and the sound investment we made on behalf of soldiers, sailors, airmen, and marines, is actually retained. That's some of the money that we'll need when we

talk about reset. The reset has a bigger scope, back here in the United States after the war.

Thank you, Senator, for coming back.

Senator AYOTTE. Thanks.

General Campbell, there is something that I've been hearing feedback on. I just want to get some thoughts on. I've been hearing feedback on the Active Duty reductions: don't like them. But also, there are reductions proposed in the Guard and Reserve. When they're deployed, I understand they're the same cost, however, when they're not deployed, my understanding is that the cost structure is less for Guard and Reserve.

I think you can make an argument that, even though you're reducing Active-Duty Forces, you wouldn't necessarily reduce Guard and Reserve. I wanted to get your response to that issue, because it keeps coming back to me from leadership of the Guard and Reserve, to understand why we'd be doing that, in terms of cost efficiency.

Understand that I think the reductions are too low overall, so that puts that issue aside for a minute, but I'd like to hear your thinking on that.

General CAMPBELL. Yes, ma'am, thank you.

The same thinking with our Secretary and with our Chief, when we had to take a look at cuts, that we would disproportionately cut the Active first, because we grew the Active both for Iraq and Afghanistan. The initial round of cuts, going from 570,000 down to 490,000, we really didn't touch the National Guard, and not really much on the Reserve. That was okay, again, as we grew.

But it's not just about costs. There are many elements of the National Guard that are cheaper, and it's designed that way. But, once mobilized, as you talked about, they do become as expensive, or more expensive. The armor brigades and the aviation piece are more expensive, just based on time to train and get ready to go.

Again, there's nobody bad here. We need the Total Force. We need Active, we need Guard, and we need Reserve. We just have to balance the size of each, and where we go with it.

There are certain pieces of the Guard that have to be at a certain readiness level all the time, just like the Active, same thing with the Army Reserve. But we don't need all of them at the same time as the Active.

I'd go around and talk to soldiers I commanded in Iraq and Afghanistan. I had National Guard soldiers with me. They would tell me they loved being in the National Guard. They loved the predictability, they loved being a citizen soldier. If they wanted to do it 24/7, they would have stayed on the Active side. They don't want to do that. They want to have a family, they want to have their other business.

That's why the Secretary of Defense, years ago, said let's get this boots-on-the-ground dwell of 1:5. We'll keep the Active at a 1:3. Many of our units, like our aviation, we could not get to the 1:3, and many times we were below the 1:2 overall for our aviation.

I'll just very quickly talk about the aviation restructure. Because of sequestration, if we want to continue to have the very best aviation capability in the world, on the rotary side, we can't go status quo. That's why we've made some bold shifts to try to get rid of

some legacy aircraft and continue to modernize the Black Hawks, Chinooks, and the Apaches that we have, to move forward. If we don't do that, it's really going to put us in a bind and cost additional money that we'll have to take out of readiness.

But, again, the numbers we're going to disproportionally take out of the Active. But that's okay. We're going to go to about a 54 percent reliance on the Guard and Reserve, versus about a 46 percent reliance on the Active, and have more reliance on the Reserve and the Guard as we go forward.

Senator AYOTTE. Thank you.

I wanted to raise something, an experience that I had in Afghanistan, and particularly wanted to get your take on it, General Campbell. I heard a lot from our Special Forces and Army guys on the ground about the A–10, for understandable reasons, because obviously I've been pretty out there on the A–10. For example, I had a Special Forces guy come up to me, saying that the night before, the A–10s really saved their butts, because they were out with the Afghan national forces in the lead, and our Special Forces were with them, and the support that the A–10s provided was critical in that setting because it was a close-contact setting.

You've commanded in Iraq and Afghanistan. What has been your experience with the A–10, because the feedback I was getting repeatedly on the ground from the guys that are really taking the fire every day for us, was that this airframe is important. What's been your experience with it?

General CAMPBELL. Yes, ma'am. Commanding the 101st Division and Regional Command (RC)-East, where we had A–10 capability to come in and provide that close air support (CAS) to our soldiers in very bad terrain, what I think the soldiers on the ground, both the special operators and conventional forces, would tell you that it is a game-changer. It's ugly and it's loud.

Senator AYOTTE. I know.

General CAMPBELL. But when it comes in, and you hear that [mimicking A–10 engine noise], it just makes a difference. It would be a game-changer.

But, I fully understand the very tough choices that the Air Force has to make, just like the Army, as we go forward. We've asked the Air Force to provide us the very best CAS. I'm confident that they will.

Senator AYOTTE. Yes. I think we need to understand, though, that it's not going to be the same for our guys on the ground. They have a different opinion, in terms of whether our other airframes can really provide the same kind of protection that they feel like they're getting from the A–10.

I thank you all. I wanted to ask your experience there, because I just wanted to share with everyone what I heard from the guys on the ground. I wasn't even asking about it, but for some reason, they knew I was involved in this issue.

Thanks.

Senator SHAHEEN. Thank you.

I only have a couple more questions. One emerging requirement from combat operations in Iraq and Afghanistan has been the development of an enhanced performance round (EPR) for firing so that it could better penetrate both hard and soft targets. As I un-

derstand, that means we had to develop a new bullet that could actually penetrate in some places where we had not been able to with lead, and that steel and copper has been used, rather than lead, in those bullets. I also understand that one of the benefits is decreasing groundwater contamination and pollution, which sometimes occurs from those lead bullets.

I wonder if you can give us any update on how successful those EPRs are, and whether we expect to continue to use those kinds of bullets.

General CAMPBELL. Ma'am, I think the soldiers on the ground, and what I've seen myself, is that the M855 Alpha 1, the EPR round, is much more effective. We were designing a bullet that would be lead-free, but this did that, and it also provides more penetrating power. Guys will tell you, as we sit there taking shots at that in the past, or they may have taken a shot, it went right through, it didn't knock that insurgent down. This does the job. It's making a difference, and it has saved lives over there.

Senator SHAHEEN. Okay, thank you.

I assume everybody has similar experience?

Admiral CULLOM. Ma'am, on the Navy side, we haven't really used the new 855 Alpha 1. Our special operators, however, still use the old 855, and we still have several more years worth of that inventory left, but certainly understand that the new one provides greater capability.

Senator SHAHEEN. Thank you.

My final question has to do with uniforms, because I'm sure you're all aware that we put language into the National Defense Authorization Act (NDAA) last year on combat and camouflage utility uniforms. I understand, in this era of limited resources, that this is one place where there might be some savings. I also understand that, as part of the language we put into the NDAA, we were expecting some implementing guidance to foster greater collaboration among the Services.

I wonder if you all could speak to what the status of that guidance is, where we are as we're looking at trying to improve development and cooperation among the various Services with respect to combat uniforms.

General PAXTON. Thanks, Senator Shaheen. I'll start, and then pass to my battle buddy.

In the case of the Marine Corps, we have two separate and distinct uniforms, same pattern, actually patented. We have shared some of the technology behind those uniforms. The Army, I think, is the Executive Agent for some of that testing there. As in everything that we do, there's a high degree of collaboration whenever and wherever possible, in terms of technologies and designs, whether it's visibility from infrared at night, or cold weather, or wet weather, or drying, or wicking, or things like that. I think we're all committed to continue working together to get the best technology and the best capability out there because we want to equip the soldier, sailor, airman, and marine to survive on the modern battlefield. I don't think there's any reluctance to share ideas and things like that.

As you can probably see from the four of us sitting here, we each have a high degree of culture and a real positive commitment to

keeping those cultures. I really like soldiers, airmen, and sailors; I just happen to love marines. [Laughter.]

But we're committed to share, and we're committed to reduce costs, to the best way possible, ma'am.

Senator SHAHEEN. General Campbell, would you like to add to that?

General CAMPBELL. Ma'am, I'd agree with General Paxton. The Army is committed to making sure we provide our soldiers the very best equipment. That includes the uniforms. We're very thankful, over the last 12 years, of the ability to adjust and make changes to uniforms very quickly when we found out that the Army combat uniform that we went to, probably in the 2004 to 2005 timeframe, was much better than the uniform we had before that. It worked well for Iraq, it worked for a little bit in Afghanistan, but we saw up in the mountains in RC-East that it didn't work, we had to go to a Multicam. We were able to get the money from Congress to be able to make those changes and adapt very quickly.

I think we're committed, as all the Services, to make sure that we're responsible, based on the budget and where we go, and to work together. We're in testing right now over the next several months, from March until about October, on a couple of different types. I think we're sharing that with all of the Services to make sure we're on the same sheet of music as we go forward. It makes sense that we have to get better to be more fiscally responsible. Uniforms is just one of those things we'll take on.

Senator SHAHEEN. Should we expect some guidance anytime soon on this?

General CAMPBELL. I don't think we're going to have the testing piece for us until probably the end-of-October timeframe. I'll make sure that our folks are tied in with the Marine Corps and the other Services.

General PAXTON. I think we've worked with the subcommittee, full committee, and with the full Senate, so we're quite comfortable with the uniforms we have. We have a commitment out there that if there are changes in either composition or material like that, we'll continue to work within the existing pattern, so we'll minimize the cost and then we'll share those technologies with other Services. Yes, ma'am.

Senator SHAHEEN. Good. Everybody is in agreement that that's the way we ought to be operating?

Admiral CULLOM. Yes, ma'am. The collaboration really is very strong and ongoing, and our Naval Supply Command has received a great deal of information from the Marine Corps, the Army, and the Air Force.

Senator SHAHEEN. Okay, thank you.

Given the hour, I don't have any further questions at this time. We will leave the record open until the end of business on Friday for any other questions that may be submitted for the record.

Again, let me apologize to all of you for the need to recess this hearing to go vote. I hate to take your time to do that, so we will try and better schedule this hearing the next time.

Again, thank you, to all of you, and to the men and women you represent, for what you do to ensure that this country is secure.

This hearing is now adjourned.

[Whereupon, at 4:54 p.m., the subcommittee adjourned.]

[Questions for the record with answers supplied follow:]

QUESTIONS SUBMITTED BY SENATOR JEANNE SHAHEEN

NAVAL SHIPYARD INFRASTRUCTURE BACKLOG

1. Senator SHAHEEN. Admiral Cullom, the facilities maintenance backlog at Portsmouth Naval Shipyard at the end of fiscal year 2013 was $686 million. In fiscal year 2015 readiness briefing materials given to Senate Armed Services Committee staff, it is stated that "Naval shipyards are in worse condition than average Navy facilities" and that the Naval Shipyard Depot Maintenance Infrastructure Plan issued last year, as requested by the National Defense Authorization Act (NDAA) for Fiscal Year 2012, will take 17 years to complete all five elements across the public shipyards. If sequestration remains in place, what is the Navy's plan to ensure the shipyard maintenance backlog is met?

Admiral CULLOM. The Navy recognizes the importance of infrastructure investments to improve mission-essential facilities as quickly as possible, especially given the critical nature of Naval Shipyard facilities and requirements for uninterrupted service for aircraft carrier and submarine depot maintenance.

Whatever funding the Navy is able to commit, within the limits of funding available at the time, is prioritized to focus on drydock certification, seismic improvements for personnel safety, recapitalizing mission essential facilities in the worst condition, recapitalizing utility systems to improve reliability, and investments to improve efficiency.

However, the current lack of predictability of future Navy budgets and competing requirements within that unpredictable environment will require the Navy to address this on a yearly basis with a view towards balancing improvements in the material condition of shipyard infrastructure with the demands resident in operating our forces forward.

2. Senator SHAHEEN. Admiral Cullom, what is the effect of not having adequate funding for the shipyard modernization plan?

Admiral CULLOM. Although the current infrastructure condition has not specifically prevented any naval shipyard from sustained performance of mission, the risks of a mission-impacting failure remain.

Given the critical nature of the naval shipyard facilities and the requirement for uninterrupted service for aircraft carrier and submarine depot maintenance, Navy would prefer to increase infrastructure investment to bring mission essential facilities to a higher condition of readiness. However, fiscal constraints have compelled us to continue accepting risk in shore infrastructure investments. Despite these constraints, the President's budget request for fiscal year 2015 funds the most critical deficiencies related to productivity and safety at our naval shipyards.

ENDURING REQUIREMENTS FROM OVERSEAS CONTINGENCY OPERATIONS

3. Senator SHAHEEN. General Campbell, General Paxton, General Spencer, and Admiral Cullom, we understand that multiple years of Overseas Contingency Operations (OCO) funding will be required to reset the Services after combat operations end in Afghanistan. Given the uncertainty of OCO funding availability in the coming years, what enduring capabilities and activities are you currently transferring to base budget requirements, and how would you grade your progress thus far?

General CAMPBELL. The Army continually reviews our OCO budget/request for enduring capabilities that should transition to the base budget and has attempted to allocate base funding for those capabilities. The fiscal year 2015 funding levels allowed for transitioning one enduring requirement, the Global Assessment Tool (GAT). GAT is a $22.3 million program that provides psychological and physical health self-awareness to all soldiers each year and is key component to the Army's broader resilience training and development program, Comprehensive Soldier, and Family Fitness. The Army is unable to move additional capabilities from OCO to base without creating unacceptable risk to current base funded programs. For fiscal year 2015, we will continue to request OCO funding for capabilities funded through OCO that will ultimately migrate into the base.

The Army continues to increase base funding for training and readiness as a result of the reduction of OCO deployed units. In fiscal year 2015, a reduction in the number of Brigade Combat Teams (BCT) and Combat Aviation Brigades drives a base funding increase of $73.0 million and $134.0 million, respectively.

General PAXTON. The Marine Corps has made modest gains in its efforts to fund enduring requirements into the baseline budget, but will face challenges to migrate the requirements identified above as sequestration has resulted in reduced top lines for all the Services. The ability to fund missions with OCO has enabled the Marine Corps to limit further reductions in operation and maintenance (O&M) and procurement accounts (infrastructure sustainment and equipment modernization) in order to support a ready and capable force.

The majority of Marine Corps OCO funding supports the incremental costs of combat operations, equipment and infrastructure repair, equipment replacement, military pay for mobilized reservists, deployed pay and allowances, and end strength above the baseline Active-Duty Force (182,700 in fiscal year 2015). However, as the Marine Corps transitions from Operation Enduring Freedom (OEF) in Afghanistan to steady state operations, including forward presence and crisis response, some of the activities currently funded via OCO will likely migrate to the baseline to support enduring missions and requirements. The Marine Corps currently estimates this amount to be between $200 million and $450 million. This represents approximately 8 to 11 percent of our total fiscal year 2014 OCO request of $4 billion.

The $700 million realigned from baseline to OCO in fiscal year 2014 by Congress in the 2014 Omnibus Appropriations Act is also an enduring requirement, and is reflected in the fiscal year 2015 budget as such.

General SPENCER. The Air Force currently uses OCO funding for over $10 billion per year in O&M, primarily for flying hours, weapon system sustainment (WSS), transportation, and base operating support (BOS) for the Air Force-funded installations in the U.S. Central Command (CENTCOM) area of responsibility (AOR). The vast majority of our BOS costs are for installations outside Afghanistan, and we anticipate those requirements and costs will be enduring.

In the President's budget for fiscal year 2015, the Air Force programmed to move between approximately $1 billion and approximately $1.5 billion per year from OCO to the baseline WSS account, starting in fiscal year 2016. This will keep us at approximately 80 percent funded, which is the minimum necessary to maintain readiness. Flying hours, BOS, and other current OCO requirements have not been addressed in the President's budget for fiscal year 2015 baseline. If the Air Force has to revert to Budget Control Act (BCA)-level funding, there is no room for any OCO to move to the baseline, including the WSS. Under this scenario, WSS will be funded at well under 80 percent, and readiness will further degrade.

Admiral CULLOM. Navy has been working to transition OCO funded enduring activities to baseline over the last few years. Enduring aviation and ship depot maintenance baseline requirements have been funded to at least 80 percent in baseline since fiscal year 2011 and fiscal year 2012.

Navy has funded all enduring flying hour operations in baseline for several years. Increased operating tempo required of our aircraft and ships in the Middle East continue to be OCO funded. For the foreseeable future, the combatant command and Joint Staff expect continued increased flying and ship operations above baseline levels when deployed to the Middle East.

Since fiscal year 2013, Navy has funded enduring Djibouti BOS costs in baseline vice OCO.

Navy will require OCO funding for some remaining enduring requirements. This includes aviation and ship depot maintenance above 80 percent, ship operations to fully support operational requirements, base support operations for several locations in the Middle East, and operating support for expeditionary units. Without OCO funding, these enduring requirements, combined with the increased flying and ship operations above baseline levels when deployed to the Middle East, will result in the need for an additional $2.5 billion to $4.0 billion per year in baseline funding.

The Navy continues to work with the Office of the Secretary of Defense to identify and plan the possible transition of enduring requirements from OCO funding to the baseline.

4. Senator SHAHEEN. General Campbell, General Paxton, General Spencer, and Admiral Cullom, what impacts will the eventual end of OCO funding have on the Services' base budgets and overall Service readiness?

General CAMPBELL. The end of OCO funding will increase demand for base budget resources, impacting operations world-wide including: Resolute Support; Operation Spartan Shield; the Integrated Air and Missile Defense; Horn of Africa; Observant Compass (Africa); and the Philippines. These overseas presence missions are critical for security and maintaining relationships with our allies.

The eventual end of OCO funding with no corresponding increase to the Army's base budget would lead to reduced readiness due to shortfalls in programs such as depot maintenance and reset. The Army will require reset funding for 3 years after

the last piece of equipment leaves Afghanistan: Specifically, the Army will require over $9 billion in reset funding through at least fiscal year 2017. Training previously funded with OCO for readiness will need to be part of the base when the OCO-funded deployment offset stops. Increasing pressure on static or declining toplines will impair our ability to sustain training readiness and to restore infrastructure and equipping readiness in future years.

The Army has used OCO funding for these critical requirements and will require funding in the future to pay these bills. The Army's base budget topline will need to increase to capture the enduring requirements.

General PAXTON. As the Marine Corps winds down its operations in Afghanistan, the size of the OCO budget will decrease. We will still need OCO funds to support enduring activities and to complete the reset of our equipment for 2 to 3 years after that equipment returns from Afghanistan. Without an OCO budget for equipment reset, we'll be forced to take further risk in our equipment modernization, to include depot maintenance and infrastructure sustainment programs, to maintain near-term readiness. The result could be some units will not have ready equipment needed to deploy in 2017.

General SPENCER. The impact of no OCO funding depends on requirements. If all of the requirements—to include flying hours, transportation, WSS, and BOS—were to go away, we would only need OCO for a finite reset period of a few years, and after that there would be minimal impact to terminating OCO funding. However, the Air Force anticipates a number of enduring requirements, particularly in terms of continued rotational deployments and sustaining the bases in the CENTCOM AOR that are not in Afghanistan. If we continue to deploy and sustain these bases, all of the associated costs (e.g., flying hours, WSS, BOS) must be funded, either by baseline growth or continued supplemental funding. Without baseline growth or continued supplemental funding, we will be forced to fund these requirements out of our O&M baseline, with likely similar impact as fiscal year 2013 sequestration, meaning insufficient flying hours to maintain readiness, stood down flying units, no ready units for emergent requirements, and potentially not enough ready units for rotational demands, such as theater security packages in U.S. Pacific Command or CENTCOM.

Admiral CULLOM. OCO funding, in addition to our base budget, continues to play a critical role in maintaining the capability, capacity, and readiness necessary for the Navy to support our combatant commanders, in addition to meeting the missions of the Defense Strategic Guidance (DSG). For over 10 years, OCO funding has allowed the Navy to operate at a war-time operational tempo throughout the Middle East. As the land war draws down, Navy is uniquely challenged because our forces continue to serve and provide presence in the CENTCOM region as boots-on-the-ground depart. The demand for naval presence in this theater remains high and is likely to increase elsewhere as we rebalance to the Pacific region.

If the Navy remains at our current level of operations, it will not be sustainable within our base budget alone. OCO funding is also necessary to reset our ships and equipment after a decade of higher tempo wartime operations. The capital asset nature of our ships makes longer-term supplemental reset funding more critical to the Navy. In the current fiscal environment, any transition from OCO into base at the current base topline, or worse under sequestration levels, would drive our base down and pressurize already difficult decisions as we work to balance between force structure, modernization, and readiness. Without additional supplemental funding, this balance will suffer. For readiness specifically, we could be forced to delay maintenance activities for our ships and aircraft, reducing their operational availability and service life. Training could be reduced, preventing ships and aircraft from being ready and available for contingency operations.

5. Senator SHAHEEN. General Campbell, General Paxton, General Spencer, and Admiral Cullom, what requirements and activities are you eliminating that have been paid for with OCO funding over the last decade?

General CAMPBELL. Over the past 12 years of war, the Army procured a variety of theater-unique equipment for the warfighter. As the war winds down, the Army is reviewing various theater-unique equipments and is in the process of transitioning some to programs of record. However, many warfighting systems have been or will be eliminated. For example, current plans are to eliminate the following Mine Resistant Ambush Protected (MRAP) vehicle variants: FPI Buffalo MRV; FPI Cougar 6x6; BAE Systems RG–33L; BAE Systems TVS Caiman; GDLS RG–31A2; FPI Cougar 4x4.

In the MRAP Study III, the Army approved the M–ATV, the MaxxPro Dash ISS, and MaxxPro Plus Ambulance ISS as the three enduring MRAP vehicle variants.

The Army is eliminating the MRAPs by offering them for sale "as-is" to approved U.S. military allies. The Army is also crunching and selling as scrap damaged or washed-out MRAPs to eager Afghan buyers.

The Army is also eliminating 55 Joint Improvised Explosive Defeat Device Office (JIEDDO) force protection systems with an annual sustainment cost of $328.4 million. Some of the major commercial off-the-shelf JIEDDO systems eliminated include: Hawkeye ($60 million); Radiant Falcon ($48 million); Sand Dragon ($45 million); and Gator ($15 million).

Eliminated JIEDDO systems are being done in close parallel with the drawdown of Afghanistan combat operations.

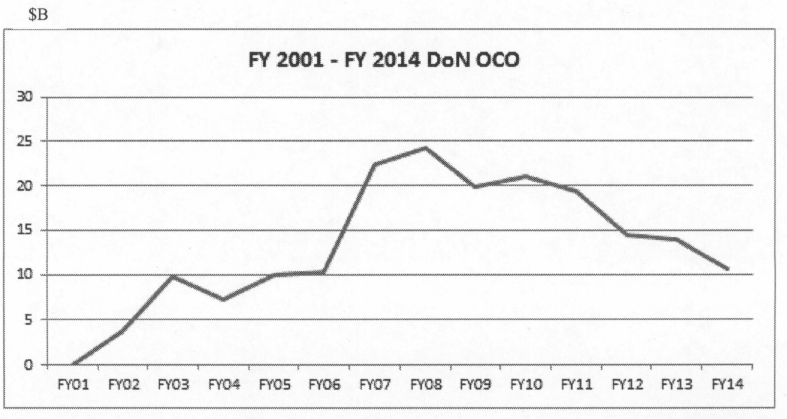
General PAXTON. The majority of Marine Corps OCO funding supports the incremental costs for combat operations, equipment and infrastructure repair, equipment replacement, and manpower above the baseline Active-Duty Force. These costs include deployed operations, equipment sustainment and reset, mobilized reservists, and other special pays. These requirements and activities will be reduced or eliminated commensurate with the drawdown in Afghanistan. As the Marine Corps transitions from OEF to steady state operations and crisis response, some of the activities currently funded via OCO will likely migrate to the baseline to support enduring missions and requirements.

General SPENCER. The Air Force does not define OCO requirements so we are not in a position to eliminate activities funded by OCO. We will continue to work with appropriate stakeholders to define and meet combatant commander requirements, provided adequate funding exists.

Admiral CULLOM. The following operations are or have been included in the Navy's OCO funding:

1. Operation Noble Eagle (ONE) 2001 to 2006;
   a. A portion of the enduring ONE activities supporting Homeland security transitioned to Navy's baseline in fiscal year 2006.
2. Operation Iraqi Freedom (OIF) 2003 to 2010;
   a. Navy's activities supporting this operation ceased in fiscal year 2010.
3. Operation New Dawn 2010 to 2011;
   a. Navy's activities (e.g., final reset of equipment returning from theater) supporting this operation ceased in fiscal year 2012.
4. OEF 2001 to present;
   a. Navy transitioned Djibouti base support requirements supporting this operation from OCO to the baseline in fiscal year 2013.
   b. Navy continues to support activities for this operation in the OCO. Once the operation is concluded, it will take several years to complete the final reset of equipment returning from theater.

Based on the operations funded in the OCO provided above, the historical Department of the Navy OCO execution from fiscal year 2001 to fiscal year 2014 is provided below:



MILITARY OCEAN TERMINAL CONCORD

6. Senator SHAHEEN. General Campbell, given its vital strategic role in the Department of Defense (DOD) pivot to the Pacific region, how is the Army aligning appropriate resources and ensuring that strategic facilities like the Military Ocean Terminal Concord (MOTCO) remain in a condition so it is able to respond to operational demand, potential contingencies, and operational plans?

General CAMPBELL. The Army's commitment of significant resources to the Pacific is demonstrated by a number of long-term strategic programs we are funding and executing. The Army in the Pacific is the largest overseas command in the Army—with 80,000 soldiers led by a four-star general. The Army conducts a wide-range of operations and sustainment projects across the theater in order to support growing U.S. interest and engagement in the region. In addition to engagement activities, the Army is rotating additional forces to Korea and critical ballistic missile defense capabilities to Guam. These forces further increase the readiness and potency of the Joint Force. This concept is dependent on the ability to move and sustain multiple rotational units into and out of the region. Strategic port facilities like MOTCO—and numerous others like it—are essential to the joint projection and rotation of forces in the Asia-Pacific region.

MOTCO is a highly visible demonstration of the total Army commitment to the Asia-Pacific region, but not the only one. In recent years, the Army has held over 20 large-scale exercises annually with over a dozen countries. The Army has fully funded a theater engagement strategy consisting of multiple exercises and participation in well over 200 military-to-military activities, such as small unit exchanges. This engagement strategy helps improve readiness and interoperability, reinforce our alliance commitments, and strengthen collaboration among partner nations. The success of the Army's engagement strategy and force commitments is enabled by our ability to sustain our forces in the region.

QUESTIONS SUBMITTED BY SENATOR KELLY AYOTTE

NAVY SHIPYARDS

7. Senator AYOTTE. Admiral Cullom, from a perspective of naval readiness, how important are the public shipyards and the Federal employees who work at these yards?

Admiral CULLOM. The four public sector naval shipyards (Portsmouth, Norfolk, Puget Sound, and Pearl Harbor) are vital to Fleet readiness. The naval shipyards provide organic capability to perform depot and intermediate-level maintenance, modernization, and emergency repair work on nuclear-powered aircraft carriers and submarines, and complement the private sector's capability for conventional surface ship maintenance. Work performed by the naval shipyards is essential to meet current operational requirements and achieve the expected platform service life of surface ships, aircraft carriers, and submarines.

The approximately 29,000 Federal employees in the 4 naval shipyards are highly-trained artisans, engineers, technicians, and business professionals. Their indispensable skills are critical to maintaining the readiness of the Navy's most complex nuclear powered ships and weapons systems.

PREPOSITIONED STOCKS AND THE MEDITERRANEAN

8. Senator AYOTTE. General Paxton, 2 years ago I expressed concern about the Marine Corps' decision to deactivate one of three Maritime Prepositioning Squadrons (MPS), MPS–1, in the Mediterranean. Because of readiness concerns related to the Marine Corps' ability to respond to a contingency in the North Africa region, I introduced an amendment that was included in the NDAA for Fiscal Year 2012 that restricted any funds from being used for placing MPS on reduced operating status until: (1) the Commandant of the Marine Corps provided a report assessing the impact of this move on military readiness; and (2) the Secretary of Defense certified that the risks to readiness from such a move are acceptable. Both you and the Secretary of Defense certified that the risks were acceptable, partly because of prepositioned stocks in Norway. MPS–1 has since been deactivated. Meanwhile, instability in North Africa has not decreased. What is the condition of our prepositioned stocks in Norway?

General PAXTON. The age of the equipment in Marine Corps Prepositioning Program-Norway (MCPP–N) varies, however, the age and state of maintenance of equipment-by-equipment type is similar to that of equipment maintained in the

Maritime Prepositioning Force program. MCPP–N equipment and supplies are stored in stable temperature and humidity controlled facilities and undergo scheduled inspections and maintenance services. All equipment and supplies are stored at the proper level of preservation to ensure operational readiness and serviceability. Normal modifications, technical instructions, and retrofits are applied during scheduled maintenance services. Corrective maintenance is performed by the Norwegian Defense Logistics Organization on an as-required basis, generally after equipment has been returned from an exercise. In this regard, MCPP–N benefits from an experienced, highly trained workforce and near optimal storage conditions directly attributable to our 50/50 burdensharing agreement with our Norwegian partners. Marine Corps Logistics Command is responsible for overall equipment management for the program which includes, but is not limited to: rotation planning of weapons systems and equipment; conducting quality assurance inspections; readiness reporting; meeting accountability requirements; and support of exercises or crisis response, when required.

9. Senator AYOTTE. General Paxton, are the prepositioned stocks in Norway fully stocked with the equipment needed to support or respond to contingencies?

General PAXTON. Yes. MCPP–N is stocked with equipment and supplies that support any Marine Air-Ground Task Forces (MAGTF) responding to crisis response within U.S. European Command (EUCOM) and U.S. Africa Command (AFRICOM). Over the next several years, MCPP–N will also be receiving additional equipment capabilities as a part of its transformation and equipment availability as a result of the elimination of MPSRON (MPS Squadron)–1, drawdown from combat operations in support of OEF, and force reductions.

10. Senator AYOTTE. General Paxton, is the equipment fully modernized?

General PAXTON. Yes. The equipment and supplies positioned in Norway are maintained at the highest levels of operational readiness and routinely modernized through equipment rotation and upgrades as new equipment is procured for the Marine Corps. In addition, Headquarters Marine Corps has been executing a transformation plan for equipment capabilities in Norway designed to enhance the relevance of MCPP–N to EUCOM and AFRICOM. This transformation includes developing a new force list and corresponding equipment sets to support that force. The additional equipment sets include communications and ordnance capabilities not previously prepositioned in Norway. The end state of the transformation of MCPP–N equipment sets is to provide a more balanced capability to support a MAGTF manned specifically to support crisis response. The Marine Corps plans to complete MCPP–N transformation in fiscal year 2016.

11. Senator AYOTTE. General Paxton, do you believe these prepositioned stocks adequately mitigate the risk associated with deactivating MPS–1?

General PAXTON. MCPP–N and the MPSRONs are the Marine Corps' signature capabilities for larger scale contingency and crisis response that require prepositioned equipment. Both programs share a common tenet in that they possess the most modern equipment that are kept in the highest possible state of readiness to ensure rapid force closure in crisis response across the range of military operations. Though they share commonality in purpose, they are distinct in their responsiveness, size, and scope.

First, unlike MCPP–N, MPSRONs are afloat prepositioning assets which take full advantage of the maritime domain and sea lines of communication to move equipment and supplies rapidly to a designated port in support of a contingency. Thus, MPSRONs can close on a crisis or contingency faster than can be done using MCPP–N due to the inherent mobility of the MPSRONs. Second, the MPSRONs and MCPP–N have very different missions and, therefore, support different force structures. The MPSRONs are each structured and tailored to support a Marine Expeditionary Brigade (MEB) (~16,000 marines and sailors) for up to 30 days of major combat operations. MCPP–N, however, is designed to equip a balanced MAGTF (~4,700 marines and sailors) while simultaneously supporting three company-sized elements (~390 marines and sailors each) for theater security cooperation missions. Lastly, MPSRONs carry Navy-specific capabilities not prepositioned in MCPP–N. The Navy equipment capability sets include: a Naval Mobile Construction Battalion unit set; a Naval Construction Regiment unit set; a Naval Support Element equipment set; and a 150-bed Expeditionary Medical Facility. These capability sets provide specific engineering, logistics over the shore, and medical capabilities to a MEB. In sum, although there are commonalities in the equipment found in the MCPP–N program with those found in our MPSRONs, the two prepositioning programs are not interchangeable.

12. Senator AYOTTE. General Paxton, has the deactivation of MPS–1 led to a slower potential response time to contingencies in North Africa?

General PAXTON. For crises or limited contingencies in the AFRICOM AOR, the initial response would most likely come from either a forward-deployed Amphibious Ready Group/Marine Expeditionary Unit (ARG/MEU) or land-based Special Purpose Marine Air Ground Task Force (SPMAGTF). The MEU, together with the ARG, remains the most agile, standing MAGTF capable of conducting amphibious operations, crisis response, limited contingency operations, to include enabling the introduction of follow-on forces, and designated special operations in order to support the theater requirements of the geographic combatant commands. SPMAGTF-Crisis Response (SPMAGTF–CR) is manned and equipped to self-deploy, providing a mobile crisis response force with organic command and control that can respond to missions in a non-permissive environment in order to protect U.S. citizens, interests, and other designated persons in the western region of the AFRICOM AOR. The Marine Corps' SPMAGTF–CR was specifically designed to provide a forward deployed crisis response capability to the AFRICOM AOR due to amphibious ship capacity shortfalls to source a standing ARG/MEU presence in the Mediterranean Sea. Similar to the MEU in its expeditionary nature and forward deployed posture, SPMAGTF–CR provides rapid response albeit from a land-based origin.

For any contingency beyond the capabilities of the MEU and SPMAGTF, however, the deactivation of MPSRON–1 guarantees a slower response time to North Africa if the circumstances specifically require a similarly equipped afloat prepositioning asset. The nearest such capability resides with MPSRON–2 in Diego Garcia. Depending on the circumstances and the availability of air and sea ports of debarkation, assets from MCPP–N or home station units in the continental United States may be used to equip a contingency response force in North Africa. The size and scope of the prepositioned assets that MPSRON–1 provided coupled with the ability to discharge cargo instream to an unimproved beach, however, can only be replicated through the availability of another MPSRON.

13. Senator AYOTTE. General Paxton, if the deactivation of MPS–1 has led to slower response times to contingencies in North Africa, how much slower?

General PAXTON. The Nation's premier crisis and initial contingency response force remains the forward-deployed MEU embarked aboard ARGs operating continuously in various geographic combatant command AORs. For crises or limited contingencies in the AFRICOM AOR, the initial response would most likely come from either a forward-deployed ARG/MEU or land-based SPMAGTF. These units provide the President and the geographic combatant commands with credible deterrence and decision time across the range of military operations. ARG/MEUs are specifically organized, trained, and equipped to respond to crisis within 6 hours of notification and self-sustaining for up to 15 days through organic, sea-based logistics. Likewise, SPMAGTF–CR remains in a standing alert posture, able to respond to a crisis or contingency in North Africa within hours.

For larger contingencies requiring prepositioned equipment, we must use the response using ships from MPSRON–2 or MPSRON–3 in order to provide a fair comparison to the capability formerly provided by MPSRON–1. The response times to North Africa from MPSRON–2 and MPSRON–3 would be approximately 8 days and 18 days greater, respectively, than that of MPSRON–1. The response times using equipment from MCPP–N would be approximately 20 to 23 days greater than that of MPSRON–1. MCPP–N response times include 10 days for sourcing (surge sealift and/or commercial charter) and movement of ship(s) to Norway, an estimated 7 to 10 days to load ships in Norway, and 9 days transit to the destination.

ARMY PREPOSITIONED STOCKS

14. Senator AYOTTE. General Campbell, what is the condition of Army prepositioned stocks (APS)?

General CAMPBELL. BCT and Sustainment Brigade sets in APS are all above 90 percent fill. The European Activity Set, which is a Combined Arms Battalion located in Germany, is our newest activity set and is above 99 percent fill. The sustainment munitions uploaded on two APS container ships is at 94 percent fill. Maintenance rates remain high; however, funding decreases will impact scheduled maintenance resulting in corresponding reductions in readiness. Starting in fiscal year 2013, the Army began leasing a former Defense Logistics Agency warehouse in Kuwait to provide controlled humidity storage for APS–5 equipment. Storing APS–5 equipment inside has reduced maintenance requirements for the equipment by $50 million per year, at $16 million per year for the lease. The long-term solution is to build 30

Army warehouses in Kuwait to store APS equipment and discontinue the lease of the current warehouses. Additional funding beyond post-war reset requirements will be needed to build the warehouses in Kuwait.

As part of the Army's strategy to improve APS, we are analyzing the feasibility of placing additional enabler items on the fleet of APS rolling stock. These enablers would enable APS to meet warfighters' expectations for movement and maneuver, mission command, communications, and protection. These enablers include Counter Remote Controlled Improvised Explosive Device (IED) Electronic Warfare (CREW), Blue Force Tracker (BFT), Overhead Gunner's Protection Kit (OGPK), and Beyond Line of Site Radios. The APS program will need additional funding in order to install and maintain these additional enablers.

15. Senator AYOTTE. General Campbell, is the Army full of the required equipment?

General CAMPBELL. BCT and Sustainment Brigade sets in APS are all above 90 percent fill. The European Activity Set, our newest activity set, is at 99 percent fill. The Army is building APS Sustainment Brigade and Fires Brigade equipment sets in Southwest Asia, which are both currently at 63 percent fill. Under the President's budget, the Sustainment Brigade set is expected to be complete by the end of fiscal year 2015 and the Fires Brigade by the end of fiscal year 2016. Army's two APS container ships carrying sustainment munitions are at 94 percent fill. Thanks to Congress' support, the APS program is substantially improving its fill rate. Additional funding is needed to integrate equipment and enabling systems harvested from OEF to meet warfighters' expectations for movement and maneuver, mission command, communications, and protection.

16. Senator AYOTTE. General Campbell, is the equipment fully modernized and well-maintained?

General CAMPBELL. APS are fully modernized. For example, the APS Armored BCT sets have modernized vehicles—the M1A2 System Enhancement Package and the M2A3/M3A3 Bradley Fighting Vehicle. The APS BCTs will be reorganized in October 2015 to include three Maneuver Battalions and a Brigade Engineer Battalion so they are configured the same as Active Duty BCTs. Ninety percent of APS rolling stock is fully armored and outfitted with the latest communication equipment.

APS sets are also maintained at a high level. Army policy directs APS sets to be maintained at Army Technical Manual 10/20 standards, which means that all faults have been identified, corrective actions taken, and preventive services performed on time; all urgent and limited urgent Modification Work Orders are applied; and all APS equipment is complete with required basic issue items and components (on hand or on order). Currently, 94 percent of the APS equipment is maintained at those standards.

Army has recently made decisions to add to APS equipment harvested from OEF, specifically MRAPs, MATVs, and MRAP ambulances with associate Enabling Technologies including OGPK or Crew Remote Operated Weapons Systems, Internal and External Comms (VIC–3, AN/VRC–92), BFT, Drivers Vision Enhancer, CREW. Each will be reset to 10/20 standards and include the most updated Engineering Change Proposals. Vehicles will begin fielding in the fourth quarter of fiscal year 2014. The APS program will need additional funding in order to install and maintain these additional enablers.

ARMY'S ROLE IN THE ASIA-PACIFIC REBALANCE

17. Senator AYOTTE. General Campbell, what role do you see the Army playing in the pivot to the Asia-Pacific?

General CAMPBELL. The Army has a longstanding and growing role in the Asia-Pacific pivot. The Army in the Pacific is the largest overseas command in the Army—with 80,000 soldiers led by a four-star general. The Army in the Pacific "sets the theater" and plays a critical role preparing the region for expanded U.S. diplomacy, military engagement, stability, and security operations. To do so, the Army works hand-in-hand with the Department of State and specific Country Teams to leverage relationships with partner nations to enable access and enhance host-nation support towards U.S. national interests.

The Army also provides many of the sustainment and power projection support requirements for our sister Services and Joint missions. Logistically, we secure lines of communication, defend forward operating bases, and ensure the movement of food, water, fuel, and other essential engineering services. Operationally, we provide satellite communication nodes and networks as well as missile defense, extensive

language abilities, and human intelligence capabilities on the ground. Finally, we foster an expertise in stability operations through interaction with local and national officials in support of civil governance functions.

The Army's engagement activities are generally low-cost and have a limited footprint, yet achieve powerful effects. In recent years, the Army has held over 20 large-scale exercises with over a dozen countries. The Army, through our Regionally-Aligned Force model, has a fully-funded engagement strategy consisting of multiple exercises and participation in over 200 military-to-military activities, such as small-unit exchanges. This engagement plan will help to improve Army and partner readiness and interoperability, reinforce our alliance commitments, and strengthen collaboration among partner nations. Aside from exercises, senior U.S. Army general officers meet regularly with their regional counterparts to build personal relationships over the long-term. Our willingness to train and prepare together for potential crises and humanitarian assistance operations fosters credibility, trust, and confidence in not only U.S. Army capabilities, but also an expanded U.S. presence and concern in the region.

AFGHANISTAN RETROGRADE AND EQUIPMENT RESET

18. Senator AYOTTE. General Paxton, in your prepared testimony, you stated that last year, the Marine Corps estimated its reset liability to be less than $3.5 billion. Today, you said reset liability stands at about $1 billion. You also stated that since 2012, "the Marine Corps has retrograded 77 percent of its equipment items . . . " How much does the Marine Corps estimate it will need in OCO funding to retrograde its remaining equipment?

General PAXTON. Approximately 77 percent of equipment has retrograded from theater, however, only approximately 40 percent has been reset and returned to the operating forces to support home station readiness, or redeployed in support of steady state operations. As such, the Marine Corps will continue to require OCO for the next several years to complete retrograde and reset requirements after more than a decade of sustained combat operations. At this time, the Marine Corps estimates the remaining ground equipment reset liability for fiscal year 2015 and beyond to be approximately $1.3 billion. In addition, the Marine Corps estimates the remaining retrograde requirement for fiscal year 2015 and beyond to be between $150 million and $250 million based on the anticipated drawdown in Afghanistan and the available modes of transportation, neither of which can be absorbed within the baseline funding levels.

19. Senator AYOTTE. General Paxton, how does the uncertainty regarding our troop presence post-2014 affect the Marine Corps' retrograde plan?

General PAXTON. We are currently executing our drawdown plan for Afghanistan that will see us meeting all our scheduled operational goals. However, we remain flexible to adequately respond to any required contingencies or last minute strategic developments as needed, or until our official end of mission.

20. Senator AYOTTE. General Paxton, how much OCO funding do you estimate will be needed for reset after the Afghan retrograde is complete?

General PAXTON. The Marine Corps has experienced over a decade of sustained combat operations with much of its ground equipment flowing directly from OIF to OEF, resulting in an inability to reset until now. The Marine Corps has undertaken an aggressive depot maintenance reset strategy to prioritize the repair and redeployment of ground combat equipment to the Operating Forces as quickly as possible. As a result, approximately 77 percent of the Marine Corps' total OEF reset requirement has retrograded from theater, however, only approximately 40 percent has been reset.

Last year, our reset liability was estimated at less than $3.2 billion. The Marine Corps reviews and refines its life-cycle sustainment strategies and depot maintenance requirements for its ground equipment annually through a deliberate requirements determination process. Through this process, we estimate our remaining reset liability for fiscal year 2015 and beyond to be approximately $1.3 billion, which cannot be absorbed within our baseline funding levels. As such, the Marine Corps will continue to require OCO for the next several years to complete our reset requirements.

21. Senator AYOTTE. General Paxton, why is this funding necessary?

General PAXTON. The Marine Corps has experienced over a decade of sustained combat operations with much of its ground equipment flowing directly from OIF to

OEF, resulting in an inability to reset until now. The Marine Corps has undertaken an aggressive depot maintenance reset strategy to prioritize the repair and redeployment of ground combat equipment to the Operating Forces as quickly as possible. As a result, approximately 77 percent of the Marine Corps' total OEF reset requirement has retrograded from theater, however, only approximately 40 percent has been reset. As such, the Marine Corps will continue to require OCO for the next several years to complete our reset requirements.

22. Senator AYOTTE. General Campbell, why does the Army need continued OCO funding years after the last piece of equipment returns from Afghanistan?

General CAMPBELL. The Army needs OCO funding for 3 years after the last piece of equipment returns from Afghanistan so that it can fully execute the equipment reset program. Army equipment reset is defined as a set of actions to restore equipment to a desired level of combat capability commensurate with a unit's future mission. The equipment reset program is directly tied to equipment readiness. In fiscal year 2013, the Army reset approximately 87,000 pieces of equipment at the sustainment (depot) level and over 292,000 pieces of equipment (e.g., small arms; night vision goggles) at the unit level. Support for reset has allowed the Army to sustain readiness at over 90 percent for ground and 75 percent for aviation systems in theater.

Reset funding must be spread over the additional 3-year period because of the factors that influence reset production. These factors include: the volume of equipment currently undergoing reset; the pace of equipment retrograde from theater; the available capacity within the industrial base; and the repair cycle times of major systems. For example, due to the previously mentioned factors, the Army cannot immediately and simultaneously reset all of our returning AH–64 Apaches. Each AH–64 Apache takes approximately 27 months to reset, our longest repair cycle time.

It is important to note that much of the equipment deployed in Afghanistan today is the most modern and capable equipment the Army employs. It is fiscally and operationally prudent for the Army to retrograde and reset that equipment to fill shortages, increase equipment on-hand, and help meet the Army's future equipment needs. If fully funded, we project that our retrograde and reset efforts will improve Total Army Readiness equipment on-hand from approximately 88 percent to approximately 92 percent across the Active, Army National Guard, and Reserve Forces. Without reset, we risk access to the full capabilities of that equipment.

23. Senator AYOTTE. General Campbell, what will be the impact on the Army's readiness if Congress does not provide at least 3 years of OCO funding for reset?

General CAMPBELL. If Congress does not provide at least 3 years of OCO funding for reset, some of the Army's most modern and capable equipment that was used in Afghanistan will not be reset, thereby negatively impacting equipment serviceability and availability, and our readiness.

Reset funding is critical to reversing the effects of combat stress on equipment and has been instrumental in sustaining readiness at over 90 percent for ground and 75 percent for aviation systems. Resetting the remaining equipment in Afghanistan will improve Total Army Readiness of equipment on-hand from approximately 88 percent to 92 percent.

Reset funding must be spread over a 3-year period to align with available industrial base capacity and flow of equipment retrograde. These factors include: the volume of equipment currently undergoing reset; the pace of equipment retrograde from theater; the available capacity within the industrial base; and the repair cycle times of major systems. For example, due to the previously mentioned factors, the Army cannot immediately and simultaneously reset all of our returning AH–64 Apaches. Each AH–64 Apache takes approximately 27 months to reset, our longest repair cycle time.

24. Senator AYOTTE. General Campbell, how has the uncertainty regarding our post-2014 troop levels affected the Army's retrograde plan?

General CAMPBELL. The base force posture plan for the theater articulates a responsible drawdown of forces. This plan transitions the theater over time and has been critical in setting the conditions for the train, advise, and assist mission being executed in support of Afghan National Security Forces. From an Army perspective, we are taking advantage of the drawdown in Afghanistan by shipping equipment from the theater to fill Service readiness requirements.

Although there is uncertainty, the theater force posture assessment is that current redeployment and retrograde operations are progressing on plan. However, the uncertainty is beginning to result in force structure being retained in theater. This puts additional risk on retrograde operations in the second half of 2014.

The risk to Second Destination Transportation (SDT) cost is minimal as SDT is made up of sustainment costs (inbound) and retrograde (outbound). If there is a zero option (e.g., an unscheduled and immediate full redeployment of all personnel and equipment) sustainment costs go down over time, while our retrograde transportation costs increase due to leveraging multi-modal and direct air methods in order to increase retrograde velocity.

Post-2014, the CENTCOM Material Retrograde Element is a critical resource that will facilitate the responsible downsizing and drawdown in Afghanistan. If not approved and extended past December 2014, we assume risk with regards to the stewardship of resources and property accountability.

MODERNIZATION PRIORITIES

25. Senator AYOTTE. General Campbell, General Paxton, General Spencer, and Admiral Cullom, what are your Services' leading modernization priorities?

General CAMPBELL. First and foremost, the soldier and squad are the centerpiece of Army equipment modernization, from which we build outward by enabling them with the network and key equipment. This principle is reflected in our top modernization programs:

1. Network (Warfighter Information Network-Tactical (WIN–T); Family of Networked Tactical Radios (formerly the Joint Tactical Radio System); Joint Battle Command-Platform; Distributed Common Ground System-Army; Nett Warrior);
2. Armored Multi-Purpose Vehicle;
3. Paladin Integrated Management (PIM);
4. Joint Light Tactical Vehicle (JLTV);
5. Apache; and
6. Blackhawk.

During this period of fiscal constraints, we have accepted greater risk in our modernization program and have had to delay many programs. This is one reason the Army supports the President's proposal, the Opportunity, Growth, and Security Initiative, that would provide an additional $26 billion for defense programs in fiscal year 2015.

Because of reduced Army budgets, we will not transition four programs to the acquisition phase, to include the Ground Combat Vehicle and Armed Aerial Scout. Additionally, we will end 4 programs, restructure 30 programs, and delay 50 programs. We have fully funded our priority programs such as the Armored Multi-Purpose Wheeled Vehicle, PIM, JLTV, Apache, and Blackhawk. The network also remains a modernization priority. However, investments in the network are not untouched by resource constraints and, as a result, we will delay portions of the WIN–T Increment 3 and reduce investments in tactical radio systems.

General PAXTON. The Marine Corps has several critical modernization priorities in the fiscal year 2015 budget. These priorities are balanced between our ground and aviation programs to continue to enhance the flexibility and capability of the MAGTF. Our key ground programs are the Amphibious Combat Vehicle (ACV), JLTV, and enhancements to our aging Assault Amphibious Vehicle (AAV) fleet. These modernization efforts coupled with Navy investments in enhanced surface connectors are key enablers of the Marine Corps ability to remain an expeditionary force. Our aviation priorities are the F–35B, MV–22, and CH–53K. The combination of capabilities that these aviation and ground programs provide our Service, and our Nation, are critical to the way that the Marine Corps envisions being employed into the 21st century.

General SPENCER. One of the most critical judgments in building the Air Force plan for 2015 and beyond was how to balance investment in our current aging fleet against the need to buy equipment that will be viable against future adversaries. Forced to make tough decisions, we favored funding new capabilities (recapitalization) over upgrading legacy equipment (modernization). We cannot afford to bandage old airplanes as potential adversaries roll new ones off the assembly line. For example, the backbone of our bomber and tanker fleets, the B–52 and the KC–135, are from the Eisenhower era, and our fourth generation fighters average 25 years of age. That is why our top three acquisition priorities remain the KC–46A aerial tanker, the F–35A Joint Strike Fighter (JSF), and the Long-Range Strike Bomber (LRS–B).

The KC–46A will begin to replace our aging tanker fleet in 2016, but even when the program is complete in 2028, we will have replaced less than half of the current tanker fleet and will still be flying over 200 KC–135s. Similarly, our average bomber is 32 years old. We need the range, speed, survivability, and punch that the LRS–

B will provide. Tankers are the lifeblood of our Joint Force's ability to respond to crises and contingencies, and bombers are essential to keeping our Air Force viable as a global force. In our fiscal year 2015 budget submission, we have fully funded these programs.

The F–35A is also essential to any future conflict with a high-end adversary. The very clear bottom line is that a fourth generation fighter cannot successfully compete with a fifth generation fighter in combat, nor can it survive and operate inside the advanced, integrated air defenses that some countries have today, and many more will have in the future. To defeat those networks, we need the capabilities the F–35A will bring. In response to tightening fiscal constraints, the Air Force has deferred four F–35As in the Future Years Defense Program (FYDP). If the President's projected top-line enhancements are not realized, and future appropriations are set at sequestration-levels, the Air Force may lose up to 19 total F–35As within the FYDP.

Moving forward, we cannot afford to mortgage the future of our Air Force and the defense of our Nation. Recapitalization is not optional—it is required to execute our core missions against a high-end threat for decades to come.

Admiral CULLOM. In parallel with recapitalization, the fiscal year 2015 budget request continues modernization of in-service platforms. Key priorities include:

- Flights I and II of the *Arleigh Burke*-class DDG mid-life upgrades. To increase operational availability and BMD capacity sooner, we will modernize Flight IIAs beginning in fiscal year 2017 rather than pursuing an "oldest-first" plan.
- *Whidbey Island*-class and *Wasp*-class LHD mid-life updates. Nine of 12 LSD mid-lifes are complete. Mid-lifes to the *Wasp*-class will complete by fiscal year 2022. The eighth LHD, USS *Makin Island*, will be addressed in a subsequent budget submission.
- Phased modernization of 11 *Ticonderoga*-class cruisers (CG). To preserve balance and avoid a permanent loss of force structure and requisite "ship years," modernization of these 11 will be timed to align with the retirements of remaining CGs such that updated ships replace those retiring on a one-for-one basis.
- Phased modernization of *Whidbey Island*-class LSDs. Two of the three always available for tasking.
- Service Life Extension Program (SLEP) for the legacy F/A–18A–D Hornet. With SLEP modifications, this will extend some aircraft to 10,000 lifetime flight hours, almost 16 years beyond their originally-designed life.

26. Senator AYOTTE. General Campbell, General Paxton, General Spencer, and Admiral Cullom, does the fiscal year 2015 budget request adequately resource these priorities?

General CAMPBELL. During this period of fiscal constraints we have accepted greater risk in our modernization program and have had to delay many programs. This is one reason the Army supports the President's proposal for the Opportunity, Growth, and Security Initiative, that would provide an additional $26 billion for defense programs in fiscal year 2015.

Because of reduced Army budgets, we will not transition four programs to the acquisition phase, to include the Ground Combat Vehicle and Armed Aerial Scout. Additionally, we will end 4 programs, restructure 30 programs, and delay 50 programs. We have fully funded our priority programs such as the Armored Multi-Purpose Wheeled Vehicle, PIM, JLTV, Apache, and Blackhawk. The network also remains a modernization priority. However, investments in the network are not untouched by resource constraints and, as a result, we will delay portions of the WIN–T Increment 3 and reduce investments in tactical radio systems.

General PAXTON. The fiscal year 2015 budget adequately funds the Marine Corps modernization priorities (ACV, JLTV, AAV, F–35B, MV–22, and CH–53K). However, to do so we have forgone some important investments in order to preserve near-term readiness. With the smallest modernization budget in DOD, the Marine Corps continually seeks to leverage the investments of other Services, carefully meting out our modernization resources to those investment areas which are the most fiscally prudent and those which promise the most operationally effective payoffs.

Innovative warfighting approaches and can-do leadership are hallmarks of the Corps, but these cannot overcome the vulnerabilities created by our rapidly aging fleet of vehicles, systems, and aircraft. Long-term shortfalls in modernization will have a detrimental impact on readiness and, at some point, sustaining fleets of severely worn vehicles becomes inefficient and no longer cost-effective. This inefficiency reduces available modernization resources from an already small account, degrading our ability to effectively operate in today's complex security environment.

General SPENCER. In fiscal year 2015, the Air Force must be able to execute national defense requirements while also recovering from the impacts of fiscal year 2013 sequestration, adjusting to the fiscal year 2014 Bipartisan Budget Act (BBA) funding levels, and the uncertainty in the future years planned budget top line for fiscal year 2016 and beyond. We are working hard to make the right choices that maximize each taxpayers' dollars and ensure we can meet national security needs today and in the future.

Admiral CULLOM. The fiscal year 2015 budget request funds the Navy's highest priority modernization requirements. However, delivery of some capabilities to the Fleet is slowed—particularly air and missile defense—in balancing current and future readiness funding. This increases risk in our ability to assure access against a technologically advanced adversary, compared to the President's budget for fiscal year 2014. In addition, the readiness outcomes of this budget request anticipate the ability to redistribute manpower and reapply near-term savings from the CG and LSD modernization plans.

27. Senator AYOTTE. General Campbell, General Paxton, General Spencer, and Admiral Cullom, how will sequestration in fiscal year 2016 affect your modernization priorities?

General CAMPBELL. The BCA spending limits will impact the Army's ability to meet our modernization priorities. While our strategic objectives will remain the same, our ability to meet them will be severely challenged. Difficult decisions on funding would likely result in adverse impacts to all weapon system and modernization programs. Any stoppage or delay of a program lengthens acquisition timelines and increases cost over the long-term as well as delaying the capability from arriving to the soldier. Some programs that support key warfighting capabilities have already endured significant reductions. Further reductions in these programs could prove to be terminal. The impacts of previous reductions were offset to some degree by using unobligated funds. As these and other funds become even more limited and if further reductions are required, the risk to our modernization priorities becomes greater. The resulting impact to warfighting capabilities will diminish the tactical advantage of our soldiers on the battlefield.

General PAXTON. A fully sequestered budget in fiscal year 2016 will cause the Marine Corps to protect only the ACV and F–35 programs at a greater cost to other modernization and infrastructure programs. As the Nation's force in readiness, I must and will protect near-term readiness. Under sequestration, we will begin to see impacts on acquisition programs, large and small. For example the CH–53K program could see a delay in Initial Operating Capability by 1 year and 10 aircraft deferred outside the FYDP.

General SPENCER. A sequestration-level budget would result in a very different Air Force. We are aggressively seeking innovative cost savings and more efficient and effective ways of accomplishing our missions, however these initiatives will not be sufficient to reach sequestration funding levels. To pay the sequestration-level bill, we will have to sacrifice current tanker and intelligence, surveillance, and reconnaissance capacity by divesting the KC–10 and the RQ–4 Block 40 fleets, all of our major investment programs will be at risk, and our readiness recovery will be significantly slowed due to required cuts in WSS and ranges.

Admiral CULLOM. Sequestration-level funding in fiscal year 2016 and out would have a significant impact on the size of the Navy we could affordably sustain and would degrade our ability to modernize the Fleet.

In the President's budget for fiscal year 2015, slowed modernization results in increased risk to our ability to meet the DSG, particularly when faced with a technologically advanced adversary. Sequestration levels of funding in fiscal year 2016 and beyond would require us to look at further reductions to recapitalization and modernization in order to maintain some balance regarding readiness of our forces. This risks having too few ships and aircraft to execute certain missions in the future or falling behind competitors in terms of capability and relevance.

WORLD WIDE THREATS

28. Senator AYOTTE. General Campbell, General Paxton, General Spencer, and Admiral Cullom, during our hearing earlier this year on World Wide Threats, Director of National Intelligence Clapper testified that over his past 50 years in intelligence, he has "not experienced a time when we've been beset by more crises and threats around the globe." How would you assess the readiness of the forces to respond to the full range of diverse threats?

General CAMPBELL. As a result of operations over the past 12 years, the Army has focused on counterinsurgency operations at the expense of Direct Action/Unified Land Operations (DA/ULO). The Army began to rebuild DA/ULO readiness before sequestration, but funding shortages in fiscal year 2013 stopped it. The increased funding provided to mitigate the effects of the BCA has slowed the decline in DA/ULO readiness; however, the Army still lacks the ability to fully generate the required trained and ready capabilities necessary to achieve the "Guidance for the Employment of the Force" end states. The most demanding combatant commander plans currently require more units than the Army has immediately ready and available, requiring us to deploy units that are less capable or that would have to be re-directed from other steady state missions.

The Army recognizes the need to increase DA/ULO readiness across the force to respond to the full range of military operations. In 2012, the Army initiated a plan to aggressively begin building DA/ULO readiness with multiple combat training center rotations focused on full spectrum conflict. Unfortunately, because of the impact of the BCA, the Army cancelled nearly 50 percent of those fiscal year 2013 rotations, and with increased emergent demand for Army forces across the combatant commands, this has delayed the rate at which we can build DA/ULO readiness across the force. The Army continues to aggressively focus on building full spectrum readiness; however, it will take both time and long-term, consistent funding to return the Army to a recovering glide path.

General PAXTON. The Marine Corps is committed to remaining the Nation's force-in-readiness, a force capable of responding to a crisis anywhere around the globe at a moment's notice. The Marine Corps can sustain its current operational requirements on an enduring basis; however, the readiness of the non-deployed forces to provide a timely response to unexpected crises or a large-scale contingency needs to be improved through our reconstitution and reset efforts. The Marine Corps has a strategic trajectory to reconstitute to a ready force to meet the DSG for steady state requirements and crisis response contingencies. Our reconstitution efforts will restore and upgrade our combat capability to ensure our units are ready for operations across the range of military operations. In the face of fiscal uncertainty, we are protecting near-term readiness at the expense of our infrastructure sustainment and modernization investments, which will be negatively impacted over the long-term.

Entering into the Quadrennial Defense Review (QDR), we came to the conclusion that, under the threat of continued sequestration or some variant, an Active-Duty Force of 175,000 marines is what our Nation can afford, along the continued cuts to modernization and infrastructure accounts. The budget-driven, redesigned 175,000 force is capable of meeting steady state requirements, crisis response activities, and deterring or defeating aggression in one region. However, the 175,000 force assumes risk at the high end of the range of military operations for a major contingency operation (MCO) and for long-term stability operations. It incurs a 1:2 deployment to dwell ratio and in the event of a MCO, the Marine Corps would be "all in"; there would not be a rotation of forces.

General SPENCER. In order to meet the requirements of the 2012 DSG, most Air Force units must be able to respond in hours or days, not weeks and months. Thus, the Air Force must maintain a high level of readiness across the Total Force.

Over the last 12 years, Air Force operations have been focused on the counter-insurgency/counterterrorism fight in Iraq and Afghanistan. As these operations take place in a permissive air threat environment, the full-spectrum readiness of our air superiority and global precision attack forces to fight in contested and highly-contested environments has eroded. Continuous deployments with minimal home station dwell time for training and regeneration has particularly impacted high-demand assets such as: command and control; intelligence, surveillance, and reconnaissance; personnel recovery; Special Operations Forces; and the ability of these Air Force communities to integrate and exercise with the Joint Force and our foreign partners. As Director Clapper suggested, we do not anticipate that deployment rates will appreciably decrease in the post-Afghanistan environment, which will continue to stress readiness and delay readiness recovery.

In addition to the impact of high deployment rates in permissive environments, sequestration in fiscal year 2013 further degraded our readiness. We stood down or curtailed flying in over 30 combat and training flying squadrons. We returned to flying in July 2013 after a 3-month stand-down, but half of these units still have not recovered to their pre-sequester (already low) readiness levels.

Overall, our readiness is not what it needs to be, and it must improve. Aided by the NDAA for Fiscal Year 2014 and the BBA, we have increased key readiness accounts, such as flying hours, and we expect to see improvement. However, given the

long road to recovery and anticipated persistent high deployment rates, we expect full recovery to take up to 10 years.

Admiral CULLOM. Navy forces forward stationed or rotationally deployed are trained and certified as ready to perform to the full spectrum of their designed mission capabilities. In some cases, operational demand might preclude time to train in a particular mission set for a specific unit. When this occurs, the decision to do so is balanced against risk in anticipated deployed missions and properly documented for the receiving combatant commander.

Navy capacity to surge additional ready forces for contingency operations has been degraded by a decade of high-tempo operations, exacerbated by budget sequestration in fiscal year 2013. This requires both time and funding to improve, but the Navy's fiscal year 2015 budget request across the FYDP provides a path to deliver sustainable presence and appropriate contingency operations capacity. A return to sequestration funding levels in fiscal year 2016 and beyond will preclude that outcome.

Readiness to respond to developing threats also requires delivery of new platforms and capabilities, continuing modernization of existing platforms, and procurement of necessary ordnance. To sustain current readiness within current funding levels, Navy is taking some risk in each of these categories, leading to increased risk in two mission areas of the DSG, particularly against a technologically-advanced adversary.

29. Senator AYOTTE. General Campbell, General Paxton, General Spencer, and Admiral Cullom, what would you consider to be your Services' greatest capability gaps?

General CAMPBELL. The Army's critical capability gaps are the ability to rapidly detect threats and disseminate information, the ability to survive and maneuver in any operational environment, and the ability to defeat rapidly advancing aerial threats and precision fires capabilities.

The centerpiece of all modernization efforts remains the soldier. The Army has two modernization priorities to enable the soldier to rapidly detect threats and disseminate information: The WIN–T will "enable mission command" while the Distributed Common Ground System-Army (DCGS–A) will "enable multi-intelligence source analysis." To permit the soldier to operate in any operational environment, the Army has established as a priority the Armored Multi-Purpose Vehicle (AMPV), which will fill a critical capability gap in the available vehicle inventory for protected mounted maneuver. Finally, to protect the soldier and the systems that support the soldier, the Army has established a priority for enhanced aerial threat protection, which will use systems such as Counter Rocket Artillery and Mortar (CRAM), Terminal High Altitude Area Defense (THAAD), and Patriot.

The development of these capabilities has increased the average soldier load, creating the need to develop more efficient energy generation and power storage capabilities, lighter protective armor, and fully integrated unmanned ground systems.

Finally, providing standoff detection, characterization, and timely alert of chemical, biological, and radiological hazards to maneuvering forces continues as a priority science and technology (S&T) focus.

General PAXTON. Our greatest capability gaps are centered around our ability to move forces ashore during amphibious operations under tactical scenarios that require greater standoff distances of 12 to 25 miles from ship-to-shore based on the threat. Due to the cancellation of the Expeditionary Fighting Vehicle, the Corps is struggling to maintain our current capability, which lacks the required capability to achieve stand-off distance, while we simultaneously seek a suitable replacement that can achieve the required distances and also execute its mission once ashore.

Also, due to the sun-downing of the EA–6B airborne electronic warfare capability in 2019, the Corps may experience a void in all the required electronic warfare capabilities until new systems come on line and a reshuffling of electronic warfare personnel are complete. These efforts will need to be complete in order to maintain an air/ground electronic warfare capability suited to expeditionary, joint, or combined operations across the Marine Corps.

General SPENCER. The ability to penetrate, operate, hold targets at risk, and persist in highly contested environments is our Service's greatest challenge. The long-term Air Force commitment is to maintain the world's best air force and sustain the capability to operate wherever and whenever the Nation requires, including highly contested airspace. Near-term improvements, acquisitions, and funding critical readiness programs such as flying hours, WSS, and training ranges will bolster the Air Force's capability to support our Joint Forces. Specifically, the Air Force must continue to move forward with force modernization of key weapon systems and inventory fulfillment of preferred munitions.

Our legacy, or fourth-generation fighter fleet has secured more than 20 years of an air superiority advantage, but may lose its ability to operate as effectively against adversary anti-access/area-denial (A2/AD) strategies. Air superiority, a prerequisite to modern joint warfare, and long-range strike capabilities cannot be assumed. New, more-capable threats and corresponding investment needs are not theoretical future possibilities. They are here, now. Significant investment in fifth-generation platforms and preferred munitions is essential to address these threats. The future success of the Nation's military and the joint team depends on modernizing our Air Force and keeping it ready to fight. Weapon systems like the F–22, with contributions from the F–35, are what will carry America's Air Force forward to continue to provide air superiority. The LRS–B is a key piece of the development of our long-range strike family of systems, the capabilities of which are critical to our ability to carry out our global strike mission. There are also areas of research and development which have the potential to sustain and extend America's edge in aerospace technology, which will be delayed or not fielded given current resource constraints. Potential examples include ballistic missile defense and advanced jet engine development.

Admiral CULLOM. One of the most important characteristics of our naval force is that we operate forward where it matters. Some of our most significant capability gaps are where potential adversaries develop or invest in A2/AD systems and strategies. The gaps that the Navy faces from A2/AD threats include:

- Mines
- Small boat attacks
- Anti-ship missiles
- Undersea threats from adversary submarines and torpedoes
- Air threats from advanced aircraft and aircraft targeting systems
- Cyber attack capabilities
- Denying access to coastal areas and port facilities

The Navy's fiscal year 2015 budget submission prioritizes developing future capabilities in the above domains to address these capability gaps. Our development of future capability is bench-marked to support our rebalance toward the Asia-Pacific region and is guided in large part by the Air-Sea Battle concept, which implements the Joint Operational Access Concept. Both these concepts are designed to assure U.S. forces freedom of action and access to support deterrence, assurance of our allies and partners, and the ability to respond to crises. Our investments (detailed in question #30) focus on assuring access in each domain, often by exploiting the asymmetric capability advantages of U.S. forces across domains.

30. Senator AYOTTE. General Campbell, General Paxton, General Spencer, and Admiral Cullom, what funding is included in the fiscal year 2015 budget request to address those capability gaps?

General CAMPBELL. To address the Army's key capability gaps, the Army is bringing both materiel and non-materiel solutions to the table. As in Iraq and Afghanistan, we are continuing to bring asymmetric capabilities in the Army inventory through the rapid and deliberate introduction of new technologies and strategies. In this vein, the Army has programmed over $250 million in the fiscal year 2015 budget request to support our top S&T priority—detecting and defeating IEDs. We are currently bringing many other selected capabilities, called non-standard equipment, into program of record status and keeping those key capabilities present in the force until those programs of record come on line. The Army will only invest in right capabilities and in the right quantities. Other emerging threats that do not have currently achievable technological responses are being addressed through other S&T efforts. The Army has continually protected this funding, amounting to approximately $60 million in fiscal year 2015, even with the overall topline reductions.

Those programs that directly relate to the individual soldier's lethality, survivability, and connectivity have been prioritized with the Army requesting over $620 million for fiscal year 2015. Maintaining the best body armor, improving weapon systems, and networking tactical units are all funded in the Army's program. Our top priority materiel programs include the AMPV ($90 million in fiscal year 2015) as well as enhancing our network operations via the WIN–T ($1.79 billion in fiscal year 2015) and the DCGS–A ($179.7 million in fiscal year 2015) programs. Furthermore, existing systems such as unmanned ground systems are being retained and improved in ongoing programs of record and through the maintenance of rapidly procured non-standard equipment. Providing active defense against rocket/mortar fire is being accomplished with over $40 million programmed for continual development and improvement of the CRAM system. Continued investment in THAAD and

Patriot, with $920 million programmed in fiscal year 2015, also contributes to countering increased adversary capabilities.

From the perspective of non-materiel solutions, leader training and development, to include Department of the Army civilian education programs, are essential to maintaining the vitality of our Army and we propose funding of nearly $650 million in fiscal year 2015 to support these programs. In addition to this leader specific training, we've funded our domestic Combat Training Centers to support the global force requirement as well as programming $5 billion in our ground operational tempo accounts primarily focused on improving unit level training and readiness targets. Another example of our investment in non-materiel is the Army's provision of regionally aligned forces to combatant commanders to ensure the Joint Force ability to project power in contested environments. We've set aside over $500 million in fiscal year 2015 for these Phase 0 cooperative security and partnership building activities to play a significant role in shaping the operational environment, strengthening relationships, enhancing partner capacities, enhancing leader development, and ultimately assuring access for friendly forces. These efforts help enable the Army to integrate, operate, and project power as part of the Joint Force and conduct and sustain decisive operations, in austere and contested operational environments.

General PAXTON. We have preserved sufficient funding to continue incremental development of the replacement for our aging AAV replacement the ACV. The Marine Corps is also partnering with the Navy to explore options for improved ship-to-shore connectors and alternate forms of lift which will greatly enhance our ability to conduct expeditionary operations from greater stand-off distances.

We are also exploring unmanned aerial vehicle options to replace the EA–6B's electronic warfare capabilities while also leveraging the inherent capabilities of the F–35.

General SPENCER. The Air Force fiscal year 2015 budget request is strategy-based, fiscally informed, and sets a course toward full-spectrum readiness of the force to support the defense strategy. Furthermore, the fiscal year 2015 request addresses modernization challenges and keeps the Air Force top three acquisition priorities (KC–46A aerial tanker, F–35A JSF, and LRS–B) on track. These are critical programs to ensure the Air Force can operate and win in highly contested environments worldwide.

Specifically, the fiscal year 2015 research, development, test, and evaluation budget request includes approximately $800 million for the KC–46A and $600 million to support development of the F–35A JSF. It also funds approximately $900 million toward efforts to develop a new long-range, nuclear capable, penetrating bomber. The fiscal year 2015 procurement portfolio delivers both immediate and future capabilities through investments across four specific appropriations: aircraft, missile, ammunition, and other procurement. In fiscal year 2015, the Air Force request includes $1.5 billion for procurement of 7 KC–46As and just under $4.3 billion to procure 26 F–35As, including spares, simulators, and modifications.

The priorities articulated and funded in the fiscal year 2015 budget request balance the Air Force's requirement to support the current defense strategy in today's fiscally constrained environment. We will continue making tough trade-offs to preserve our core capabilities and deliver on our commitment to national defense.

Admiral CULLOM. The fiscal year 2015 budget submission improves capabilities in our ability to counter A2/AD threats and address vulnerabilities in our capabilities and provides our forces with proven technologies that limit the adversary's ability to defeat our ability to project power.

- Mine threat: Countering potential enemy ability to use mines to deny access to naval forces continues to be a significant emphasis in the near-term. The Navy budget request funds Littoral Combat Ship Mine Countermeasure (MCM) Mission Package development to include MH–60S helicopter Airborne Laser Mine Detection System and Airborne Mine Neutralization System systems, MCM hull-mounted sonar, and accelerates fielding of the MK–18 UUV and Seafox mine neutralization system.
- Small boat and anti-ship missile threat: Small boats with explosives and anti-ship missiles remain a potential threat to our forces in the constrained waters of the Arabian Gulf. The Navy budget request funds integration of Advanced Precision Kill Weapon system into our MH–60R helicopters to counter small boats with explosives or anti-ship missiles. The Laser Weapons system is also being tested in the Arabian Gulf onboard USS *Ponce* and we are investing in development and testing of near-term modifications to existing weapons on our larger surface combatants.
- Undersea threat: Navy's dominance of the undersea domain provides U.S. Forces their most significant asymmetric advantage. Our investments continue to improve our capability to deny the undersea to adversaries, while

exploiting it for our own operations. The Navy budget request sustains and plans production of proven Anti-Submarine Warfare platforms including MH–60R Seahawk helicopters, P–8A Poseidon maritime patrol aircraft, DDG–51, and *Virginia*-class nuclear submarines. The request also funds capabilities such as advanced airborne sensors for the P–8A Poseidon, accelerates torpedo defense systems for large surface combatants and aircraft carriers, improves Navy's Undersea Surveillance system, continues development of the Large Displacement Unmanned Underwater Vehicles, and additional payloads for existing submarines. We also continue to practice and refine warfighting in war games and real-world exercises including Rim of the Pacific which practices high-end ballistic missile defense, anti-surface warfare, and anti-submarine warfare in simulations and live-fire missile and torpedo events.

- Air threat: Air power is a key component of the naval force, and improving the capability of our Carrier Strike Groups to project power despite threats to access closes a key gap. The Navy budget request funds the continued development and low rate production of the new F–35C Lighting II and capability improvements such as infrared sensors and weapons that provide air-to-air capability that are not susceptible to radio frequency jamming. The request also funds improvements to further network sensors and weapons in the Navy Integrated Fire Control Counter Air capability that uses a network between AEGIS ships and the E–2D aircraft to seamlessly share threat information. Lastly, the budget funds the development and testing of the Unmanned Combat Air System Demonstrator.
- Electromagnetic Spectrum and Cyber: Future conflicts will be fought and won in the electromagnetic spectrum and cyberspace, which are converging to become one continuous environment. This environment is becoming increasingly important to defeating threats to access, since through it we can disrupt adversary sensors, command and control, and weapons homing. The Navy budget request includes the Next Generation Jammer, Surface Electronic Warfare Improvement Program (SEWIP) procurement, accelerates research and development on SEWIP Block 3, fields new deployable decoys to defeat anti-ship missiles, and continues procurement of improvements to Navy's Ships Signal Exploitation Equipment to provide protection from electronic attack.
- Amphibious warfare: The flexibility to come ashore in unexpected areas or from less predictable directions is an asymmetric advantage against adversary anti-access efforts. The Navy budget requests training funds to continue integrated operations with the Marine Corps; construction of an 11th "big deck" amphibious assault ship (LHA–8), which will bring enhanced aviation capacity and a traditional well deck to expand its ability to support the full range of amphibious operations; improvements to extend the life of USS *Peleliu* through fiscal year 2015; and sustaining our ship-to-shore connector capacity through life extensions and recapitalization.

31. Senator AYOTTE. General Campbell, General Paxton, General Spencer, and Admiral Cullom, what are the risks if we continue to consume readiness at the rate you project, without providing the funding needed to restore it?

General CAMPBELL. To meet contingency plan timelines developed by the combatant commands, the Army must provide forces that are ready and capable of immediately deploying for the full range of military operations.

If we continue to consume readiness at projected rates without funding to restore it, we will incur the following risks: (1) less flexibility in the employment of Army forces to meet emergent crises; (2) the inability to provide the required amount of Army forces on time to meet major contingencies; and (3) increased casualties for a major contingency due to the employment of less-ready forces.

General PAXTON. The risk is that sustained sequestration would make the National Defense Strategy unfeasible. A sequester-level budget does not provide a joint force large enough, ready enough, or modern enough to meet strategic needs. It would begin making the Marine Corps less ready in 2017 and beyond. The cost could be in terms of lives.

General SPENCER. The reality of the Air Force budget is that without sufficient readiness funding, we assume greater risk across the full range of military operations required to support the defense strategy. Current fiscal constraints pose difficult choices between our strategy-based modernization/acquisition programs and the need to simultaneously address our near- and long-term full-spectrum readiness shortfalls. Without adequate readiness funding, the Air Force cannot maintain a ready force or even begin reversing our long, downward readiness trend, which we

are currently addressing in fiscal years 2014 to 2015 under the funding provided by the BBA.

The return of BCA funding levels would significantly impact our ability to adequately resource WSS, depot maintenance, training ranges, preferred munitions, and large-force exercises. If BCA funding levels return, readiness will decline across all Air Force core missions and we will not be able to meet our 2023 readiness goals.

Under BCA funding levels, the Air Force will continue to meet rotational and combatant commander demand and maintain readiness for our units in Korea, but will be hard-pressed to do anything above this with ready forces. Depending on the outcome of future BCA-driven planning and programming tradeoffs, our units may have to fly at reduced training rates and the Air Force may again be forced to stand down units similar to actions taken in fiscal year 2013. This will result in fewer ready forces available to support the defense strategy.

Admiral CULLOM. Navy continues to prioritize near- to mid-term readiness at the expense of new procurement, modernization, and ordnance. Driven by the uncertain fiscal environment, this is not a cost-effective or sustainable position over the long-term. The fiscal year 2015 budget submission provides a path to properly balance current and future readiness to meet the mission requirements of the DSG with some increased risk compared to the fiscal year 2014 request. We will continue to fund readiness of our forward stationed and rotationally deploying units. Without the requested funding across the FYDP, however, the result will be a smaller and less capable Navy that is unable to meet some DSG primary mission areas.

32. Senator AYOTTE. General Campbell, General Paxton, General Spencer, and Admiral Cullom, is this what General Dempsey refers to when he says we could be on a path where the "force is so degraded and so unready" that it would be "immoral to use the force"?

General CAMPBELL. While I cannot speak to precisely what General Dempsey was referring, I can say that we all believe the American people rightfully expect that if soldiers are sent into harm's way, they are properly led, equipped, and trained to accomplish their mission and return home safely. Realistic, challenging training is necessary if our Army is to meet these obligations in the face of committed adversaries.

The current security environment is complex and constantly evolving. U.S. Forces, particularly land forces, must be able to contend with both state and non-state actors across the range of military operations. To succeed in this threat environment and protect U.S. interests, Army forces train to conduct missions that range from humanitarian assistance and disaster relief to high intensity combat-mission sets that require different skills and competencies. Cuts in readiness funding negatively impact our ability to quickly and decisively respond to threats and challenges, which can ultimately result in increased casualties, increased costs, and increased duration of conflicts.

General PAXTON. The risk is that sustained sequestration would make the National Defense Strategy unfeasible. A sequester-level budget does not provide a joint force large enough, ready enough, or modern enough to meet strategic needs. It would begin making the Marine Corps less ready in 2017 and beyond. The cost could be in terms of lives.

General SPENCER. It is our title 10 responsibility and sworn duty to provide airmen the required training, resources, and equipment so that they can successfully accomplish their assigned missions with an acceptable level of risk. However, for more than 20 years, Air Force readiness has been on a downward trend and funding levels under the BCA only serve to accelerate this decline. With recent sequestration-driven cuts, our forces may not be sufficiently equipped, trained, and ready, which increases risk to the force and risk in our ability to achieve desired operational and strategic outcomes. The degree of risk depends on a number of factors—such as the threat environment and our strategic and operational objectives. Increased risk alters our—and our adversary's—decision calculus, which can effectively limit strategic options for the President and combatant commanders. Ultimately, sequestration has forced us to budget for less than is required to field sufficient ready forces that can operate across the full spectrum of military operations.

Admiral CULLOM. A return to sequestration-level funding in fiscal year 2016 and beyond will result in increased risk in the readiness of our nondeployed forces and reductions in future force structure/modernization in order to fund readiness of our forward deployed forces and those preparing to deploy. Nondeployed forces are those we call on for additional contingency response and their readiness would further degrade. It is important to recognize that this concern is about more than just the immediate readiness of the force. It is also about the long-term professional skills and leadership experience of our people. Diminished capacity to conduct sustained oper-

ational training impacts our most important advantage over any potential adversary—our highly-trained and motivated sailors. Additionally, reductions in force modernization incur long-term risks to Navy's ability to maintain asymmetric technological advantages.

AIR FORCE READINESS BACKLOG

33. Senator AYOTTE. General Spencer, Air Force Secretary Deborah Lee James testified before the House Armed Services Committee a couple of weeks ago that under the existing Air Force budget plan, it will take 10 years to return to full readiness. Is this 10-year plan built to the President's budget and out-year funding that exceeds the BCA caps?

General SPENCER. Fiscal year 2015 budget request funding levels are the minimum required to achieve Air Force readiness goals by 2023. The reality of the Air Force budget is that without sufficient readiness funding, we assume greater risk across the full range of military operations required to support the defense strategy. Current fiscal constraints pose difficult choices between our strategy-based modernization/acquisition programs and the need to simultaneously address our near- and long-term full-spectrum readiness shortfalls. Without adequate readiness funding, the Air Force cannot maintain a ready force or even begin reversing our long downward readiness trend, which we are currently addressing in fiscal years 2014 to 2015 under the funding provided by the BBA.

The return of BCA funding levels would significantly impact our ability to adequately resource WSS, depot maintenance, training ranges, preferred munitions, and large-force exercises. If BCA funding levels return, readiness will decline across all Air Force core missions and we will not be able to meet our 2023 readiness goals.

Under BCA funding levels, the Air Force will continue to meet rotational and combatant commander demand and maintain readiness for our units in Korea, but will be hard-pressed to do anything above this with ready forces. Depending on the outcome of future BCA-driven planning and programming tradeoffs, our units may have to fly at reduced training rates and the Air Force may again be forced to stand down front line combat units similar to actions taken in fiscal year 2013. This will result in fewer ready forces available to support the defense strategy. Also, the Air Force will be forced to consider additional force structure options, such as divesting the KC–10 and Global Hawk Block 40 fleets and reducing by 10 the number of MQ–9 orbits. BCA-level funding means cuts to our readiness and recapitalization/modernization accounts and will result in a less capable, smaller force that's even less ready for tomorrow's fight.

34. Senator AYOTTE. General Spencer, what will be the impact if funding for the next 5 years is limited to caps?

General SPENCER. The return of BCA funding levels would significantly impact our ability to adequately resource WSS, depot maintenance, training ranges, preferred munitions, and large-force exercises. If BCA funding levels return, readiness will decline across all Air Force core missions and we will not be able to meet our 2023 readiness goals.

Under BCA funding levels, the Air Force will continue to meet rotational and combatant commander demand and maintain readiness for our units in Korea, but will be hard-pressed to do anything above this with ready forces. Depending on the outcome of future BCA-driven planning and programming tradeoffs, our units may have to fly at reduced training rates and the Air Force may again be forced to stand down front line combat units similar to actions taken in fiscal year 2013. This will result in fewer ready forces available to support the defense strategy.

35. Senator AYOTTE. General Spencer, does your 10-year plan become a much larger one?

General SPENCER. The return of BCA funding levels will result in further readiness erosion across all Air Force core missions. BCA funding levels will force us to make significant tradeoffs and program cuts among our readiness and recapitalization/modernization accounts, preventing us from achieving our readiness goals at all, let alone by 2023.

Fiscal year 2015 budget request funding levels are the minimum required to achieve Air Force readiness goals by 2023. Without adequate readiness funding, the Air Force cannot maintain a ready force or even begin reversing our long downward readiness trend, which we are currently addressing in fiscal years 2014 to 2015 under the funding provided by the BBA.

36. Senator AYOTTE. General Spencer, if your 10-year plan becomes a much larger one, to what extent?

General SPENCER. The return of BCA funding levels will result in further readiness erosion across all Air Force core missions. BCA funding levels will force us to make significant tradeoffs and program cuts among our readiness and recapitalization/modernization accounts, preventing us from achieving our readiness goals at all, let alone by 2023.

The return of BCA funding levels would significantly impact our ability to adequately resource WSS, depot maintenance, training ranges, preferred munitions, and large-force exercises. Depending on the outcome of future BCA-driven planning and programming tradeoffs, our units may have to fly at reduced training rates and the Air Force may again be forced to stand down front line combat units similar to actions taken in fiscal year 2013. This will result in fewer ready forces available to support the defense strategy. Also, the Air Force will be forced to consider additional force structure options, such as divesting the KC–10 and Global Hawk Block 40 fleets and reducing by 10 the number of MQ–9 orbits.

BCA-level funding means cuts to our readiness and recapitalization/modernization accounts, resulting in fewer ready forces available to support the defense strategy and will result in a less capable, smaller force that's even less ready for tomorrow's fight.

37. Senator AYOTTE. General Spencer, what would be the risks of letting this happen?

General SPENCER. BCA-level funding means cuts to our readiness and recapitalization/modernization accounts, resulting in fewer ready forces available to support the defense strategy and will result in a less capable, smaller force that's even less ready for tomorrow's fight.

Under BCA funding levels, the Air Force will continue to meet rotational and combatant commander demand and maintain readiness for our units in Korea, but will be hard-pressed to do anything above this with ready forces. Depending on the outcome of future BCA-driven planning and programming tradeoffs, our units may have to fly at reduced training rates and the Air Force may again be forced to stand down units similar to actions taken in fiscal year 2013. This will result in fewer ready forces available to support the defense strategy.

ARMY AND AIR FORCE DEPOTS

38. Senator AYOTTE. General Campbell, the Army is projecting that they will have $4.7 billion in depot workload carryover as you enter fiscal year 2015. Does your fiscal year 2015 budget request allow you to work down some of this carryover, and how will it impact your ability to reset Army equipment?

General CAMPBELL. The Army is projecting approximately $4.5 billion to $4.7 billion in carryover from fiscal year 2014 to fiscal year 2015, which is down from $5.0 billion in fiscal year 2013. Unplanned new orders and operational uncertainties may prevent the Army from falling within this range. However, the Army has sufficient capacity to continue the downward trend in carryover. Planned fiscal years 2014 and 2015 workload will continue to meet unit readiness objectives for the reset of Army equipment.

39. Senator AYOTTE. General Spencer, what depot challenges is the Air Force facing?

General SPENCER. The greatest challenge facing the Air Force depots is budget uncertainty. This impacts the workforce, suppliers, and customers. The uncertainty drives risk in planning for the Air Force depot customers due to schedule and availability of assets. The budget uncertainty does not allow the depots to size to the workload early in the planning process, resulting in staffing uncertainty, impacting workforce stability, lowering workforce morale, and causing unnecessary production variance, all of which drives reduced efficiency and effectiveness at the depots. The budget uncertainty impacts all levels of suppliers supporting the depots' workload, since Air Force cannot provide suppliers with a firm forecast of the workload. Many of the suppliers are small businesses, and the inability of the Air Force to provide a firm demand forecast increases inefficiency and drives longer delivery times of material in support of depot production. All of these challenges will only be exacerbated if sequestration returns in fiscal year 2016.

CYBER READINESS REPORTING

40. Senator AYOTTE. General Campbell, General Paxton, General Spencer, and Admiral Cullom, it has come to our attention that the readiness reporting for U.S. Cyber Command (CYBERCOM) lacks meaningful data to fully evaluate the current readiness of our national cyber forces. With plans to build a total of over 6,000 cyber warriors, do you agree that improved readiness metrics would benefit each of your Services as well as CYBERCOM?

General CAMPBELL. Improved readiness metrics will benefit both the Army and CYBERCOM. CYBERCOM, in coordination with its Service components, the Joint Staff, and the Services, is currently developing such detailed metrics that will allow us to measure the unit readiness of the various teams comprising the cyber mission force. Normal metrics include the ability of a unit to conduct its mission essential tasks, measures of personnel, equipment (on-hand and conditions), and accomplishment of individual and collective training. CYBERCOM is well along in developing a detailed training and readiness manual that defines the mission essential tasks of the various team types as well as the individual and collective training standards. The effort to determine equipment requirements for the teams is lagging somewhat, but that process is in development as well. We are confident that the appropriate metrics will be put in place as we grow and mature this force.

General PAXTON. Our Service component to CYBERCOM, Marine Forces Cyber Command, has already developed mission essential tasks with detailed standards for the component headquarters that it reports in Defense Readiness Reporting System-Marine Corps. CYBERCOM, in coordination with its Service components, the Joint Staff, and the Services, is in the process of developing detailed metrics which will allow us to measure the readiness of the cyber mission force. Normal metrics include a capability assessment against a defined mission essential task list, and appropriate measures for personnel, equipment, and training. CYBERCOM is well along in developing a detailed training and readiness manual which defines the mission essential tasks of the various team types as well as the individual and collective training standards. Determining the equipment requirements for the teams is lagging somewhat, but is in development as well. We will continue to work with CYBERCOM to put appropriate readiness metrics in place as we grow the cyber mission force.

General SPENCER. CYBERCOM, in conjunction with the Services, continues to develop and refine the Cyber Forces concept of operations and the associated training and readiness manual. Our end state is a Joint Mission Essential Task (JMET) list with measurable standards, and we are working with CYBERCOM and the Services to reach that goal. Toward that end-state, the Service cooperation and contributions experienced so far are positive and progress is measureable. In the meantime, the standards that we are using allow us to monitor and report our cyber mission force build status and readiness reporting based on the quantitative statistics and commander assessments. Those measures include an assessment of:

(1) Personnel, Individual Training, and Collective Training
(2) Network Access and Equipment Access
(3) A Capability Assessment

Readiness metrics that are: (a) based on JMETs; (b) inherited through the Defense Readiness Reporting System; and (c) quantifiable or measurable in a red, yellow, or green status (90–100 = green, 75–89 = yellow, etc.), will benefit both the Air Force and CYBERCOM.

Admiral CULLOM. Improved readiness metrics would benefit both Navy and CYBERCOM. Navy is working to enable Navy Cyber Units to assess cyber-related mission essential tasks in the Defense Readiness Reporting System-Navy. Upon completion, these unit assessments will be imported by Defense Readiness Reporting System-Strategic and represent Navy's input to CYBERCOM's strategic assessment of the overall readiness of our national cyber forces.

AIR FORCE MUNITIONS

41. Senator AYOTTE. General Spencer, are you experiencing any shortfalls in ammunition for training and operational requirements?

General SPENCER. Yes, the Air Force procured fewer practice munitions than we plan to expend to keep combat crews certified in fiscal years 2014 and 2015. If funding is not increased, a training munitions shortfall is expected to occur. Also, the Air Force faces operational munitions inventory shortages, particularly in preferred munitions. Correcting this remains a high priority for the Air Force, but the current fiscal environment has forced us to make tough choices.

42. Senator AYOTTE. General Spencer, do you have inventory shortfalls in precision air-to-air weapons and air-to-ground weapons such as Advanced Medium-Range Air-to-Air Missiles, Joint Direct Attack Munitions (JDAM), and High-speed Anti-Radiation Missiles?

General SPENCER. Yes, Air Force preferred munitions (AIM–120, AIM–9X, JDAM, JASSM/ER, SDBI/II, Hellfire) inventories are short of inventory objectives. Preferred munitions remain a high priority for the Air Force; however, the current fiscal environment has forced us to make tough choices.

FORCE STRUCTURE, END STRENGTH, AND TOTAL FORCE POLICY

43. Senator AYOTTE. General Campbell, I understand regardless of what happens with sequestration, the Army will be required to further reduce end strength to 420,000 Active, 315,000 Army National Guard, and 185,000 Army Reserve. In terms of BCTs, at the fiscal year 2019 force level, this translates to 24 Active BCTs and 22 Army National Guard BCTs, down from the current 33 Active BCTs and 28 National Guard BCTs. Would you please articulate the risk associated with reducing Army end strength to these levels?

General CAMPBELL. In line with the 2014 QDR, the Army is planning to reduce the force to 450,000 Active component, 335,000 National Guard, and 195,000 Reserve (a total of 980,000 soldiers) by fiscal year 2017. As the Chief of Staff of the Army has testified, a force at 980,000 is the absolute minimum force size to execute the DSG albeit at high risk. Achieving an acceptable outcome with this force structure requires a series of assumptions that history has generally proven to be inaccurate; specifically, that any combat operation or contingency is short and relatively bloodless, and that there are no requirements for a long-term presence of U.S. forces.

If implemented, BCA spending caps can result in an Army end strength of 920,000 in fiscal year 2019. At these force levels, the Army would be unable to successfully conduct all components of a major combat operation under terms acceptable to the United States. As a result, the very real probability exists that U.S. Forces would be unable to sustain conflict long enough to mobilize, train, and deploy additional formations. This will lead to an outcome inconsistent with DSG goals and objectives.

If the BCA continues, the end result will be an Army unable to respond quickly or decisively enough to ensure an outcome consistent with American goals and objectives. Further, any outcome that is achieved will come at a much higher cost in terms of blood, treasure, and time.

44. Senator AYOTTE. General Campbell, what are the readiness implications of driving the Army to these levels?

General CAMPBELL. As the Army gets smaller, the readiness of individual units (i.e. capabilities) is overshadowed by a shortfall in the quantity of Army forces (i.e. capacities) needed to prosecute the National Security Objectives specified in the Guidance for the Employment of the Force. The assumption that a smaller Army with more highly ready units can execute the National Military Strategy ignores the historical trends that clearly depict the sustained consumption of Army readiness that resulted from successive operational deployments to Iraq, Afghanistan, and elsewhere in support of the combatant commanders. For example, in 2013 the combined effects of over a decade of operational requirements, the impacts from the BCA, and the rapid downsizing of Army end strength, created conditions that led to the Army only having two fully trained and ready BCTs able to execute contingency operations with minimal risk.

At the proposed levels of force structure and end strength, the Army would not have the capacity of ready units to provide decisive land forces necessary to defeat an adversary while simultaneously fulfilling required day-to-day National Military Strategy demands within acceptable levels of risk.

45. Senator AYOTTE. General Campbell, what can be done to mitigate the impact on readiness?

General CAMPBELL. There are three primary factors that impact Army readiness: strategy; resourcing; and demand for Army forces. Clearly, Army resourcing levels have been reduced, and are projected to shrink to a lower level thru the FYDP. Without any change to the Army top line resourcing levels, to preserve readiness we will either have to modify our strategy or reduce the daily demand for Army forces.

46. Senator AYOTTE. General Paxton, the Marine Corps will be forced to reduce to an end strength of 175,000 marines and 21 battalions down from 182,700 marines and 28 battalions. Would you please articulate the risks and the readiness implications of drawing down the Marine Corps to these levels?

General PAXTON.

- The current budget supports the 175,000 force at moderate risk. At this force level, 20 of our 21 battalions will be required for a major war, but those battalions would be adequately trained and ready. We're all in until the war is over. We will have very little left for crises that could occur in other parts of the world.
- A return to sequestration in fiscal year 2016 with a 175,000 force would equate to high risk. At this lowered 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 will be higher. This is what we mean when we say high risk.
- A fully resourced 182,000 force is capable of supporting the QDR at moderate risk with increases in capacity and reduced operational tempo. While this force is not our preferred force of 186,000, it does lower risk by creating additional fully resourced units. This would require an additional $3 billion over the FYDP above the President's budget for fiscal year 2015.
- Manning the Marine Corps at 182,000 under the President's budget for fiscal year 2015 creates a danger of a hollow force. This is the worst option for us. We'll have more units than we can train and equip properly.

QUESTIONS SUBMITTED BY SENATOR MIKE LEE

ARMY AVIATION RESTRUCTURING

47. Senator LEE. General Campbell, the President's budget proposes a restructuring of Army aviation that would see all National Guard Apache helicopters transferred to Active Duty units and Blackhawks transferred to the National Guard. This would mean that the Army National Guard will lose its entire Apache attack capability, and the military will lose the vast experience gained by National Guard Apache crews and mechanics over this past decade of war. I understand that the budget cuts mean very hard decisions and sacrifice from all elements of the force. Are you concerned about this loss of well-trained and experienced National Guard Apache units?

General CAMPBELL. No, we are not concerned with moving Apaches from the National Guard. Shrinking budgets, exacerbated by the BCA, drove us to reevaluate the strategy for Army aviation. Careful analysis resulted in the reduction of three Active component aviation brigades and the restructuring of remaining aviation brigades to optimize their efficiency and utility at Home and abroad. Central to this restructuring were the complete divestment of the OH–58D helicopter and the transfer of all AH–64s to the Active component.

Considering all OH–58D and AH–64 battalions in the Total Force, the Army currently has 37 "shooting" battalions. However, following the divestment of the aged and increasingly costly OH–58D, the Army will only have enough attack aircraft to man 22 AH–64 battalions. Based on national security strategy and expected combatant commander demands, these low-density, high-demand battalions must reside in the Active component at higher readiness levels and reduced deployment restrictions. Any change to this plan introduces significant risk to the Army's capacity to meet mission requirements.

I am also not concerned about losing well-trained and experienced National Guard Apache crews because under the Army's plan, we will still be benefitting from their experience in transformed UH–60 Blackhawk battalions. To be sure, not all personnel will remain in the National Guard; however, those Apache-qualified personnel who transition to other aircraft will bring their quality and experience to enhance the capabilities of those platforms and formations. They will still provide efficient and effective support at Home and abroad, they will just be doing so in different helicopters.

Ultimately, the Army, including all components, will reduce structure to meet the constraints of funding. However, the aviation restructure plan enables the Army to meet the demands abroad and within the Homeland. Single-role Apache attack helicopters will be best positioned to respond to requirements abroad. The National Guard will receive 111 additional UH–60L Blackhawks to augment their capacity to address Homeland missions while remaining essential for combat deployments in the assault and medical evacuation roles.

48. Senator LEE. General Campbell, what effect will the loss of this Guard attack capability have on readiness?

General CAMPBELL. The Aviation Restructure Initiative (ARI) increases the readiness of the Army, and the transfer of AH–64 Apache helicopters from the National Guard to the Active component is central to the plan.

Fiscal constraints forced the Army to reduce structure in the Total Force. In order to avoid a hollow army by retaining structure at the expense of readiness, the Army will reduce structure. The ARI adroitly reduces structure and cost while simultaneously maintaining readiness and capacity to meet mission demands at Home and abroad. Central to the plan is the complete divestment of the aged and increasingly costly OH–58D Kiowa fleet and the transfer of all AH–64 Apaches to the Active component.

The Army has sufficient amounts of AH–64s to fully equip and man 22 AH–64 battalions. Combatant commander mission demands require all of those battalions to remain at the highest levels of readiness with the least amount of deployment restrictions. Only by placing all of those high-demand, low-density assets in the Active component can the Army maintain the necessary readiness and deployability dictated by national security requirements.

In return for transferring AH–64s to the Active component, the National Guard will receive 111 UH–60L Blackhawk helicopters. These dual-role aircraft, with reduced training requirements, will increase National Guard readiness and capacity to address Homeland missions. Additionally, the National Guard will be increasingly ready and relevant to contribute to combat missions in the assault and MEDEVAC roles.

The ARI, particularly the transfer of AH–64s to the Active component, increases the readiness of the Army to meet mission demands. Alternate courses of action that include the National Guard retaining AH–64s markedly decrease readiness and preclude the Army's capacity to fully address national security requirements.

49. Senator LEE. General Campbell, what does the Army estimate it will save per year with this aviation restructuring?

General CAMPBELL. The ARI will reduce operations and sustainment costs by approximately $1.1 billion annually due to the reduction in overall structure.

Additionally, the ARI avoids approximately $12 billion in imminent costs. If the Army does not execute ARI, we would be forced to retain many of our oldest and least capable aircraft while divesting several hundred modernized airframes. For example, upgrades to the Kiowa Warrior would cost over $10 billion and replacing the legacy TH–67 training helicopter would add another $1.5 billion. In addition, lower procurement rates of modernized aircraft would cost the Army approximately $15 billion. These costs would be unbearable for the Army under the current budget constraints and would risk creating a hollow force, with less overall capability and less investment in modernization.

50. Senator LEE. General Campbell, is the Apache helicopter the best equipment to fill the Scout role that needs to be filled because of the Kiowa Warrior's divestment?

General CAMPBELL. Yes, under the current fiscal constraints and available options the AH–64 Apache helicopter is the best equipment solution to fill the Scout/reconnaissance role. The Apache, when teamed with an unmanned aircraft system (UAS), clearly outperformed all other competitors during the analysis of alternatives. It will allow the Army to use an existing airframe and capability while simultaneously reducing overall costs.

51. Senator LEE. General Campbell, what analysis was used to reach this conclusion?

General CAMPBELL. The analysis of alternatives conducted following the cancellation of the Armed Reconnaissance Helicopter major acquisition program determined that the best solution for armed reconnaissance was a team of AH–64E Apache helicopters and UASs.

The Apache outperformed competition in adverse environmental performance conditions (high temperature and altitude), and was more lethal due to sensor capabilities and increased weapons payload. The Apache also proved itself as being the most responsive (range and speed capabilities) and survivable, as well as being the most interoperable with joint platforms.

In the original analysis the AH–64 and UAS manned-unmanned-teaming solution was not chosen because it was unaffordable to buy and sustain additional AH–64s; however, the final decision to reduce aviation force structure is what will allow the Army to employ AH–64s and Shadow UASs that the Army already owns and sus-

tains to meet the Army's Armed Aerial Scout requirement. The AH–64 with its Modernized Target Acquisition and Designation System, teamed with unmanned platforms, is already being employed with tremendous success across Afghanistan.

AIR FORCE READINESS

52. Senator LEE. General Spencer, the President's budget proposes to retire the A–10 Warthog in favor of using multirole platforms to perform its job. What will be the effect on Air Force readiness if the A–10 is not retired?

General SPENCER. Without an approximately $4.2 billion addition to the Air Force's topline that is necessary to maintain the current A–10 fleet, the Air Force would be forced to shift critical funds out of our readiness and recapitalization/modernization accounts. Depending on the outcome of these budget-driven tradeoffs, units may be forced to fly at reduced training rates, resulting in fewer ready forces to meet the requirements of the defense strategy. In addition, the Air Force may again be forced to stand down units similar to actions taken in fiscal year 2013 and from which (as of April 2014) the Air Force has yet to fully recover.

If the Air Force is directed to retain the A–10 fleet without a requisite increase to our budget topline, we will be forced to divert vital funds out of our readiness and recapitalization/modernization accounts, resulting in fewer ready forces available to support the defense strategy and a less capable, smaller force that is even less ready for tomorrow's fight.

53. Senator LEE. General Spencer, in the face of the decreased budget that the Air Force has to work with, do you believe that the work being done at the Air Force depots to maintain and modernize our current weapons systems becomes more critical to your readiness?

General SPENCER. Depot maintenance and contract logistics support (CLS) are funded via our WSS accounts. WSS is a critical component of our overall readiness, and our Air Force depots will continue to play a critical role in maintaining that readiness. WSS directly impacts fleet availability and the ability of our front line units to generate aircraft at a rate that can support our flying hour program, and hence, our ability to train for the full spectrum of operations as called for in the defense strategy.

Currently, the Air Force is reliant on OCO funds to adequately resource our WSS accounts, of which depot activities are a significant part. Should OCO funding not be made available in future budgets and without an equivalent increase to the Air Force's topline, depot throughput would be significantly impacted and jeopardize our ability to meet our 2023 readiness goals.

54. Senator LEE. General Spencer, how can our maintenance and modernization work be used in a way that increases readiness and saves money for the Air Force?

General SPENCER. Depot maintenance and CLS are funded via our WSS accounts. WSS is a critical component of our overall readiness. WSS directly impacts fleet availability and the ability of our front line units to generate aircraft at a rate that can support our flying hour program, and hence, our ability to train for the full spectrum of operations as called for in the defense strategy.

To address the high demand for WSS in a resource constrained environment, the Secretary of the Air Force directed improvements in the linkage between resources and readiness. This 5-year initiative seeks appropriate strategy, process, and programming changes necessary to improve risk-based decisionmaking relative to WSS costs in support of readiness requirements. To accomplish this, the Air Force has begun a cross-functional sustainment enterprise effort to identify and improve WSS requirement drivers using three broad categories: (1) reducing costs; (2) improving risk-based decisions while avoiding material readiness impacts; and (3) balancing costs and performance.

DEPARTMENT OF DEFENSE AUTHORIZATION OF APPROPRIATIONS FOR FISCAL YEAR 2015 AND THE FUTURE YEARS DEFENSE PROGRAM

WEDNESDAY, APRIL 2, 2014

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 9:36 a.m. in room SR–232A, Russell Senate Office Building, Senator Jeanne Shaheen (chairwoman of the subcommittee) presiding.

Committee members present: Senators Shaheen, Donnelly, Hirono, Kaine, and Ayotte.

OPENING STATEMENT OF SENATOR JEANNE SHAHEEN, CHAIRWOMAN

Senator SHAHEEN. Good morning, everyone. Let me call the hearing to order and point out that since we scheduled the hearing, there is going to be a vote this morning. It is going to be at 10 a.m. I think it is only one vote. We will recess, go vote, and then return. I apologize for the interruption. I think they decided to vote after we scheduled the hearing.

I have an opening statement and I will try and be brief. Hopefully we can get through Senator Ayotte's comments and at least half of the panel before we have to leave for the floor to vote.

Today, the subcommittee meets to hear the testimony on the Department of Defense (DOD) fiscal year 2015 budget request for installations, military construction (MILCON), energy, the environment, and base closure programs.

Testifying this morning we have representatives from each of the Services and the Office of the Secretary of Defense (OSD) who are responsible for these programs. We look forward to your testimony. I want to extend a special welcome back to our witnesses from the great State of New Hampshire, Mr. Conger and Ms. Ferguson.

The President's budget request for MILCON and family housing is $6.56 billion in fiscal year 2015, which is nearly $4.5 billion, or 40 percent, less than what was requested last year. In addition, I understand that facilities sustainment, restoration, and moderniza-

tion requirements across DOD are funded at only 65 percent of the requirement necessary to keep our facilities in good working order. These reductions are no doubt a reflection of the tough budget choices and the need to protect funding for readiness and operations to the fullest extent possible.

However, these reductions also assume a significant amount of risk and ultimately a higher cost over the longer-term. I look forward to hearing more from our witnesses about the level of risk to our military facilities.

I am disappointed that DOD has again requested a base realignment and closure (BRAC) round in 2017. I do not believe that DOD has yet adequately explained how the significant cost growth we saw in the 2005 BRAC round would be avoided this time around or made sufficient progress in reducing the infrastructure overseas, particularly in Europe.

Facility and operational energy issues are also a major focus of today's hearing. In this difficult budget environment, it is critical that we pursue every possible opportunity for cost savings. Energy efficiency is not only the cheapest, easiest way to reduce operating costs; it also has the potential to continue to improve our warfighting capability and energy security. I look forward to hearing from each of you more about this today.

The President's budget request also includes $3.5 billion for defense environmental programs, down from last year's request and representing the fifth consecutive year of decreases in the funding. Despite limited resources, I look forward to hearing how DOD will continue to balance between environmental protection and readiness.

Last, I would like to note my strong support for the Air Force's proposed funding. I am sure I echo Senator Ayotte in this——

Senator AYOTTE. Absolutely.

Senator SHAHEEN.——for the bed-down of the KC–46A tanker at Pease Air National Guard Base. We are very proud of the 157th Air Refueling Wing in Pease, and of our National Guard, and I know that they will continue to provide the exceptional refueling support that the Air Force needs for decades to come.

Now, before our witnesses provide their opening remarks, I will turn to Senator Ayotte for her remarks.

STATEMENT OF SENATOR KELLY AYOTTE

Senator AYOTTE. Thank you, Madam Chairwoman.

I appreciate the witnesses being here. I want to thank all of you for your service at a very important time in our country's history. Of course, yahoo to the New Hampshire people who are here. It is fantastic.

Our country right now is facing a diverse, complex set of threats around the world. I appreciate the challenges that you are facing right now in terms of making sure that our troops have the training and equipment they need. But, I think, as Mr. Conger said in his written statement, installations support our military readiness. This is an important part of readiness as well and yet, it is often, I think, the first area that DOD has to turn to and has turned to cut. This year really is no exception.

The administration is proposing a significant cut to MILCON and facilities, sustainment, restoration, and modernization funding. As Senator Shaheen outlined, the fiscal year 2015 request for new construction and family housing is 33 percent lower than fiscal year 2014 enacted levels and 40 percent lower than the fiscal year 2014 request. This, as I look at this proposal, funds only what is required to keep DOD installations, as well as housing and other facilities, safe, secure, and operational. Many important decisions on deferring routine maintenance are being held off, including major purchases, where we are going to be accepting more risks and really hoping that we are able to sustain that another year. I think that is the challenge that we face here. I think, unfortunately, we have accepted more risks for the past 5 years and we have many systems that are in poor condition.

I am concerned about the condition of some of the facilities in which our service men and women operate. DOD has an increasing number of facilities that are in poor to failing condition, and this is true across all the Services, the Total Force, not just Active Duty, but also the Guard and Reserve. Certainly, I think, this is an important part of the hearing today about what risks we are taking on with this proposal.

In Senator Shaheen's and my home State of New Hampshire, the average condition index for assessed Army National Guard facilities was poor, trending to failing. In fact, since the mid-1960s, the New Hampshire Army National Guard has only been able to construct one new readiness center for soldiers. We are grateful for that, but the New Hampshire Army National Guard's largest readiness center in Manchester was constructed in 1932. It is grossly undersized. It does not comply with building code standards, as well as some of the key health and safety standards, as well as anti-terrorism force protection standards.

This, to me, as we think about this, is not just the investment we are making in the Active Duty, but we know that in the conflicts we have had in Afghanistan and Iraq, it has really been our Guard and Reserve who have been operational as well. These facilities are very important to ensure that our men and women in uniform, and our Guard and Reserve, are not in sub-par facilities that really have health and safety issues.

I look forward to better understanding how the Army determines the MILCON requirements in States as well and ensures that those requirements are met.

Let me just echo what Senator Shaheen said about the prioritization of funding for the Air Force investment in the KC–46, both with development and stationing. I share Senator Shaheen's views that this is great to see you prioritize this funding, and obviously we are incredibly proud that the Air Force chose the Pease Air National Guard Base to be the first Air National Guard Base to receive the KC–46A next-generation tanker. Thank you for prioritizing that in this proposal.

For the Navy, at our four public shipyards, I remain concerned that critical MILCON projects are still being delayed. That can negatively impact readiness and efficiency. Certainly, I appreciate some of the advances that we have made for the Portsmouth Naval Shipyard. But at the Portsmouth Naval Shipyard, there are two

projects that have been tentatively delayed by a year, the P285 barracks, from fiscal year 2015 to fiscal year 2016, and the P309 rail project from fiscal year 2016 to fiscal year 2017. These are projects that I am concerned about. I am also concerned that the public shipyards may not receive the 6 percent in MILCON funding as required by the minimal capital investment plan. I look forward to discussing these issues with our witnesses.

Again, let me just echo the comments of my colleague and the chairwoman that the administration's proposal for another BRAC round; I am very concerned about this proposal. It is not a proposal that I can support. The Government Accountability Office (GAO), as Senator Shaheen talked about, has done a number of studies of the 2005 BRAC round which found, among other things, that BRAC implementation costs grew to about $35 billion, exceeding the initial estimates that were given for the cost of this BRAC round by $21 billion, or 67 percent.

I certainly understand that DOD will make the case that this was somehow a unique BRAC round, but I remain concerned that we are going to be in a position where the costs we put into this will not be the return that we receive. In addition to that, I believe that if we look at, for example, the needs we have right now, one of them being in the Navy, and of our four public shipyards, that we do not have excess capacity and we do not have a need for a BRAC round at this point.

With regard to the maintenance, for example, at the Portsmouth Naval Shipyard of our attack submarine fleet, they are booked for a number of years, and really the work is there that needs to be done to ensure that our attack submarine fleet is prepared.

In addition, with DOD's shift to the Asia-Pacific region, now more than ever, I would like to hear from the witnesses where you believe that there is excess capacity, if any, that would justify a BRAC round at this point.

Finally, I appreciate the work that DOD and each of the Services are doing to increase energy efficiency and to ensure that DOD energy programs allow for greater cost efficiency and mission effectiveness. Thank you for your work there. I think that is important.

I thank the chairwoman for holding this hearing, and I want to thank again all the witnesses for your service to our country during challenging times.

Senator SHAHEEN. Thank you, Senator Ayotte.

As I previously said, hopefully we can receive as much of the witnesses' testimony as possible before we go to vote. I would ask that we take testimony in the following order: the Honorable Sharon E. Burke, Assistant Secretary of Defense for Operational Energy Plans and Programs; Mr. John C. Conger, Acting Deputy Under Secretary of Defense for Installations and Environment; the Honorable Katherine G. Hammack, Assistant Secretary of the Army for Installations, Energy, and Environment; the Honorable Dennis V. McGinn, Assistant Secretary of the Navy for Energy, Installations, and Environment; and Ms. Kathleen I. Ferguson, Acting Assistant Secretary of the Air Force for Installations, Environment, and Logistics.

Secretary Burke, would you please begin.

STATEMENT OF HON. SHARON E. BURKE, ASSISTANT SECRETARY OF DEFENSE FOR OPERATIONAL ENERGY PLANS AND PROGRAMS

Ms. BURKE. Chairwoman Shaheen and Ranking Member Ayotte, Senator Hirono, thank you for the opportunity to discuss with you today the activities of the Office of Operational Energy Plans and Programs and provide highlights of the President's fiscal year 2015 budget in this area.

You have my statement for the record, so I will not repeat it here today.

I am honored to join all of my colleagues from OSD and military departments. I know that you have a range of very important installation issues to discuss today as you just made clear. But, I thought it might be helpful to start with just a short overview of how we all fit together when it comes to energy.

DOD is, of course, the country's single largest consumer of energy at a cost of about $20 billion a year. We all have various roles and missions relating to that energy use, but we also have a common narrative that unites us and that is by design. Last year, then-Deputy Secretary of Defense Ashton Carter directed DOD's senior leaders to come up with that common narrative, one to guide the full range of defense energy activities, including operational and facilities energy, and the energy-related elements of mission assurance.

In the intervening months, we have all worked together to write that narrative, which we hope to formalize soon. But I believe it is very fair to say that the basic principles already guide our activities and have for some time, and so I can give you a preview of what is in that policy.

The policy states that DOD will enhance military capability, improve energy security, and mitigate costs in its use and management of energy. We will do so by improving the energy performance of our weapons, installations, and military forces, by diversifying and expanding our energy supplies and sources, including renewable energy and alternative fuels, by analyzing the requirements and the risks related to our energy use, and finally by promoting innovation for our equipment and education and training for our personnel. The bottom line is that DOD values energy as a mission-essential resource and one that can actually shape the mission as well.

As DOD's lead official for operational energy, or the energy required to train, move, and sustain forces and platforms for military operations, I am delighted to tell you that the President's fiscal year 2015 budget request advances the goals of that common narrative. Energy, and liquid fuel in particular, is the lifeblood of military operations. It powers our vehicles, our ships, our aircraft, and the generators that, in turn, provide electricity to a range of systems.

It can also be a vulnerability on the battlefield, and our adversaries in Afghanistan have targeted our supply lines at times. While we have had no operationally significant disruption of those fuel supplies, the opportunity costs, including in lives lost, has been higher than it has to be.

This has potential to be an even bigger concern as DOD rebalances to the Asia-Pacific region where full-spectrum operations and vast distances create even greater logistical challenges. Also, potential adversaries or range of adversaries are growing the capabilities to constrain or deny logistics, including with more precise weapons.

The overall demand for operational energy today and in the future varies from year to year. It depends on our missions and on our operations tempo, but in fiscal year 2015, DOD estimates it will consume 96 million barrels of liquid fuel at a cost of approximately $15 billion.

In fiscal year 2015, we will also invest $1.7 billion in initiatives to improve how we consume that energy for military operations and about $9 billion over the Future Years Defense Program (FYDP). More than 90 percent of that investment will go to improve the energy performance of our weapons and our military forces. That includes procurement of equipment, such as the Army's efficient generator program. It includes major innovation efforts, such as engine programs for fighter aircraft and helicopters. Seven percent of that overall investment will go to diversifying and securing our supplies of operational energy, and that includes, for example, the Marine Corps program to procure tactical solar generation and solar battery charging systems.

Underlying all of these investments are efforts to develop better analytical tools for the whole force development process. These will inform our strategy development, our plans, our requirements, and the acquisition process. This has been a key focus of my office since our inception. We are about 4 years old now. We are a new office, and it has been an important area of activity for us. We have seen, in that short period of time, a great deal of progress in this area with energy and energy logistics increasingly incorporated into all of those processes, including major war games, and there is now a mandatory key performance parameter for energy in the requirements process that the Chairman of the Joint Chiefs enforces.

In addition to this focus on future force development, my office will continue to promote operational energy innovation, including through our own investment fund. We will continue to study and analyze how global energy dynamics affect national security and shape the defense mission. We will continue to analyze how climate change will affect our operational missions. Finally, we will continue to look for ways to support deployed forces with operational energy solutions, from rapid fielding of new technologies, to adapting war plans, to incorporating energy into international partnerships, and we are gathering and applying the lessons learned in Afghanistan.

Thank you for your time today. I look forward to your questions.

[The prepared statement of Ms. Burke follows:]

PREPARED STATEMENT BY HON. SHARON BURKE

INTRODUCTION

Chairwoman Shaheen, Ranking Member Ayotte, and distinguished members of the subcommittee, thank you for the opportunity to discuss my office in the Department of Defense (DOD), Operational Energy Plans and Programs (OEPP). Today, the Department faces continued operational energy challenges as our defense posture adjusts to meet the rapidly-changing global security environment. The dynamic global energy landscape adds to our strategic challenges and opportunities. I will

provide some perspective on those issues, along with an update of our progress and some information on the President's fiscal year 2015 budget request as it relates to operational energy.

MISSION OF OEPP

Established in 2010, my office's primary purpose is to strengthen the energy security of U.S. military operations. Specifically, the office's mission is to help the Military Services and combatant commands improve military capabilities, cut costs, and lower operational and strategic risk through better energy planning, management, and innovation. By statute, operational energy is defined as the energy required for training, moving, and sustaining military forces and weapons platforms for military operations. In June 2011, the Department released "Energy for the Warfighter: The Department of Defense Operational Energy Strategy," which set the overall direction for energy use in the Department: to assure reliable supplies of energy for 21st century military operations. It outlines three ways to meet that goal: reducing the demand for energy; expanding and securing the supply of energy; and building energy security into the future force.

These goals are especially important as we build a military force that is prepared and postured for a complex, global security environment, "capable of simultaneously defending the homeland; conducting sustained, distributed counterterrorist operations; and in multiple regions, deterring aggression and assuring allies through forward presence and engagement," as the Secretary of Defense called for in the 2014 Quadrennial Defense Review (QDR). The QDR also directly connects energy to capability, noting that, "Energy improvements enhance range, endurance, and agility, particularly in the future security environment where logistics may be constrained." To these ends, OEPP has achieved considerable progress by supporting current operations and energy innovation, building operational energy considerations into the future force, and promoting institutional change within the Department.

CHANGING ENERGY LANDSCAPE

DOD's efforts to transform our own energy use are occurring as the global energy landscape rapidly changes. Here at home, the significant surge of domestic oil and gas production is fundamentally altering the balance of the energy markets we have known for the past 40 years. The U.S. is expected to become the world's largest producer of natural gas; around the country, massive terminals built to import natural gas are now rapidly being converted to export it.[1] Oil imports have been reduced by about 2.5 million barrels a day in just the last 5 years[2] while U.S. production is expected to increase by a further 3 million barrels per day by the end of the decade.[3] The United States now exports around 3 million barrels per day of refined product, an increase of more than 2 million barrels per day since 2005.[4]

This rebalance is significantly altering the flow of the global energy trade. Energy shipments from West Africa that used to cross the Atlantic are now headed to Europe or through the Indian Ocean en route to Asia. Permits to export natural gas are now being approved and by the end of the decade we can expect U.S. natural gas to be available for markets in Europe and Asia. It is not just the supply patterns that are changing. Energy demand in the developed world has leveled off. The majority of the growth in the world's energy consumption over the next decade will come from the developing world with China, India, and other non-Organization for Economic Co-operation and Development countries increasing their energy consumption 50 percent in the next 20 years.[5]

As imports from regions which have previously exported to the United States are re-directed to new customers, our economic, political, and military relationships with those countries will evolve as well. As the Department considers base access, security cooperation, and partnerships, we must be cognizant of these changing underlying economic forces.

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[1] http://www.eia.gov/todayinenergy/detail.cfm?id=13251

[2] http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=pet&s=wcrimus2&f=w

[3] http://www.eia.gov/forecasts/aeo/er/early—production.cfm, EIA Annual Energy Outlook, Early Release Overview, "U.S. production of crude oil (including lease condensate) in the AEO2014 Reference case increases from 6.5 MM bbl/d in 2012 to 9.6 MM bbl/d in 2019."

[4] http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=MTPEXUS2&f=M, EIA data on U.S. exports of finished petroleum products indicates monthly U.S. exports of finished petroleum products in November 2013 was 3 million bbls/d compared to 811,000 bbls/d in November 2005.

[5] http://www.eia.gov/forecasts/ieo/world.cfm-According to EIA, non OECD countries consumption will rise from 307 quadrillion BTUs in 2013 to 460 by 2030.

We also see how the appearance of new energy resources is influencing the Department's strategic direction. Last year, Secretary of Defense Chuck Hagel unveiled DOD's first-ever Arctic Strategy and addressed the driving force behind it—global climate change. According to the U.S. Navy's Task Force Climate Change, "average Arctic temperatures have increased at almost twice the global average rate" in the past 100 years, and "in 2012, Arctic sea ice reached its smallest extent in recorded history, 1.3 million square miles." The changes in that region have opened up new areas to energy development and shipping. As the Arctic region becomes more accessible to other nations, expanded capabilities and capacity may be required to increase U.S. engagement in this region.

Changes in the climate, driven by global energy use, will affect military operations elsewhere as well. Specifically, as the 2014 QDR found, climate change can act as threat multiplier, as heat waves, drought, downpours, floods, and severe storms may significantly add to the associated challenges of instability, hunger, poverty, and even conflict. At the installation level, climate risks may disrupt training, testing, and direct support to ongoing operations. In fact, the National Intelligence Council estimates over 30 U.S. military installations face elevated risks from rising sea levels. In the cases of severe weather events, demands on the Department for humanitarian assistance or disaster response—both within the United States and abroad—may increase as the climate changes.

However, even with all these changes, some constants remain. First, it is important to point out that most of the Department's operations occur outside the United States, and we will continue to buy energy overseas to simplify our supply chains, limit costs, and increase flexibility for the warfighter. Second, a large proportion of global energy will continue to flow through a relatively small number of chokepoints. Today, nearly a fifth of all oil and nearly 25 percent of globally traded liquefied natural gas transit the Strait of Hormuz. Current and planned pipelines across the Arabian Peninsula and around the Strait would provide only limited relief in the event of a blockage and would do little to cushion any global price spike. The Strait of Hormuz will continue to pose an outsize risk to global prices for the foreseeable future—and to prices at the pump here at home.

Indeed, the Middle East will remain a major source of oil for nations across the globe, particularly our allies in Asia. Even so, the 2014 QDR states that "competition for resources, including energy and water, will worsen tensions in the coming years and could escalate regional confrontations into broader conflicts—particularly in fragile states," in the Middle East. As long as petroleum powers our transportation sector, we may experience the economic consequences of price volatility from events in any oil-producing region. At the United Nations General Assembly this past September, the President made clear that the United States will continue to ensure the free flow of energy from the Middle East to the world, even as the United States is steadily reduces our dependence on imported oil. It is important to remember that even as the United States is able to meet more of our energy needs ourselves, the price for oil and petroleum products will still be set by a global market.

THE DEFENSE ENERGY CHALLENGE—TODAY AND TOMORROW

As a critical enabler for military operations, the Department consumes significant amounts of energy executing missions around the globe. While only accounting for approximately 1.3 percent of U.S. oil and petroleum consumption in fiscal year 2013, the Department is the single largest energy user in the Nation. In fiscal year 2013, the Department consumed almost 90 million barrels of liquid fuel at a cost of $14.8 billion, with more than 60 percent of that outside of the United States. In fiscal year 2014, the Department estimates it will consume nearly 105 million barrels of liquid fuels at a cost of $16 billion. In fiscal year 2015, the Department estimates it will consume 96 million barrels of liquid fuel at a cost of approximately $15 billion.

The Department's demand for operational energy varies according to the missions assigned to the Department, as well as the equipment used in to execute those missions. Including training, exercises, and the full range of military operations, the Department uses operational energy to maintain readiness and deploy, employ and sustain forces around the globe. Year over year, operations tempo reflects unexpected demands (i.e., post-9/11 operations, humanitarian relief missions) as well as changes in the magnitude of other ongoing operations like Afghanistan.

In Afghanistan, the Department used more than 9 million barrels of liquid fuels to support Operation Enduring Freedom in fiscal year 2013. In addition to the fuel provided to vehicles and aircraft, the demand for electricity on the battlefield has steadily increased over years of sustained combat operations. Combat outposts and forward operating bases are the hubs for our troops—to project power from, fight

from, and live in. However, they consume tremendous amounts of energy and have, therefore, been a steady focus of recent efficiency efforts.

The reliance on diesel generators to supply battlefield and contingency base electrical power produces an unintended consequence—a growing energy sustainment burden that must be sourced, in many cases, from great distances. Unfortunately, that logistics effort consumes fuel as well. The two main fuel distribution routes into Afghanistan present daunting challenges that range from the political effort needed to sustain them, to long distance transport on unimproved roads with multiple choke points and poor weather conditions which can slow movement to a trickle, and the threat of attack from insurgents or thieves. Each of these challenges adds time, manpower, and cost to the supply process. Once the fuel reaches larger distribution points inside Afghanistan, it still needs to be deployed to a nationwide network of bases and outposts. Given the terrain and the threat, aerial distribution of supplies, including fuel, is often used to sustain coalition efforts across Afghanistan. Delivering all of this fuel takes a toll on aircraft, vehicles, and personnel. Looking further back in the supply chain, DOD has depended on political support from countries that allow our energy supplies to flow into Afghanistan through northern or southern transportation routes, which can be disrupted at any time.

The growing requirement for troop-borne capability has launched another sustainment burden—portable batteries—which represents a serious logistical challenge for the warfighter as our troops are increasingly overburdened platforms themselves. They carry gear which sends and receives data from remotely powered aircraft and far-away command posts, and integrates the information into intelligence collection, surveillance, and targeting like never before. Soldiers and marines have scopes, sights, and radios that give them unsurpassed awareness and accuracy. But, this capability requires a steady supply of power, and for dismounted operations that means batteries, and lots of them. Consider an Army estimate that an average troop on a 3-day patrol may carry up to 23 batteries weighing nearly 14 pounds. While these batteries support important capabilities, the trend of increasing weight is unsustainable from both re-supply and soldier loading perspectives. Battery resupply requirements can greatly diminish a patrol's combat radius, and soldier-carried weight already impedes mobility on the battlefield and presents a significant risk of musculoskeletal injuries.

These fuel and battery requirements also place a significant logistics burden on planners, troops, equipment, and supply lines. Reducing the demand for energy on the battlefield has a direct effect on reducing the energy logistics burden and freeing up manpower and equipment resources previously engaged in logistics tasks to operational commanders for use in generating combat power.

As we draw down forces from ongoing operations in Afghanistan and adapt to a changing security environment, the Department's use of energy will continue to be of great importance. Generally speaking, our future operating environment will include a range of threats—from homemade improvised explosive devices and suicide bombers to GPS-guided mines and missiles, computer viruses, and electronic warfare—that may not only characterize actual combat, but also situations short of war. At the same time, the lessons of the last 12 years have not been lost on our potential adversaries, who are increasingly developing or acquiring capabilities that threaten our ability to project and sustain this power. These asymmetric and "anti-access/area-denial" capabilities will likely target those U.S. capabilities that may be more susceptible to disruption, such as logistics, energy, and command and control.

More specifically, the President and the Secretary have emphasized that we shift our strategic focus to the Asia Pacific, a region whose security and prosperity is indispensable to our own. Promoting our interests in the area—and much of that will focus on non-military tools—means long distances, far from our own shores. For example, intra-theater lift in Afghanistan requires a fraction of the fuel that will be required for intra-theater lift in the Pacific. A cargo plane flying from Bagram to Kandahar burns around 3,000 gallons of fuel, but that same aircraft will burn around 11,500 gallons of fuel flying from Guam to Seoul and over 16,000 gallons flying from Guam to Singapore. In this environment, demands for fuel, electricity, and energy logistics—aerial refuelers and oilers, for instance—can become a limiting factor for military operations. Not only will we need extended range and endurance to operate—whether for today's relief missions in the Philippines or for other military missions—but we also will need to be interoperable with our allies and partners from an energy and logistics perspective to effectively carry out coalition operations. In fact, energy can be a positive tool for cooperating with emerging partners to help support U.S. presence and operations with U.S. forces.

REDUCING DEMAND

Increasing combat effectiveness in current operations through reductions in fuel demand has been a significant DOD focus since OEPP's establishment in 2010. To quote the former International Security Assistance Force/U.S. Forces—Afghanistan Commander General John Allen, "Operational energy equates exactly to operational capability."[6] We aspire to achieve the most "mission per gallon" by reducing the demand for energy and decreasing the logistics effort necessary to support the warfighters. The Department has made progress, particularly at the tactical edge where fuel logistics cost the most and resupply risks are the greatest. However, DOD's fuel demand still accounts for a large percentage of the overall logistics burden and many opportunities remain to build a more efficient future force. In general, this is a huge incentive for improving our materiel capabilities and is reflected in $1.7 billion in fiscal year 2015 and $8.3 billion across the Future Years Defense Program that the Services have budgeted for operational energy initiatives and efficiency improvements. That equates to 91 percent of the operational energy (OE)-related budget invested in reducing the demand for energy.

Let me sketch out some key activities to highlight the OEPP's efforts in partnership with the combatant commanders.

U.S. Central Command

The Operational Energy Division (OED) within the Joint Program Integration Office at U.S. Forces-Afghanistan (USFOR–A) was established in 2011 with a mandate to improve operational capabilities and warfighter effectiveness by reducing our forces' reliance on liquid fuels. Staffed with technical experts, the OED continues to develop and implement materiel and non-materiel energy solutions to reduce dependence on petroleum fuels and increase operational effectiveness. OED coordinates directly with OEPP, and we maintain a close relationship to address operational energy issues and initiatives in theater. In 2012, OEPP and OED combined efforts with the Army's Program Manager—Mobile Electric Power (PM–MEP) to answer an Operational Needs Statement with $110 million worth of advanced, energy efficient power generation and distribution equipment. OED and OEPP also collaborated to fund and support an operational demonstration of an advanced tactical microgrid to gather data for future microgrid technology development.

This past year, OED also provided significant support to Operation Dynamo. Improvements in energy efficiency produce the greatest leverage at the extreme tactical edge, since the risks and costs to provision fuel there are so great and potentially so disruptive to the operational mission. In a tactical environment, electrical demand has usually been met by multiple diesel powered generators, sized for peak loads but often operating far from peak capacity and efficiency. The consequence of poor generator loading is significant fuel waste, increased maintenance effort, and decreased reliability. In an attempt to address those issues, PM–MEP, in coordination with USFOR–A OED, recently completed Operation Dynamo I and II, which assessed the electrical supply and demand footprint at 67 forward operating locations. Mission-specific advisory teams developed more efficient power generation and distribution plans, replaced older equipment with more than 500 fuel efficient Advanced Medium Mobile Power System generators and 430 Improved Environmental Control Units, updated distribution systems to improve reliability and safety, and trained local soldiers to operate and maintain the equipment properly. This effort spotlights the value of operational energy advisors teamed with expert technicians and military standard equipment and their ability to become a significant combat force multiplier for operational commanders. Building on the success of its predecessors, Operation Dynamo III is underway now to oversee the right sizing of power assets during the drawdown in Afghanistan to ensure as we reduce our forces we continue to apply the lessons we have learned.

U.S. Pacific Command

OEPP has embraced emergent energy challenges in the Pacific and partnered with U.S. Pacific Command (PACOM) and other key stakeholders to understand and address them.

The vast expanse of the oceans and seas that comprise PACOM's Area of Responsibility put a premium on the ability of maritime forces to foster relations with partner nations, protect commercial and military shipping, and execute offensive operations on and from the sea. The Navy is exploring many technologies, such as Hybrid Electric Drive, stern flaps, and improvements to marine-growth reducing hull and propeller coatings, to reduce fuel consumption. The Naval Postgraduate School-

[6] ISAF/USFOR–A memo, "Supporting the Mission with Operational Energy," 11 Dec 2011

developed Replenishment at Sea Planner is great example of an inexpensive, in-house software solution to reduce our logistics burden. It is intended to optimize logistical transit plans and the fuel necessary for both warships and military sealift logistics vessels to prepare for and execute underway replenishment. This software tool is already in use in Fifth and Seventh Fleets and is expected to save millions of dollars in fuel costs each year.

OEPP remains engaged in the Department's ongoing efforts to improve liquid fuel delivery ashore in areas where little to no distribution infrastructure exists. I attended the Joint Logistics Over-The-Shore demonstration in Korea in April 2013. This recurring, combined U.S./Republic of Korea event exercises our ability to deliver fuel, supplies, and equipment from ships at sea to encampments ashore where sufficient maritime port facilities do not exist. We have impressive over-the-shore fuel distribution capabilities, and yet they may be stressed in some scenarios. I am pleased that the Navy has programmed $34 million between fiscal year 2013–2017 to fund a replacement for an aging Offshore Petroleum Discharge System ship the USS *Petersburg*, while the Army develops the next generation of Inland Petroleum Distribution System. Each Service needs to continue to ensure that this capability can meet current and future challenges.

As the DOD operational energy strategy has evolved, OEPP and the combatant commanders have expanded our efforts beyond improving only US force capabilities. Teaming with partner nations to improve fuel efficiency and reduce energy demand across our combined forces benefits global cooperation and our combined security in the region. To that end, my office is currently exploring options within the Asia-Pacific region to identify and assess low-cost, high-payoff operational energy-related security cooperation opportunities that could contribute to broader U.S. and Asia-Pacific partner policy objectives. The results are intended to inform future guidance to other combatant commands, PACOM planning guidance, and to build partnership capacity activities for PACOM, the Joint Staff, the Office of the Secretary of Defense (OSD), and interagency partners. Additionally, ongoing contingency basing energy technology demonstrations and experimentation events during joint and combined exercises, such as Crimson Viper in Thailand and Balikatan in the Philippines, are improving our own capabilities and those of key partner nations through focused military-to-military engagements.

U.S. Africa Command

In the U.S. Africa Command (AFRICOM) area of responsibility, OEPP is mentoring a growing and effective headquarters staff effort to incorporate operational energy across their operations and theater security cooperation activities. The staff recently assigned its first dedicated operational energy advisor and, in addition, continues to benefit from a Department of Energy (DOE) employee serving as a liaison to advise the commander on energy issues. Additionally, my office supported the establishment of the governance structure for the command's Interagency Energy Security and Environment Working Group which considers operational energy equities in operations and exercises.

As the United States increases its focus on the African continent, the Department is similarly stepping up its efforts to support the combatant commander across a range of operational energy issues. The austere operating environment is compounded by the lack of infrastructure which introduces a challenging sustainment picture. The Army's Rapid Equipping Force recently conducted an energy assessment of remote and urban locations supporting U.S. forces across the Trans-Sahara region to help them increase electrical power generation, improve electrical safety, and increase drinking water production and safety. The Naval Facilities Engineering Command, in coordination with the National Renewable Energy Laboratory, completed an energy assessment at Camp Lemonnier, Djibouti. Camp Lemonnier, though an enduring site, contains some equipment more typical of contingency locations, so OEPP collaborated with the Office of the Deputy Under Secretary of Defense for Installations and Environment on energy issues at the Camp by identifying peak electrical load requirements and analyzing the energy demand impact of several new environmental control system configurations. In addition, my office recently partnered with the U.S. Agency for International Development to exchange information, establish a working forum, and begin leveraging DOD lessons learned in Afghanistan to assist the Power Africa initiative in its mission to improve power distribution to rural villages and towns.

In general, as part of my office's focus on contingency basing, we recently helped identify measures in U.S. Central Command, U.S. Southern Command, and AFRICOM to reduce fuel demand in contingency plans and to determine the potential operational value of that fuel demand reduction. Employing improved power generation equipment and shelter construction standards, and future fuel efficiency

improvements to aerial resupply vehicles, will help operational commanders optimize in-theater fuel resupply plans as part of larger contingency planning efforts.

Operational Energy Capability Improvement Fund

My office is also supporting longer-term innovation and change via the Operational Energy Capability Improvement Fund (OECIF). The OECIF began in fiscal year 2012 with the goal of funding innovation that will improve the operational energy performance of our forces while creating institutional change within the Department. It promotes partnering and joint programs and encourages Service teaming. The programs started in fiscal year 2012 have concentrated on reducing the energy load of our expeditionary outposts. For example, there is a joint Army/Air Force program developing ways to improve the energy efficiency of soft shelters (i.e. tents), which has demonstrated improved tents and camp architectures in Kuwait, resulting in a 50 percent reduction in power consumption. Another program demonstrated a 54 percent reduction of the energy needed to cool hard shelters (i.e. containerized living units) used in Djibouti, Africa. In fiscal year 2012, OECIF also started a program to demonstrate and evaluate load reduction technologies for expeditionary outposts in tropical environments—something particularly suited to our shift to the Pacific environment—by participating in exercises in Thailand, the Philippines, and elsewhere By combining upgraded environmental control units (ECUs) with light emitting diode lighting and hybrid automatic/manual controls, energy savings as high as 80 percent over earlier technologies have been demonstrated. The OECIF is also supporting the development of technology for more efficient ECUs, which heat and cool our deployed shelters and consume a great deal of energy, including through a partnership between the Navy and the DOE's Advanced Research Projects Agency for Energy.

The OECIF programs begun during fiscal year 2013 emphasized establishing organizations aimed at involving a wide variety of organizations in solving our operational energy problems. OEPP encouraged the use of innovative business methods, such as consortia, to involve small businesses and non-traditional defense contractors. For example, one of these programs, led by the Army, is focused on energy for our dismounted warfighters. Our soldiers and marines benefit from the world's most technologically advanced weaponry; however, this equipment can require that a warfighter carry around 14 pounds of batteries on lengthy patrols. The Army-led OECIF program is meant to comprehensively address this problem through developing better system engineering techniques and technologies to improve both the energy demand and supply in order to reduce the weight burden. Other programs begun in fiscal year 2013 are developing standards for tactical microgrids to promote their interoperability and adoption, developing planning methods and control technologies for designing and running more efficient expeditionary outposts, and engineering surface coatings to reduce aircraft drag.

Most recently, for fiscal year 2014, OECIF is pursuing new programs to develop the analytic methods and tools necessary to support the thorough analysis and consideration of operational energy issues throughout DOD's various planning and management processes. The basic idea is to give decision makers within the Department better ways to factor operational energy into their decisions. This focus was partly driven by our experience in the last few years and partly by observations we made during our budget certification process, where we found shortcomings in the ability of the Department to consider energy in its decisions. We are using the OECIF to help solve it, which is consistent with its goal of creating institutional change.

INCREASE/ASSURE SUPPLY

Another element of our strategy is diversifying and securing military energy supplies to improve the ability of our forces to get the energy they require to perform their missions.

Alternative Energy and Fuels

The Department's operational energy investments are focused on meeting warfighter needs, including by diversifying the Department's supply options. One focus is on energy that can be generated or procured locally near deployments to lessen the burden on supply lines. The Services are evaluating, and, where appropriate, deploying tactical solar technologies to generate electricity on contingency bases or to recharge batteries to increase patrol range and mission duration. OEPP is assisting in these efforts by coordinating information sharing amongst the Services and between the Services and DOE, which has broad technical expertise in civilian solar technologies. Additionally, the Department is funding research in deployable waste-to-energy systems that could reduce the volume of waste requiring

disposal and create and generate energy on contingency bases. Other technologies in which the Department is investing include hydrogen-powered and solar-powered unmanned aerial vehicles, which have the potential to achieve much longer mission durations than those powered by traditional petroleum-based products.

Another component of the Department's operational energy strategy is alternative fuels. As the Nation's largest consumer of energy, the Department recognizes that our military will need alternatives to petroleum to diversify sources of supply. Over the long term, the Department will need fuels derived from various feedstocks that are cost-competitive, widely available around the world, and compatible with existing equipment and storage infrastructure, as our existing fleet of ships, planes, and combat vehicles will be with us for decades to come. So the Department is investing around 2 percent of its operational energy funding over the next 5 years on alternative fuels. The Services are focusing the majority of their alternative fuels efforts on certifying aircraft, ships, tactical vehicles, and support equipment to use these emerging fuels, as they have been doing since 2006. These initiatives improve the flexibility of military operations by ensuring that our equipment can operate on a wide range of fuels when they are cost competitive and commercially available.

To create clear guidelines on the Department's alternative fuels investments both now and in the future, on July 5, 2012, the Department of Defense Alternative Fuels Policy for Operational Platforms was released, pursuant to Section 314 of the National Defense Authorization Act of 2012. The policy establishes coordinated, Department-wide rules to guide and streamline its investments in the development and use of alternative fuels. The policy states that the Department's primary alternative fuels goal is to ensure operational military readiness, improve battlespace effectiveness, and further flexibility of military operations through the ability to use multiple, reliable fuel sources. All Department investments in this area are reviewed during the Department's annual operational energy budget certification process.

To date, the Department has only purchased test quantities of biofuels for testing and certification purposes. These test fuels are often more expensive than commercially-available petroleum fuels because they tend to be produced at small, not-yet-commercial scale facilities using novel conversion technologies. However, the policy formalized what was already the practice for all the Military Services: that the Department will not make bulk purchases of alternative drop-in replacement fuels unless they are cost competitive with petroleum products. With this policy in place, the Department will continue to steward its alternative fuels investments towards the ultimate goal of enhancing the long-term readiness and capability of our joint force.

Because the Department does have long-lived platforms designed to use liquid fuels, there is a long-term defense interest in fuels diversification. The Department also supports a larger national goal to promote the development of low-carbon, renewable fuels. The Defense Production Act (DPA) advanced drop-in biofuels production project, led by the OSD Manufacturing and Industrial Base Policy Office, is a DOD partnership with the private sector and the Departments of Energy and Agriculture, which have the lead roles for the Federal Government for biofuel feedstocks and production. This project works to accelerate the development of cost-competitive advanced alternative fuels for both the military and commercial transportation sectors. The fiscal year 2012 DPA funding for Phase 1 was awarded to four companies in May/June 2013 and is being used for competitive commercial-scale integrated biorefinery design efforts. Awards totaled $20.5 million, which was matched by $23.5 million in private sector funds. Reviews of Phase 2 proposals will begin in April 2014.

Securing Our Energy Supplies

There is rising concern about risks to the U.S. electric grid that powers most DOD bases, ranging from cyber-attacks to hurricanes. The risks and vulnerabilities of the U.S. electric grid and overseas electricity supplies supporting DOD facilities are not well characterized. Today, military operations can include warfighters conducting missions remotely from domestic facilities; the disruption of electric power in one location could adversely affect the outcome of a battle thousands of miles away. In the event of a major domestic outage, as with Hurricane Sandy, the lack of adequate power could create tension between Defense support for civilians and the Department's own needs.

We recognize the need for better information and coordination on risks to the grid and are exploring the Department's role in building resiliency into the system. To that end, OEPP and other lead offices in the OSD, in partnership with the Department of Homeland Security's Office of Infrastructure Protection, led an interagency, scenario-based workshop to gain a better understanding of how the Department

would respond to a prolonged and widespread power outage in the National Capital Region that affected military bases and missions in the area. We continue to engage in discussions with utility service providers, Federal agencies and other DOD entities to address this challenge.

In addition to electrical power concerns we are also looking at the security of our liquid fuel supply. OEPP is currently examining logistical challenges generated by the vast distances and extensive operating areas present in the Asia-Pacific theater. My office is working with the Defense Logistics Agency and the Joint Staff in studying nodes and transportation links to support modifications to the Global Petroleum Distribution System.

Building Energy Security into the Future Force

The Department continues to make strides in improving energy security for the future force. We have invested a significant amount into the development and deployment of operational energy initiatives to increase the combat effectiveness of our warfighters. Programs of note include the:

- Adaptive Engine Technology Development (AETD) program—AETD is focused on developing a "sixth-generation" fighter engine which could provide better fuel-burn rates. At the core of the program is a move to a design with three streams of air, allowing more flexibility for the engine to operate efficiently under varying conditions. AETD's goal is to provide 25 percent greater fuel efficiency which will increase range and endurance of fighter aircraft and decrease the requirement for tanker aircraft to support AETD-equipped aircraft. This year, the Department announced a follow on program, the Advanced Engine Technology Program, to carry the engine through technology maturity risk reduction.
- Improved Turbine Engine Program (ITEP) program—This program provides an improved engine for the Apache and Blackhawk helicopter fleets to replace the current T–700 engine. ITEP will improve operational effectiveness by giving commanders an improved aviation fleet with longer loiter time, increased altitude limits, increased payload, and lower fuel and maintenance costs. The Army expects a 25 percent fuel reduction from current engine consumption levels.
- Hybrid Electric Drive (HED) program—The Navy will begin installing HEDs in *Arleigh Burke*-class (DDG 51) destroyers in 2016. HED is an electric motor attached to the main reduction gear of DDG–51-class ships that allows for an electric propulsion mode resulting in improved fuel economy. Installation of an HED on a single ship has the potential to save over 5,000 barrels of fuel per year, which equates to approximately a 7 percent reduction from current usage or 11 additional underway days, each year, and provides our commanders at sea improved operational flexibility.
- Medium Tactical Vehicle Replacement (MTVR)—This effort includes developing and demonstrating a fuel efficiency improvement of 15 percent over the existing MTVR while maintaining affordability, mobility, and survivability. Additionally, within this program, the Marine Corps funded the procurement of prototypes of the On-Board Vehicle Power sources to reduce fuel requirements at idle, which is the majority of the vehicle drive cycle.

We have worked with the Joint Staff and the Services to implement the Energy Key Performance Parameter or energy Key Support Attribute across all acquisition categories. This includes Acquisition Category I programs such as the Armored Multipurpose Vehicle, Joint Light Tactical Vehicle, DDG–51 Flight III, and the Air Missile Defense Radar, along with smaller acquisition programs such as the MTVR, Prime Power Mobile Production System, and the Force Provider-Expeditionary Program.

In regards to shaping the requirement and acquisition systems, the Department is working to conduct operational energy analysis earlier; that will provide a greater opportunity to consider the tradeoffs and options among a more energy secure force, more effective or efficient equipment, or a more capable logistics force. The Joint Staff, the Service Energy Offices, and my office have worked together to make operational energy an integral part of the Services' Title X War Games, such as the Army's Unified Quest/Deep Futures II and the Navy's Naval Global 14, which will occur later this year. We are developing a tool to provide the war gamers timely feedback about attacks on our logistics and energy supplies. We are also working together to ensure operational energy supportability analysis is conducted during the Services' concept development, which provides a realistic energy distribution and allows simulated enemy forces to interdict our energy supplies, to more closely approximate real world conditions.

Moving forward, we must continue to fund analysis to identify which capabilities and missions to target for operational energy improvements. We have found that engaging earlier, well before Milestone A, will give us the greatest opportunity to provide greater capabilities through operational energy improvements.

INSTITUTIONALIZING OPERATIONAL ENERGY IN POLICY

In the long term, the Department must build operational energy considerations into the regular rhythm of how the Department operates. To begin with, the Secretary of Defense signed the Operational Energy Strategy Implementation Plan in March 2012 and identified seven targets:

1. Measure operational energy consumption;
2. Improve energy performance and efficiency in current operations and training;
3. Promote operational energy innovation;
4. Improve operational energy security at fixed installations;
5. Promote the development of alternative fuels;
6. Incorporate energy security considerations into requirements and acquisition; and,
7. Adapt policy, doctrine, professional military education, and Combatant Command activities to include operational energy.

The Department is making great progress implementing the strategy; further details are available in our Operational Energy Annual Report to Congress and budget certification reports, which are available on the OEPP website (http://energy.defense.gov/).

More recently, in June 2013, the Deputy Secretary of Defense issued "Deputy's Management Action Group Guidance for a Comprehensive Defense Energy Policy." This guidance highlighted how changes in the Department's use of energy are needed to enhance military capability, improve energy security, and mitigate costs, and initiated the development an overarching DOD energy policy, to be completed this year. When complete, the policy will adapt core business processes—including requirements, acquisition, planning, programming, budgeting, mission assurance, operations, and training—to improve the Department's use and management of energy.

The Department also issued other policies over the past year to support the operational energy mission. In January 2013, the Under Secretary of Defense for Acquisition, Technology, and Logistics released DOD Directive 3000.10, "Contingency Basing Outside the United States." In addition to outlining Department policy related to interoperability, construction standards, and other areas, the Directive specified the role of operational energy and identified a smaller logistics footprint as enabling more effective and capable contingency bases.

In addition to the strategy, guidance, and policy set forth by my office and that of OSD, the Military Services have followed with their own initiatives. In the past year, the Army and the Air Force have updated their own energy strategies while the Marine Corps issued guidance for improving the incorporation of energy into their acquisition programs. Similarly, the Navy has moved out, leading the Department with efficiency upgrades to their legacy aircraft and propulsion innovations in their ships.

CONCLUSION

In November 2013, Secretary Hagel stated, "DOD invests in energy efficiency, new technologies, and renewable energy sources at our installations and all of our operations because it makes us a stronger fighting force and helps us carry out our security mission."

Our vision to better manage the Department's use of energy will continue to improve military capability across all missions. As we adapt to threats and geopolitics shaped by energy, now is the time to drive long-term innovation and energy improvements into our core business processes, force structure, and planning to ensure we have the military we need to succeed in the future.

Going forward, the Department is committed to addressing how energy shapes our capabilities and operations as well as how it affects what the missions of the Department are. This past year, the Department has made great strides in reforming core business processes and decision-making, supporting current operations, and applying energy considerations to the development of the future force. All that said, institutional change within the Department is difficult, time consuming and not for the faint of heart; we appreciate this committee's continued support of OEPP.

Senator SHAHEEN. Thank you.

Mr. Conger.

STATEMENT OF JOHN C. CONGER, ACTING DEPUTY UNDER SECRETARY OF DEFENSE FOR INSTALLATIONS AND ENVIRONMENT

Mr. CONGER. Good morning. Chairwoman Shaheen, Ranking Member Ayotte, distinguished members of the subcommittee, I appreciate the opportunity to appear before you to discuss DOD's fiscal year 2015 budget request for installations and environment.

The testimony I have submitted for the record describes the $6.6 billion that we are requesting for MILCON and family housing, the $8 billion more that we are requesting for sustaining and restoring our facilities, and the $3.5 billion that we are seeking for environmental compliance and cleanup.

Because infrastructure generally has a long, useful life and its associated degradation is not as immediate, DOD components are taking more risk in the MILCON program in order to decrease risk in other operational and training budgets.

In addition, reducing MILCON reduces investment risk, as we contemplate the uncertain allocation of force structure cuts and the possibility of a new round of BRAC.

The MILCON request alone, as was indicated earlier, is a 40 percent reduction from what we requested last year, and the facilities sustainment request is only 65 percent of the modeled requirement.

The budget challenges facing DOD are deep and they extend for many years. We continue to believe that an important way to ease this pressure is with base closure, allowing us to avoid paying upkeep for unneeded infrastructure and making those funds available for readiness and modernization of the forces.

That said, I know the high cost of BRAC 2005 has left a bad taste in many Senators' mouths. We have long talked about the emphasis in 2005 on transformation rather than efficiency. But that answer did not satisfy Congress' concern about the $35 billion cost, and it certainly did not explain why we were not going to end up with more of the same if another round were authorized.

I was not satisfied either, and I tasked my staff to review each of the recommendations from BRAC 2005. What we found was that we actually ended up conducting two parallel BRAC rounds.

One was about transformation. The recommendations were expensive, and they did not pay back. But there were some moves that you could only do during a BRAC round. Looking at nearly half of the last round's recommendations that either did not pay back at all or are paid back in 7 years or more, we found that this transformation BRAC cost $29 billion out of the $35 billion and resulted in only $1 billion in recurring savings. In other words, the reason we were doing those moves was not to save money.

That said, the other half of the recommendations was focused on saving money. They had payback of less than 7 years. They ended up costing a total of $6 billion out of that $35 billion and yielded recurring savings of $3 billion a year. This efficiency BRAC proves that when we are trying to save money, we do.

That is the kind of round we are seeking to conduct now. It is fair to say that DOD needs to save money now.

During the hearing with Secretary of Defense Chuck Hagel, Madam Chairwoman, you specifically asked about the European infrastructure consolidation effort. Many members have said that we

should close bases overseas before we do a BRAC. So, we have embarked on a BRAC-like process in Europe. However, we are not looking in that process to bring forces back to the United States. It will not take any pressure away from the need for a BRAC round. The analysis has taken longer than expected, but we are nearing the finish line and anticipate completing our report this spring. We have affirmed several recommendations already and have offered classified briefings to subcommittee staff. In fact, we have scheduled an update with this subcommittee staff next week.

Finally, Madam Chairwoman, I understand that you wanted to spend some time focused on DOD's energy programs. I applaud your focus on energy efficiency. I agree completely with the statement you have made in the past that the cheapest energy is the energy we do not use.

Let me make three quick points on facilities energy before I yield back.

First, many of our energy efficiency projects and most of our renewable ones are funded by third parties, minimizing our upfront costs and resulting in long-term cost reduction.

Second, for those projects that we do fund ourselves, we are focused on the business case and ensuring good payback. These are smart investments.

Third, one of the risks that is associated with reduced levels of facilities sustainment funding is reduced energy performance. Put simply, a hole in the roof or a malfunctioning high ventilation and air conditioning system has a significant effect on a building's energy efficiency. To paraphrase your quote, the most expensive energy is the energy we waste. That is what you get if you underfund maintenance.

Thanks for the opportunity to testify. I look forward to your questions.

[The prepared statement of Mr. Conger follows:]

PREPARED STATEMENT BY MR. JOHN CONGER

INTRODUCTION

Chairwoman Shaheen, Ranking Member Ayotte, and distinguished members of the subcommittee: Thank you for the opportunity to present the President's fiscal year 2015 budget request for the Department of Defense (DOD) programs supporting installations, facilities energy, and the environment.

First, let me thank you for your support for our installation mission. DOD operates an enormous real property portfolio encompassing over 562,000 buildings and structures on 523 bases, posts, camps, stations, yards, and centers. The replacement cost of the Department's installations is $850 billion, excluding the cost of the 27 million acres of land that our installations occupy. Our installations remain critical components of our ability to fight and win wars. Our warfighters cannot do their job without bases from which to fight, on which to train, or in which to live when they are not deployed. The bottom line is that installations support our military readiness.

In addition, I would like to express my thanks to Congress for an fiscal year 2014 budget that allowed us to avoid a catastrophic budget year. The funding levels for the facilities accounts and the relative timeliness of the budget compared to fiscal year 2013 allowed us to recover from the disproportionate burden that facilities sustainment and base operations bore last year. While this will still be a challenging budget year, the funding levels and the certainty achieved by striking a budget deal and taking sequestration off the table for the year will allow us to manage our resources and conduct our operations more effectively.

Still, the fiscal year 2015 budget request reflects the assumption that Budget Control Act funding levels are likely to continue. The recent budget deal provided more

assistance to fiscal year 2014 than fiscal year 2015, and in order to meet the overall budget numbers, we had to scale back programs across the Department, to include military construction (MILCON). As such, the fiscal year 2015 request for MILCON and family housing is $6.6 billion, a 40.4 percent decrease from the fiscal year 2014 request. Because infrastructure, generally, has a long useful life, and its associated degradation is not as immediate, the DOD components are taking more risk in the MILCON program in order to decrease risk in other operational and training budgets. In addition, reducing MILCON reduces investment risk as we contemplate the uncertain allocation of force structure cuts and the possibility of a new round of Base Realignment and Closure (BRAC).

Tighter budgets have driven the Services to take more risk in their Facilities Sustainment accounts. While continuing to assume risk in these accounts over time will result in increased repair requirements and decreased energy efficiency, we are accepting near term risk in facility maintenance while the Department adjusts to the new funding profile.

To address this and other shortfalls driven by the funding caps, the President's budget includes the Opportunity, Growth and Security Initiative. This initiative would provide an additional $26 billion for the Defense Department in fiscal year 2015, including substantial investments in military construction and facilities sustainment.

Finally, we persist in our request for another BRAC round, though given Congress' rejection of our previous request in 2015 and the time it takes to execute the BRAC process, we are now asking for a round in 2017. We maintain that the Department has well documented excess capacity and is on a path for even more as we reduce our force structure. As Secretary Hagel indicated, we cannot afford to spend money on infrastructure we don't need while we continue to take risk in military readiness accounts.

My testimony will outline the fiscal year 2015 budget request and highlight a handful of top priority issues—namely, the administration's request for BRAC authority, our progress on the European Infrastructure Consolidation analysis, new developments on the Pacific realignment, an overview of our facility energy programs, and a discussion of the steps DOD is taking to mitigate the risk posed by climate change.

FISCAL YEAR 2015 BUDGET REQUEST—MILITARY CONSTRUCTION AND FAMILY HOUSING

The President's fiscal year 2015 budget requests $6.6 billion for the MILCON and Family Housing Appropriation—a decrease of approximately $4.5 billion from the fiscal year 2014 budget request. This decrease primarily reflects the declining budget environment resulting from the Budget Control Act and the recent budget agreement. In light of the sharp reductions in the construction budget, the DOD components focused principally on sustaining warfighting and readiness postures. As I noted in the introduction, infrastructure degradation is not immediate, so DOD components are taking more risk in the MILCON program in order to decrease risk in other operational and training budgets.

This funding will still enable the Department to respond to warfighter requirements and mission readiness. However, the reduced budget will have an impact on routine operations and quality of life as projects to improve aging workplaces are deferred. 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 2015 MILCON request ($4.9 billion) includes projects in support of the strategic shift to the Asia-Pacific, projects needed to support the realignment of forces, a few projects to improve and update facilities used by the Guard and Reserve Forces, and although at a reduced level, it includes some projects to take care of our people and their families, such as unaccompanied personnel housing, medical treatment facilities, and schools.

Table 1. MilCon and Family Housing Budget Request, FY 2014 versus FY 2015

Category	FY 2014 Request ($ Millions)	FY 2015 Request ($ Millions)	Change from FY 2014	
			Funding ($ Millions)	Percent
Military Construction	**8,656**	**4,859**	(3,797)	(43.9%)
Base Realignment and Closure	**451**	**270**	(181)	(40.1%)
Family Housing	**1,544**	**1,191**	(353)	(22.9%)
Chemical Demilitarization	**123**	**39**	(84)	(68.3%)
NATO Security Investment Program	**240**	**200**	(40)	(16.7%)
TOTAL	**11,014**	**6,559**	(4,455)	(40.4%)

Military Construction

We are requesting $5.1 billion for "pure" MILCON—i.e., exclusive of BRAC and Family Housing—the lowest amount in 10 years. This 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:

First and foremost, our MILCON request supports the Department's operational missions. MILCON is key to implementing initiatives such as the Asia-Pacific rebalance, the Army's Brigade Combat Team reorganization, maritime homeland defense, and cyber mission effectiveness. Our fiscal year 2015 budget request includes $84 million for the final increment of the Kitsap Explosives Handling Wharf-II, $120 million for a cyber warfare training facility, $255 million for KC–46A mission facilities; and, $51 million for Guam relocation support facilities. The budget request also includes $180 million for the fourth increment of the U.S. Strategic Command Headquarters Replacement facility at Offutt Air Force Base, Nebraska; $166 million for the second increment of the U.S. Cyber Command Joint Operations Facility at Fort Meade, Maryland; $92.2 million for the first phase of a Joint Intelligence Analysis Complex Consolidation at RAF Croughton, United Kingdom; and $411 million to address Special Forces Operations requirements.

Second, our fiscal year 2015 budget request includes $394 million to replace or modernize seven DOD Education Activity (DODEA) schools that are in poor or failing physical condition. These projects, six 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. The recapitalized or renovated facilities, intended to be models of sustainability, will provide a modern teaching environment for the children of our military members.

Third, the fiscal year 2015 budget request includes $486 million for five projects to upgrade our medical treatment and research facilities, including $260 million for the fourth increment of funding to replace the Landstuhl Regional Medical Center at the Rhine Ordnance Barracks in Germany. Recapitalizing this facility is critical because it not only supports our wounded warriors but also serves as the primary DOD European referral center for high acuity specialty and surgical care. It is also our only theater level medical asset providing comprehensive services to the extraordinary large Kaiserslautern military community. Our budget focuses on medical infrastructure projects that are crucial to ensure that we can deliver the quality healthcare our servicemembers and their families deserve, especially during overseas deployments.

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. Servicemembers 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 2015 budget request includes $1.2 billion for construction, operation, and maintenance of government-owned and leased family housing worldwide, oversight of privatized housing, and services to assist military members in renting

or buying private sector housing. Most government-owned family housing is on bases in foreign countries, since the Department has privatized almost all of its family housing in the United States. The requested funding will ensure that U.S. military personnel and their families continue to have suitable housing choices.

Table 2. Family Housing Budget Request, FY 2014 versus FY 2015

			Change from FY 2014	
Category	**FY 2014 Request ($ Millions)**	**FY 2015 Request ($ Millions)**	**Funding ($ Millions)**	**Percent**
Family Housing Construction/Improvements	194	95	(99)	(51.0%)
Family Housing Operations & Maintenance	1,347	1,094	(253)	(18.8%)
Family Housing Improvement Fund	2	2	0	0
TOTAL	**1,543**	**1,191**	**(352)**	**(22.8%)**

DOD 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 Homeport Ashore—a Navy program to move Sailors from their ships to shore-based housing when they are at their homeport. The fiscal year 2015 MILCON budget request includes $150 million for five construction and renovation projects that will improve living conditions for trainees and unaccompanied personnel.

The Military Services completed the initial Military Housing Privatization Initiative award phase before the end of fiscal year 2013. The Air Force awarded the final 3 projects to complete its program, bringing the total privatized inventory to about 205,000 homes. The new challenge will be to manage the government's interests in these privatized projects to ensure they continue to provide quality housing for 50 years.

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 an owner should make across the service life of a facility to slow its deterioration, optimize the owner's investment, and save resources over the long term. Proper sustainment retards deterioration, maintains safety, and 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. In fiscal year 2013, DOD budget request included $8.5 billion of Operations and Maintenance (O&M) funding for sustainment of our real property. This amount represents 82 percent of the requirement based on the Facilities Sustainment Model (FSM). Due to sequestration reductions, by the end of fiscal year 2013, the Department had only obligated $6.7 billion for sustainment, which equates to 65 percent of the modeled requirement. The Department's fiscal year 2014 budget request for sustainment included just $7.9 billion of O&M funds (78 percent of the modeled requirement) and Congress appropriated only $7.3 billion, or 74 percent of the modeled requirement, for this purpose.

Table 3. Sustainment and Recapitalization Budget Request, FY 2014 versus FY 2015

Category	FY 2014 Request ($ Millions)	FY 2015 Request ($ Millions)	Change from FY 2014	
			Funding ($ Millions)	Percent
Sustainment (O&M)	7,867	6,429	(1,438)	(18.3)
Recapitalization (O&M)	2,666	1,617	(1,049)	(39.3)
TOTAL	**10,533**	**8,046**	**(2,487)**	**(23.6)**

For fiscal year 2015, the Department's budget request includes $6.4 billion for sustainment and $1.6 billion for recapitalization. The combined level of sustainment and recapitalization funding ($8 billion) reflects a 23.6 percent decrease from the fiscal year 2014 President's budget request ($10.5 billion). While the Department's goal is to fund sustainment at 90 percent of modeled requirements, the funding level noted above supports an average DOD-wide sustainment funding level of 65 percent of the FSM requirement. Due to budget challenges, the Military Services have taken risk in maintaining and recapitalizing existing facilities. The Services have budgeted facility sustainment between 63 and 77 percent of the DOD-modeled requirement, with the Marine Corps taking the least risk by budgeting sustainment at 77 percent and the Army assuming the greatest risk by budgeting sustainment at 63 percent. Continued decreases in sustainment coupled with inadequate investment in recapitalization of existing facilities will present the Department with larger bills in the out-years to restore or replace facilities that deteriorate prematurely due to underfunding their sustainment.

Facility Investment Policy Initiatives

Military Construction Premium

Last year, the Department completed a study to quantify elements of the MILCON process that increases construction costs compared to similar construction efforts in the private sector. We are now conducting additional analysis in two areas where military cost premiums were high.

First, we are taking a close look at anti-terrorism standards for construction. With current policy that prescribes significant minimum anti-terrorism construction standards, many construction projects must absorb excessive and disproportionate requirements, which in turn drive up costs. On December 7, 2012, the Deputy Secretary of Defense issued policy for DOD to adopt the Federal Interagency Security Committee security standards for off-base DOD-leased space consistent with other Federal agencies. In addition, the Department is evaluating revisions to DOD requirements for building antiterrorism protection on our installations, which currently calls for the same minimum standards for nearly all on-base buildings. We are working to establish a process whereby risk and appropriate antiterrorism mitigation would be determined for each new project, similar to the policy we adopted for off-base leased facilities. For example, this risk assessment would take into account whether a building was well within a secure perimeter.

Second, we are undertaking a study to better understand the life-cycle cost impacts of our design practices in each of seven major building systems by comparing facilities designed for an extended service life (40 years or more) to those designed for the typical commercial practice of 20 to 25 years. We intend this study to inform decisions on design-life requirements in our technical standards. We believe our existing standards reduce life-cycle costs even where there appears to be an increase of initial costs; however, it is important to review them for improvement and/or validation.

Facility Condition Standards

We have been working for some time to develop a policy that relates the condition of facilities to requirements for recapitalization. While straightforward on its surface, it has turned out to be far more complex than originally thought, requiring underlying policy adjustments to enable the implementation of a policy on facility investment related to facility condition standards.

For example, each of the Military Services uses slightly different processes to measure the Facility Condition Index (FCI), a functional indicator used across the Federal Government to assess facility condition, expressed in terms of the relation-

ship between what it would cost to repair a facility to a like-new condition and what it would cost to replace that facility (e.g., an FCI of 90 percent means that the cost to restore a facility is 10 percent of the cost to replace it). In order to increase the reliability of DOD's FCI data and to ensure the figures for each Service were comparable, the Department issued policy and implementation guidelines in September 2013 that reinvigorate and standardize our facility condition assessment and reporting processes, to include using a common inspection tool and ensuring qualified professionals conduct the inspections.

With standardized and reliable FCI data, we will be in a better position to develop a facility investment strategy based on the condition of the Department's real property portfolio, either as an aggregate portfolio or by looking at individual assets. Generally, we would like to maintain an average portfolio FCI of Fair (80 percent, formerly referred to as Q2), and we are seeking to replace, repair, excess, or demolish buildings that are in such bad shape that they are rated as Failing (FCI less than 60 percent, formerly the Q4 designation). Today, our average FCI for all DOD facilities is 86 percent, and we have more than 17,000 buildings that are rated as Failing across the enterprise. Taking risk by underfunding sustainment will drive these figures in the wrong direction, and we will need a strategy to improve the condition of our real property inventory in the coming years.

Payment in Kind Projects

In 2013, the Senate Armed Service Committee released a report that focused on host nation funded construction in Germany, South Korea, and Japan. The report raised several concerns regarding the selection and prioritization of DOD construction projects using host nation funds, particularly those funds provided to the Department as in-kind contributions. As a result, the National Defense Authorization Act for Fiscal Year 2014 requires that the Department obtain advance authorization for construction projects funded through payment-in-kind from host nations. While we disagree with the provision because it is overly restrictive, we understand Congressional concerns and will work with you to ensure we not only comply with this restriction but keep you better informed about all projects funded with host nation contributions.

FISCAL YEAR 2015 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 2015 budget, we are requesting $3.5 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, FY 2015 versus. FY 2014

			Change from FY 2014	
Program	**FY 2014 Request ($ Millions)**	**FY 2015 Request ($ Millions)**	**Funding ($ Millions)**	**Percent**
Environmental Restoration	1,303	1,105	(198)	(15.2%)
Environmental Compliance	1,460	1,458	(2)	(0.1%)
Environmental Conservation	363	381	18	5.0%
Pollution Prevention	106	119	13	12.3%
Environmental Technology	214	172	(42)	(19.6%)
BRAC Environmental	379	264	(115)	(30.3%)
TOTAL	**3,825**	**3,499**	**(326)**	**(8.5%)**

Environmental Restoration

We are requesting $1.4 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 ordinance and discarded munitions) sites. This includes $1.1 billion for "Environmental Restoration," which encompasses active installations and Formerly Used Defense Sites (FUDS) locations and $264 million for "BRAC Environmental." DOD is making steady progress, moving sites through the cleanup process towards achieving program goals. The fiscal year 2015 cleanup request is reduced by 21.1 percent. The reduction for the Environmental Restoration request is primarily due to budgetary reductions for the Army, who will still meet our restoration goals despite the lower funding. The reductions in the BRAC funding request will be augmented with unobligated balances from the consolidated BRAC account.

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 FY2013	Projected Status at the end of FY2018	Projected Status at the end of FY2021
Army	89%	97%	98%
Navy	75%	88%	95%
Air Force	70%	89%	94%
DLA	88%	91%	97%
FUDS	78%	90%	95%
Total	**79%**	**92%**	**96%**

By the end of 2013, the Department, in cooperation with State agencies and the Environmental Protection Agency, completed cleanup activities at 79 percent of Active and BRAC IRP and MMRP sites, and FUDS IRP sites, and is now monitoring the results. During fiscal year 2013 alone, the Department completed cleanup at over 800 sites. Of the more than 38,000 restoration sites, almost 30,000 are now in monitoring status or cleanup completed. We are currently on track to exceed 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;

and refining and standardizing our cost estimating. 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 BRAC or other reasons.

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 2015 budget request for Environmental Technology overall is $172 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 2015 budget request includes $57.8 million for SERDP and $26.5 million for ESTCP for environmental technology demonstrations. (The budget request for ESTCP includes an additional $25.0 million 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.

Most recently, SERDP and ESTCP have developed technology that allows us to discriminate between hazardous unexploded ordnance and harmless scrap metal without digging up an object. This technology promises to reduce the liability of the MMRP program by billions of dollars and accelerate the current cleanup timelines for munitions sites—without it; we experience a 99.99 percent false positive rate and are compelled to dig up hundreds of thousands of harmless objects on every MMRP site. The rigorous testing program for this technology has experienced some delays due to sequestration and is now expected to be complete in 2015. Even as the technical demonstrations are ongoing, the Department has been pursuing an aggressive agenda to transition the technology to everyday use. We are proceeding deliberately and extremely successfully with a testing and outreach program designed to validate the technology while ensuring cleanup contractors, State and Federal regulators, and local communities are comfortable with the new approach. We are already beginning to use this new tool at a few locations, but hope to achieve more widespread use within the next few years.

Looking ahead, our environmental technology investments are focused on the Department's evolving requirements. We will work on the challenges of contaminated groundwater sites that will not meet Department goals for completion because no good technical solutions exist; invest in technologies to address munitions in the underwater environment; develop the science and tools needed to meet the Department's obligations to assess and adapt to climate change; and 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

In order to maintain access to the land, water, and airspace needed to support our mission needs, the Department continues to manage successfully the natural resources entrusted to us—including protection of the many threatened and endangered species found on our lands. DOD manages over 28 million acres containing some 420 federally listed threatened or endangered species, more than 520 species-at-risk, and many high-quality habitats. A surprising number of these species are found only on military lands—including more than 10 listed species and at least 75 species-at-risk. 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 Forest Service, and 3.5 times more per acre than the National Park Service.

The fiscal year 2015 budget request for Conservation is $381 million. The Department invests so much to manage not only its imperiled species but all its natural

resources, in order to sustain the high quality lands our service personnel need to train and to maximize our flexibility when using those lands. Species endangerment and habitat degradations 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 USFWS has entered into court-approved agreements to make decisions on 250 species that are "candidates" for listing as threatened or endangered under the Endangered Species Act by 2016. The Department has already analyzed the 250 species and 37 of them, if listed and critical habitat was designated on DOD lands, have the potential to impact military readiness at locations such as Yakima Training Center and Joint Base Lewis-McChord (JBLM). To minimize the potential impacts, these installations have already begun to appropriately manage these species and to consult with USFWS. USFWS and DOD have long worked collaboratively to minimize any critical habitat designation on DOD lands and to ensure that listed species conservation is consistent with military readiness needs.

Our focus has been on getting ahead of any future listings. I have tasked the Military Departments to get management plans in place now to avoid critical habitat designations.

While we make investments across our enterprise focused on threatened or endangered species, wetland protection, or protection of other natural, cultural, and historical resources, I wanted to highlight one particularly successful and innovative program—the REPI Program. Included within the $381 million for Conservation, $43.6 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 11 years of the program, REPI partnerships have protected more than 314,000 acres of land around 72 installations in 27 States. This land protection has resulted in tangible benefits to testing, training, and operations, also made a significant contribution to biodiversity and endangered species recovery actions.

Under REPI, DOD partners with conservation organizations and State and local governments to preserve buffer land near installations and ranges. Preserving these areas allows DOD to avoid much more costly alternatives, such as workarounds, segmentation, or investments to replace existing test and training capability, while securing habitat off of our installations and taking pressure off of the base to restrict activities. REPI supports the warfighter and protects the taxpayer because it multiplies the Department's investments with its unique cost-sharing agreements. Even in these difficult economic times for States, local governments, and private land trusts, REPI partners continue to directly leverage the Department's investments one-to-one. In other words, we are securing these 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 critical DOD missions, working lands, and environmentally sensitive habitat. The Sentinel Landscapes Partnership further strengthens interagency coordination, and provides taxpayers with the greatest leverage of their funds to advance the mutually-beneficial land protection goals of each agency. The pilot Sentinel Landscape project at 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 JBLM's REPI investment 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.

HIGHLIGHTED ISSUES

In addition to the budget request, there are several legislative requests and other initiatives that have received interest from Congress. In the sections that follow, I highlight five specific items of interest: (1) BRAC; (2) European Infrastructure Consolidation; (3) Relocation of Marines to Guam; (4) DOD Facilities Energy Programs; and (5) DOD's Response to Climate Change.

1. BRAC

For the third year in a row, the administration is requesting BRAC authority from Congress. This year, we are requesting authority to conduct a BRAC round in 2017.

The Department is facing a serious problem created by the tension of declining budgets, reductions in force structure, and limited flexibility to adapt our infrastructure accordingly. We need to find a way to strike the right balance, so infrastructure

does not drain resources from the warfighter. Our goal is therefore a BRAC focused on efficiency and savings, and it is a goal we believe is eminently achievable.

We believe the opportunity for greater efficiencies is clear, based on three basic facts:

- In 2004, DOD conducted a capacity assessment that indicated it had 24 percent aggregate excess capacity;
- 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; and
- Force structure reductions—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)—subsequent to that analysis point to the presence of additional excess.

Historically, savings from BRAC have been substantial. The first four rounds of BRAC (1988, 1991, 1993, and 1995) are producing a total of about $8 billion and BRAC 2005 is producing an additional $4 billion in annual, recurring savings. This $12 billion total represents the savings that the Department realizes each and every year as a result of the avoided costs for base operating support, personnel, and leasing costs that BRAC actions have made possible.

A considerable proportion of the opposition to a new BRAC round is the cost of BRAC 2005—specifically, the $35 billion it cost compared to the original projection (which was $21 billion). The Government Accountability Office has validated the $4 billion in recurring savings associated with the round, so its savings is not in question. When congressional members say the last round did not save money, what they really mean is that it cost too much, the cost growth was unacceptable, and the payback was too slow.

Simply put, we cannot afford another $35 billion BRAC round. However, it turns out the key factor that drove the cost of the last BRAC round was the willingness of the Department, the BRAC Commission, and Congress to accept recommendations that were not designed to save money.

To the casual observer, this makes no sense. BRAC has been sold as a method of efficiency—a tool to save money. That is true to an extent, but the law effectively prevents the Department from shifting its functions around from base to base without BRAC, and in the last round that is exactly what was done. The reality is that there were really two parallel BRAC rounds conducted in 2005: one focused on Transformation and one focused on Efficiency.

Last year, we conducted an analysis of the payback from BRAC 2005 recommendations. We found that nearly half of the recommendations from the last round were focused on taking advantage of transformational opportunities that were available only under BRAC—to move forces and functions where they made sense, even if doing so would not save much money. In BRAC 2005, 33 of the 222 recommendations had no recurring savings and 70 recommendations took over 7 years to pay back. They were pursued because the realignment itself was important, not the savings.

This "Transformation BRAC" cost just over $29 billion and resulted in a small proportion of the savings from the last round, but it allowed the Department to redistribute its forces in ways that are otherwise extraordinarily difficult outside of a BRAC round. It was an opportunity that the Department seized and Congress supported while budgets were high. For example, in our consolidations of hospitals in the National Capital Region and San Antonio areas, we decided to make the hospitals world class in line with direction from Congress. This approach was the right approach because it was an approach focused on healing our wounded and taking care of our men and women according to the latest health care standards. We could have implemented the recommendations for a much lower cost by putting two people in a room and using standard designs, but we did not. Similarly, we chose to transform the Army's Reserve and Guard facilities by building new Armed Force Reserve Centers.

The remaining recommendations made under BRAC 2005 paid back in less than 7 years, even after experiencing cost growth. This "Efficiency BRAC" cost only $6 billion (out of $35 billion) with an annual payback of $3 billion (out of $4 billion). This part of BRAC 2005 paid for itself speedily and will rack up savings for the Department in perpetuity. It was very similar to previous BRAC rounds and very similar to what we envision for a future BRAC round. In today's environment, a $6 billion investment that yields a $3 billion annual payback would be extraordinarily welcome. In today's environment, we need an Efficiency BRAC.

In addition to being a proven process that yields significant savings, BRAC has other advantages. The BRAC process is comprehensive and thorough. Examining all

installations and conducting thorough capacity and military value analyses using certified data enable rationalization of our infrastructure in alignment with the strategic imperatives detailed in the 20-year force structure plan. The merits of such an approach are twofold. First, a comprehensive analysis ensures that the Department considers a broad spectrum of approaches beyond the existing configuration to increase military value and align with our strategy. Second, the process is auditable and logical which enables independent review by the Commission and affected communities. In its 2013 report, the Government Accountability Office stated: "We have reported that DOD's process for conducting its BRAC 2005 analysis was generally logical, reasoned and well documented and we continue to believe the process remains fundamentally sound."

Additionally, and of primary importance, is the BRAC requirement for an "All or None" review by the President and Congress, which prevents either from picking and choosing among the Commission's recommendations. Together with the provision for an independent commission, this all-or-none element is what insulates BRAC from politics, removing both partisan and parochial influence, and demonstrating that all installations were treated equally and fairly. It is worth noting that the process validates the importance of those bases that remain and are then deserving of continued investment of scarce taxpayer resources.

The Department's legal obligation to close and realign installations as recommended by the Commission by a date certain, ensures that all actions will be carried out instead of being endlessly reconsidered. That certainty also facilitates economic reuse planning by impacted communities.

Finally, after closure, the Department has a sophisticated and collaborative process to transition the property for reuse. The closure of a local installation can cause upheaval in the surrounding community. Therefore, it is important to note that there are advantages to communities under BRAC that are not provided under existing disposal authorities, to include involvement in the land disposal process, availability to acquire property for job creation purposes, environmental review concentrating on the community's planned uses to the extent practicable, and the availability of more extensive community redevelopment/reuse assistance from the Office of Economic Adjustment. Land disposal outside of BRAC is done on a parcel-by-parcel basis with no mechanism for taking local planned uses into account. Additionally, without BRAC conveyance authorities, there is no special property disposal preference for the local community—by law, the local community has to stand in line for the property behind other Federal agencies, the homeless, and potential public benefit recipients.

2. European Infrastructure Consolidation

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 we haven't taken a holistic, joint review of our European infrastructure like we have with BRAC and our domestic bases. In response to our recent requests for BRAC, Congress made it clear that it wanted DOD to do so.

In January 2013, the Secretary of Defense directed the Department to conduct a comprehensive review of its European infrastructure in an effort to create long-term savings by eliminating excess infrastructure, recapitalizing astutely to create excess for elimination, and leveraging announced force reductions to close sites or consolidate operations. Under this comprehensive effort, dubbed the European Infrastructure Consolidation (EIC) process, we are analyzing infrastructure relative to the requirements of a defined force structure while emphasizing military value, joint utilization, and obligations to our allies.

The Department does not conduct this degree of comprehensive analyses of its infrastructure on a regular basis, so the learning curve has been steep. We initially hoped to complete our European infrastructure review and have recommendations by the end of 2013, but the learning curve, furloughs, and other resource constraints have caused delays. The Services did, however, identify and are in the process of implementing a number of "quick wins" in Europe—small scale, non-controversial closures and realignments that require no MILCON funding, can be implemented quickly, and produce near term savings. We are also analyzing a variety of major actions to determine operational impacts and positive business case results. The analysis includes the three Military Departments and four joint work groups to look at the potential for cross-Service solutions. We expect to complete the analysis in the spring, and I would be happy to brief the committee in a classified forum on those scenarios we are analyzing. However, I wanted to highlight one opportunity that is mature enough to share today.

Scenario: Consolidate intelligence activities to RAF Croughton

One of the efforts that we consider the prototype of the EIC process is the consolidation of intelligence activities from RAF Alconbury and RAF Molesworth to RAF Croughton. This is a mature scenario with a good business case that the EIC Senior Steering Group reviewed and endorsed early in our analytical process. The consolidation's funding was programmed and the first project is part of the fiscal year 2015 request, offering Congress an opportunity to signal support for consolidation in Europe in this year's bill.

Under this effort, the Department plans to construct a total of $317 million in new facilities at RAF Croughton, consolidating the six intelligence organizations currently operating at RAF Molesworth and providing corresponding support facilities to accommodate the incoming personnel. The current facilities supporting U.S. and partner nation intelligence analysis, engagement, and training mission at RAF Molesworth are inadequate to support current analysis requirements and require substantial Sustainment, Restoration, and Modernization (SRM) funding. Support facilities (including schools, housing, fitness center, etc.) for RAF Molesworth are located 13 miles away at RAF Alconbury, approximately a 25 minute commute.

The existing mission facilities at RAF Molesworth include 21 widely dispersed and degraded buildings, providing only 60 percent of the space authorized by the Unified Facilities Criteria. Total intelligence personnel number approximately 1,250. The dispersed layout inhibits intelligence collaboration, while overcrowding contributes to safety concerns and unhealthy working environment. Short-term repairs and temporary facilities are used to keep intelligence work areas and systems functional. The Defense Intelligence Agency (DIA) has spent $30 million in SRM and Under Secretary of Defense for Intelligence and DIA have spent $60 million for leased modular facilities that require recapitalization every 7 years—this is not a cost-effective situation.

The consolidation of intelligence missions at RAF Croughton creates an opportunity for annual recurring savings of $75 million; a reduction in Restoration and Modernization funding required to alleviate $191 million of SRM backlog; avoidance of $65 million for a DODEA Europe project at RAF Alconbury; and, reduction of nearly 350 total personnel (military, civilian, and local foreign nationals). These figures demonstrate a relatively rapid payback of our upfront investment.

The first phase of the construction is a $92 million project in this year's funding request.

3. Rebasing of Marines from Okinawa to Guam

One of the most significant and contentious rebasing actions proposed in recent years is the movement of thousands of U.S. marines from Okinawa to Guam. The establishment of an operational U.S. Marine Corps capability in Guam is an essential component of the rebalance to the Asia Pacific region. It is an important step in achieving our goal of a more geographically distributed, operationally resilient, and politically sustainable force posture in the region.

The original agreement established in the May 2006 U.S.-Japan Realignment "Roadmap" included the relocation of approximately 8,600 marines and 9,000 dependents from Okinawa to Guam; construction of the "Futenma Replacement Facility (FRF)" on Okinawa, and consolidation of the remaining forces there by 2014. Under this agreement, Japan agreed to a cost-sharing arrangement to fund up to $6.1 billion ($2.8 billion in cash contributions) of the estimated total cost of $10.3 billion (fiscal year 2008 dollars)—later revised to approximately $19.0 billion. Construction was to occur over a 7 year period after the 2010 Record of Decision and the population was going to peak at approximately 79,000 in 2014. The plan received significant opposition in Congress, which raised reasonable questions about the affordability of this approach.

In 2012, the United States and Japan decided to adjust our longstanding agreement to station U.S. Marines on Guam from a garrison (~8,600) to a rotational force (~5,000 marines/1,300 dependents) with less marines relocating from Okinawa (~11,500 will remain). The revised agreement also de-links the movement of marines to Guam from Japan's progress on the FRF. The preliminary estimate for the revised agreement totaled $8.6 billion with Japan providing up to $3.1 billion (fiscal year 2012 dollars) in cash contributions. There is no longer a date certain for completion and construction is projected to take 13 years after the 2015 Record of Decision (contingent on affordability).

In order to implement this plan, the Department is pursuing a Supplemental Environmental Impact Statement document that reflects these adjustments, and we expect a Record of Decision in spring of 2015. 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. While the document has not been finalized, it is reasonable to expect a smaller requirement for mitigation as well.

The Department appreciates the fiscal year 2014 authorization and appropriation of $85 million for construction of an aircraft hangar for the Marine Corps at the North Ramp of Andersen Air Force Base and is requesting $50.7 million for construction of Ground Support Equipment shops and Marine Wing Support Squadron Facilities at Andersen's North Ramp. Congress' continued support for cautious progress on this effort will be seen by Japan as an indication of our commitment to the realignment.

Although the United States and Japan separated the requirement of tangible progress on the construction of the FRF before the movement of marines to Guam could commence, it is important to note that on December 26, 2013, the Governor of Okinawa approved the landfill permit request to build the FRF at Camp Schwab-Henoko Bay.

Finally, the National Defense Authorization Act for Fiscal Year 2014 and the Consolidated Appropriations Act for Fiscal Year 2014 included $106.4 million for the Guam civilian water and wastewater program and $13 million for a Guam public health laboratory. DOD, in collaboration with numerous Federal agencies, validated the need for this funding and has begun the planning and design of specific projects. The President's fiscal year 2015 budget requests an additional $80.6 million to continue improving Guam's civilian water and wastewater infrastructure and remedy deficiencies that impact the public health of DOD personnel. These projects are beyond the financial capability of Guam to correct, and will provide safer sustainable water resources and capacity critical not only for the more than 16,000 DOD personnel currently based on Guam and for future DOD growth and the increased civilian population induced by the military realignment, as well as for current residents of the Territory.

4. Facilities Energy Programs

Congress has demonstrated significant interest in the Department's energy programs in recent years. My portfolio includes the Facilities Energy segment of the DOD energy portfolio—the electricity, natural gas, and other energy used to support our fixed installations. Operational Energy—predominantly fuel for conducting training and operations of aircraft, ships, ground vehicles, and even tactical generators—is overseen by the Assistant Secretary of Defense for Operational Energy Plans and Programs. The Department's facility energy costs represent approximately $4 billion annually and comprise roughly half of the Base Operations accounts at our installations; while its operational energy costs are significantly more than $15 billion annually.

Below, I discuss three key pillars of our Facilities Energy program: (1) Energy Efficiency and Demand Reduction; (2) Expand Energy Production; and (3) Leverage Advanced Technology.

Energy Efficiency and Demand Reduction

The Department's fiscal year 2015 budget request includes approximately $500 million for investments in conservation and energy efficiency, most of which will be directed to existing buildings. The majority ($350 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 flexible MILCON account used to implement energy and water efficiency projects. In addition to Savings-to-Investment Ratio (SIR) and Simple Payback, ECIP projects are evaluated on several other criteria, the Department will revise its ECIP guidance for the fiscal year 2016 program to ensure greater weighting of financial payback factors for ECIP project evaluation. In addition, we will limit projects to only those with a positive payback (i.e. SIR >1.0) and ensure the overall program has an SIR greater than 2.0.

The Military component investments include activities that would be considered regular maintenance and budgeted within the Facilities Sustainment, Restoration, and Maintenance accounts. The significant reductions in that account 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 2018.

To offset appropriated funding reductions, the Services have increased their focus on third-party financing tools, such as Energy Savings Performance Contracts and Utility Energy Service Contracts, to improve the energy efficiency of their existing buildings. (With these tools private energy firms make upgrades to our buildings and are only paid back out of reduced utility costs.) While such performance-based contracts have long been part of the Department's energy strategy, within the last 2 years the Department has significantly increased our throughput in response to the President's Performance Contracting Challenge, issued in December 2011.

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.

Collection of accurate, real-time facility energy information remains a priority. In April 2013, I issued an Advanced Utilities Metering policy which sets an aggressive goal for deploying advanced meters throughout the Department to automatically and accurately measure electricity, natural gas, water, and steam use. This policy requires advanced meters be installed to capture 60 percent of the Department's electricity and natural gas use (with a goal of 85 percent) by fiscal year 2020. It also requires advanced meters installed on water-intensive facilities and facilities connected to district steam systems by fiscal year 2020. This will provide data essential for effectively managing building energy use, identifying water and steam leaks, and analyzing energy savings opportunities. In addition, this policy requires meters to be connected to an advanced metering system to automatically collect, analyze, and distribute energy data. Further, my office continues to lead the development of an Enterprise Energy Information Management system that will collect facility energy and project data in a systematic and timely way, giving energy professionals at all levels of the Department the advanced analytical tools that will allow us to both improve existing operations and identify cost-effective investments.

Expand Energy Production on DOD Installations

DOD is actively developing projects to increase the supply of renewable and other distributed (on-site) sources of energy on our installations. Not only does on-site energy help to make our bases more energy resilient, but the projects we are pursuing will generally result in lower costs.

There are particular authorities for renewable energy—particularly the ability to sign power purchase agreements of up to 30 years—that not only provide incentive for private firms to fund the projects themselves, but also can provide a good enough 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 3 years, the Department has more than doubled the number of renewable energy projects in operation with approximately 700 megawatts in place today. The Military Departments are planning for a number of renewable energy projects over the next 6 years that will provide an additional 900 megawatts of renewable energy, enough to power 200,000 American homes. The majority of these projects are solar projects. Army projects currently underway include Fort Drum, NY (28 MW Biomass), and Fort Detrick, MD (15 MW Solar PV); recent Navy projects include Naval Air Weapons Station China Lake, CA (13.8 MW Solar PV) and the Air Force recently completed a solar project at Davis-Monthan Air Force Base (16.4 MW Solar PV).

Within my portfolio, I also manage the DOD Siting Clearinghouse, which reviews energy projects under development on and in the vicinity of our installations to ensure there is no unacceptable risk to military mission that cannot be mitigated. From calendar year 2012 to 2013, the Department experienced a 17 percent increase in mission compatibility evaluations conducted on energy sources and electrical power transmission systems submitted under the provisions of Section 358 of the Ike Skelton National Defense Authorization Act for Fiscal Year 2011. While 96 percent of these 2,084 project evaluations identified no adverse mission impact, the DOD Siting Clearinghouse is overseeing detailed mitigation discussions on a small number of projects that would otherwise have impacts. In these discussions, we at-

tempt to identify solutions that allow projects to proceed without unacceptably impacting military operations, test, or readiness.

Leverage Advanced Technology

DOD's Installation Energy Test Bed Program consists of 76 active and 24 completed projects conducted to demonstrate new energy technologies in a real-world integrated building environment so as to reduce risk, overcome barriers to deployment, and facilitate widespread commercialization. DOD partners with DOE and reaches out directly to the private sector to identify energy technologies that meet DOD's needs. The fiscal year 2015 budget request includes $21 million for the Test Bed under the ESTCP.

The Test Bed operates in five broad areas: advanced microgrid and storage technologies; advanced component technologies to improve building energy efficiency, such as advanced lighting controls, high performance cooling systems, and technologies for waste heat recovery; advanced building energy management and control technologies; tools and processes for design, assessment and decision-making on energy use and management; and on-site energy generation, including waste-to-energy and building integrated systems. The rigorous Installation Energy Test Bed Program provides an opportunity for domestic manufacturers to demonstrate the technical and economic feasibility of implementing their innovative products. These demonstrations provide the credible evidence needed by investors to commercialize emerging technologies to serve the DOD and broader markets. Several completed projects demonstrated energy savings of 20–70 percent for lighting and HVAC systems, cost-effective solar generation without tax subsidies, and the need to properly scale waste-to-energy systems.

5. Climate Change Adaptation

The issue of climate change has received increasing attention in recent months—especially given the release last year of the President's Climate Action Plan and Executive Order 13653, Preparing the United States for the Impacts of Climate Change—and I wanted to take a moment to discuss the Department's approach to addressing this issue.

It is important to understand that DOD looks at climate change impacts through the lens of its mission. Using that perspective and focusing on mission impacts, the changes to the global climate affect national security in two broad categories.

First, climate change shapes the operating environment and the missions that DOD must undertake: retreating Arctic ice creates new shipping lanes and an expansion of the Navy's operating area across the northern pole; increased storm intensity will lead to increased demands for humanitarian assistance or disaster response; and changes in availability of food and water will serve as an instability accelerant in regions that aren't sufficiently resilient to adapt to those changes.

In short, climate change will mean more demands on a military that is already stretched thin.

Second, climate change affects the execution of missions we have today. 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 around our Alaskan installations. The changing environment increases the threat to the 420 endangered species that live on our installations, 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.

As was made clear in my discussion of energy above, even those activities that reduce greenhouse gas emissions are justified by the benefits they bring to our mission capability. Increasing energy efficiency of our combat systems allows greater performance and lowers requirements for vulnerable supply lines. Our investments in facility energy efficiency help to reduce our $4 billion annual facilities energy bill, or at least slow its increase. In the future, this on-base renewable energy generation promises the opportunity to increase energy security and insulate our operations from the vulnerable electric grid. The result will be fewer greenhouse gas emissions, but that is a co-benefit. We are focused on the mission benefits of managing our energy portfolio.

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 new Arctic Strategy) to the mundane (ensuring backup power and computer servers are not in basements where facilities are facing increased flood risk). In 2013, DOD released the Climate Change Adaptation Roadmap, which highlights a wide range of climate impacts that affect DOD, and highlights our decision to incorporate consideration of climate change risks into our existing policies rather than to create climate change stovepipes within the Department.

Along these lines, we have updated policies on master planning our installations to minimize construction in low lying areas; emphasized smart planning in floodplains and water-scarce regions; and revised guidance on natural resources management to ensure we are accounting for climate shifts as we protect endangered species on our installations.

In addition, we are conducting studies of our coastal installations to assess their vulnerability to extreme weather events and other climate effects—an analysis that should be complete by July—and we will subsequently review the vulnerabilities of our inland bases. We are conducting research on the effects of thawing permafrost on our Alaskan infrastructure, where we've already seen significant damage to foundations and road infrastructure. In the southwest, we've seen initial studies that indicate critical installations could run out of water within 2 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.

In recent years, extreme weather events such as Hurricane Sandy and derechos have caused power outages, damage from floods, high winds, and storm surges. Climate change increases the likelihood of such events, and the DOD must be prepared for, and have the ability to recover from, utility interruptions that impact mission assurance on our installations, an ability we characterize as power resilience. In fact, the policy directing this already exists and we have embarked on an effort to review installation-level compliance with policies that require identifying critical loads, ensuring back-up power is in place, maintaining back-up generators, and storing an appropriate amount of emergency fuel.

The bottom line is that we are dealing with climate change by taking prudent and measured steps to reduce the risk to our ability to conduct missions. We consider climate change an important national security consideration and one that will affect the Department's ability to operate in the decades to come.

CONCLUSION

Thank you for the opportunity to present the President's fiscal year 2015 budget request for DOD programs supporting installations, facilities energy, and the environment. As you can see, our budget constraints have required us to accept risk across the portfolio, but it is risk we are already managing and believe we can manage with this budget.

We appreciate Congress' continued support for our enterprise and look forward to working with you as you consider the fiscal year 2015 budget.

Senator SHAHEEN. Thank you very much.

Secretary Hammack.

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

Ms. HAMMACK. Thank you, Chairwoman Shaheen, Ranking Member Ayotte, and members of this subcommittee. On behalf of soldiers, families, and civilians of the U.S. Army, thank you for the opportunity to discuss our fiscal year 2015 MILCON budget.

For fiscal year 2015, the Army is asking for $1.3 billion, which covers MILCON, family housing, and the Army's share of the DOD base closure account. This represents a 39 percent reduction from fiscal year 2014. It is part of the overall $13 billion Army budget which includes installation, energy, environmental programs, facilities sustainment, restoration and modernization, and our base operations support.

Due to the fiscal reductions required by current law and the end of combat operations in Afghanistan, the Army is shrinking our Active component end strength to 490,000 by the end of fiscal year 2015. The 2014 Quadrennial Defense Review calls for an Army end strength to decline further to around 450,000 or 440,000. As end strength and force structure decline, we must assess and right-size the supporting infrastructure to ensure that training and readiness needs are met. This requires us to achieve a difficult balance between maintaining infrastructure with force structure.

Last year, the subcommittee asked when we had last conducted a capacity analysis, so the Army went ahead with a capacity analysis at a macro level. The magnitude of excess capacity showed that with an Army of 490,000, excess Army capacity will range between 12 and 28 percent, depending upon the facility category group, with an average of 18 percent excess. Additional end strength reductions below 490,000 will increase excess capacity.

As Mr. Conger mentioned, we are all participating in the European infrastructure consolidation review to address excess capacity in Europe. The Army has been addressing excess capacity in Europe for many years. But currently we have 10 to 15 percent excess that we are participating with looking to see whether there is joint opportunities with the other Services. We are on track to shrink our overseas infrastructure, overhead, and our operating budgets.

But in the United States, we need BRAC authorization to do the same. BRAC is a proven means to address excess capacity in the United States. Prior BRAC rounds are producing $2 billion in cumulative net savings to the Army each and every year, and we achieve recurring savings from the BRAC 2005 round of about $1 billion a year. We have a clear business case for a BRAC round in 2017. There is a clear path forward for Congress to agree to a new round of BRAC.

As Mr. Conger mentioned, the BRAC 2005 round could be considered as two parallel BRAC rounds, transformation BRAC and efficiency BRAC. The efficiency BRAC round was the component that produced half of the savings for the Army. The BRAC 2005 selection criteria reflected DOD's stated goal at that time to achieve transformation, in addition to savings.

We relocated two large brigade combat teams from Europe. In Europe, the infrastructure was built by the Germans, funded by the Germans. A lot of our energy costs were paid for by the Germans. When we relocated them back to the United States, we had to build that infrastructure here with American taxpayers' dollars. We had to operate them with American taxpayers' dollars and pay for energy costs with American taxpayers' dollars. The transformation BRAC was part of the BRAC strategy but not intended to achieve savings.

We look forward to working with Congress to shape the selection criteria for BRAC 2017 to reflect our need for an efficiency BRAC round. The Army does have a strong commitment to reducing our costs, especially our energy costs through energy and water security measures. We have accelerated our partnerships for energy and water efficiency with the private sector through energy savings performance contracts (ESPC). We have also accelerated our partnerships for renewable energy with the private sector, and we con-

tinue to identify ways to curb the rapid growth in utility costs through evaluation of new technologies.

Although the Army is reducing our missions in Afghanistan, we are not shrinking our focus on operational energy efficiency. Army missions around the globe, whether humanitarian assistance, disaster relief, or conflict, require energy as a critical enabler. Investments in more efficient helicopter engines that Secretary Burke mentioned extend operational capabilities. Energy efficient expeditionary shelters reduce ground resupply logistics. The Army operational energy modernization investments provide efficient, reliable, and maintainable systems that increase capabilities and maintain dominance.

Thank you for the opportunity to appear before you today. I look forward to your questions on our recommended 2015 budget and our request for a badly needed efficiency BRAC round in 2017.

[The prepared statement of Ms. Hammack follows:]

PREPARED STATEMENT BY HON. KATHERINE G. HAMMACK

INTRODUCTION

Chairwoman Shaheen, Ranking Member Ayotte, and members of the subcommittee, on behalf of the soldiers, families, and civilians of the U.S. Army, I want to thank you for the opportunity to present the Army's fiscal year 2015 Military Construction (MILCON) and Army Family Housing (AFH) budget request.

The President's fiscal year 2015 MILCON budget request supports the strategic priorities of developing a globally-responsive and regionally-engaged Army. We ask for the committee's continued commitment to our soldiers, families, and civilians and support of the Army's military construction and installations programs.

OVERVIEW

The Army's fiscal year 2015 President's budget includes $13 billion for installation energy, environmental programs, facility sustainment, restoration, and modernization, base operations support, and MILCON. This funding will enable the Army to sustain, restore, and modernize facilities to support the Army's priorities. The Installation Management Community is focused on providing the facilities necessary to enable a ready and modern Army. As part of the $13 billion, the Army is requesting $1.3 billion for MILCON, AFH, and Base Closure Accounts (BCA). The MILCON budget request represents 1 percent of the total Army budget. Of this $1.3 billion request, $539 million is for the Active Army, $127 million is for the Army National Guard, $104 million is for the Army Reserve, $429.6 million is for AFH, and $84 million is for BCA.

The budget request reflects an overall 39 percent reduction from fiscal year 2014 in the MILCON accounts as a result of the reductions in the Army end strength and force structure. The Army reviewed facility investments necessary to support the force, taking into consideration the fiscal reality that we are facing as a Nation: the Budget Control Act of 2011, the Bipartisan Budget Agreement of 2013, and the department's strategic shift to realign forces toward the Asia/Pacific theater. This MILCON budget request reflects the focused investments necessary in training, maintenance, and operations facilities to enable the future force of the All Volunteer Army in a constrained fiscal environment.

ARMY FORCE STRUCTURE

Fiscal reductions required by the current law, along with the end of ground combat operations in Iraq and Afghanistan, have put the Army on a path to shrink its Active Duty end strength from its peak of 570,000 to between 440,000 and 450,000. This is a reduction of 120,000 to 130,000 soldiers, or approximately 22 percent from the Active component. These reductions will affect every installation in the Army. The Army must retain our adaptability and flexibility to provide regionally-aligned and mission-tailored forces in support of national defense requirements. As the first part of the drawdown, the Army is reducing its Active component from 45 Brigade Combat Teams (BCTs) to 32 by fiscal year 2015. As part of the BCT reduction, the Army will reorganize Infantry and Armor BCTs by adding a third maneuver bat-

talion, and additional engineer and fires capability. The Army will reduce or reorganize numerous non-BCT units as part of the drawdown.

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.

The PEA analyzed potential environmental impacts that could result from the force reductions, including socioeconomic impacts at specified DOD personnel reduction thresholds. Following publication of the PEA, the Army conducted approximately 30 community listening sessions at all Army installations with military and civilian populations of 5,000 or more. The community listening sessions gave communities an opportunity to contribute feedback on socioeconomic impacts associated with force structure downsizing. Since the Army's Active component end-strength will decline further than 490,000, the Army initiated a supplemental PEA analysis in February 2014 to analyze additional potential population loss scenarios. We will host another round of community listening sessions associated with these deeper reductions.

FACILITY CAPACITY ANALYSIS

As the Army reduces and reorganizes over the next 5 to 7 years, the Army must gauge the current and future installation capacity that will be required for a ready and resilient Army. The Army has begun conducting a facility capacity analysis to determine how much excess capacity will be available at the enterprise level, as the Army decrements its end strength. The Army is taking steps to ensure we do not execute MILCON projects that are in excess of documented requirements based on the Total Army Analysis (TAA) and programmatic review of all MILCON facility requirements.

While additional efforts are underway to understand changing facility requirements as our force structure declines, the Army is conducting some analyses of real property to support an end strength of 490,000 Active component soldiers (and the accompanying force structure). Preliminary results indicate that the Army will have nearly 18 percent excess capacity, totaling over 167 million square feet of facilities spread across our worldwide installations. The Army estimates it costs about $3 per square foot to maintain occupied and/or underutilized facilities, which could cost the Army over $500 million a year in unnecessary operations and maintenance. For some facility category types, such as small unit headquarters facilities (for example Company Operations Facilities), the Army has facility shortfalls. We are reviewing our requirements with an eye towards finding practical, efficient solutions that meet soldier needs and which we as an Army can afford.

Additional excess capacity will be created if the Active component shrinks further, necessitating incremental facility capacity analyses.

Excess capacity will range between 12 and 28 percent, depending on facility category group, with an average of approximately 18 percent. We are working now to confirm our excess capacity overseas; our current focus is in the European area of responsibility.

A year ago, the Secretary of Defense directed the conduct of a European Infrastructure Consolidation (EIC) review for the specific purpose of reducing "expenses by eliminating excess capacity in Europe while ensuring our remaining base structure supports our operational requirements and strategic needs." The Army is fully engaged in the conduct of this review. We are active participants in the steering group governing this work and employing the principles of capacity and military value analysis, developed originally for Base Realignment and Closure (BRAC), to guide our work. Our target date to complete the DOD and Army analysis and evaluation is Spring 2014. Current Army Capacity Analysis reflects 10 to 15 percent of excess capacity in Europe.

The Army's work in this EIC review is wholly consistent with its commitment to reducing unneeded infrastructure. Consistent with changes in both the strategic and fiscal environments, we have been working aggressively to ensure we achieve the difficult balance between the cost of maintaining our infrastructure and force readiness. Our strategy is to: (a) consolidate on larger, more capable installations; (b) divest older and inadequate infrastructure; and (c) invest in the remaining footprint in order to provide adequate facilities to accomplish our mission—while meeting the needs of our soldiers and their families.

The Army has been downsizing our footprint in both Europe and Asia for many years in the post-Cold War era. Since 2006, Army end strength in Europe has declined 45 percent, and we are on track to shrink the supporting infrastructure, overhead, and operating budgets by over 50 percent. Similarly in Korea, the Army de-

creased the number of soldiers by about a third (10,000 soldiers) and is on pace to shrink our acreage and site footprint by about half.

Overseas, the Army has the tools and authorities we need to identify and reduce excess capacity. Inside the United States, however, the best and proven way to address excess and shortfalls in facility requirements in a cost-effective and fair manner is through the BRAC Commission process.

The Army continues to need additional BRAC authorization to reduce excess infrastructure effectively. As the Army's end strength and force structure decline alongside its available funding, hundreds of millions of dollars will be wasted maintaining underutilized buildings and infrastructure. Trying to spread a smaller budget over the same number of installations and facilities will inevitably result in rapid decline in the overall condition of Army facilities. Without a future round of BRAC, the Army will be constrained in closing or realigning installations to reduce overhead. This "empty space tax" of about $3 a square foot on our warfighters will simply result in cuts to capabilities elsewhere in the budget.

As the committee considers the President's request to authorize another round of BRAC, I urge the members to think about the following considerations:

First, if Congress fails to authorize another round of BRAC, this defense drawdown is likely to repeat a very unfortunate historical pattern of hollowed-out forces dispersed across hollowed-out installations.

Second, postponing BRAC does not prevent defense communities from experiencing the consequences of smaller forces and lower off-post economic activity. The soldiers and families at the installations will be gone, and their spending power and requirements will go with them.

Third, postponing BRAC means that excess infrastructure and civilian overhead cannot be properly addressed at sites experiencing the biggest reductions of workload. Declining budget targets must still be met. Therefore, without BRAC, communities hosting our highest military value installations are likely to see greater negative economic impacts than they would if the Army could close or realign some installations.

The Army has the authority to close and realign U.S. installations outside the BRAC process as long as the congressional notification thresholds detailed in 10 U.S.C. § 2687 are not triggered. Historically, however, the Army and Congress together have concluded that using non-BRAC authority to address excess infrastructure is not as transparent or economically advantageous to local communities.

Local communities, including those where installations have closed, have benefitted in many ways from the BRAC property disposal authorities, as described below in the "Base Closure Account" section of this testimony.

FACILITY INVESTMENT STRATEGY (FIS)

As we shape the Army of 2020 and beyond, through a series of strategic choices, the Installation Management Community looks to implement the FIS to provide quality, energy-efficient facilities in support of the Army Leadership priorities.

FIS provides a strategic framework that is synchronized with the Army Campaign Plan, TAA, and Army Leadership priorities in determining the appropriate funding to apply in the capital investment of Army facilities at Army installations and Joint Service bases across the country. FIS proposes 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 as lease alternatives in support of the Army of 2020 and beyond.

FIS uses MILCON funding to replace failing facilities and build out critical facility shortages. We apply Operations and Maintenance (O&M) funding to address existing facilities' repair and maintenance. O&M Restoration and Modernization funding is used to improve existing facility quality. O&M Sustainment funding is used to maintain existing facilities. Demolition and disposal funding is used to eliminate failing excess facilities. Focused investments from MILCON and O&M funding will support facilities grouped in the following categories: Redeployment/Force Structure; Barracks; Revitalization; Ranges; and Training Facilities. The fiscal year 2015 budget request implements the FIS by building out shortfalls for unmanned aerial vehicle units, the 13th Combat Aviation Brigade, initial entry training barracks, selected maintenance facilities, and Reserve component facilities. Additional departmental focus areas are Organic Industrial Base and Energy/Utilities.

FISCAL YEAR 2015 BUDGET REQUEST—MILITARY CONSTRUCTION, ARMY

The fiscal year 2015 Military Construction, Army budget requests an authorization of $405.3 million and appropriations for $539.4 million. The appropriations re-

quest includes $58 million to fund the third and final increment of the fiscal year 2013 Cadet Barracks at the U.S. Military Academy and $76.1 million for planning and design, minor military construction, and host nation support.

Barracks ($110 million)

Provides 480 training barracks spaces at Fort Jackson, SC, and funds the previously discussed cadet barracks at the U.S. Military Academy, which was fully authorized in fiscal year 2013.

Redeployment/Force Structure ($217.7 million)

Invests $124 million to construct unmanned aerial vehicle hangars at Fort Irwin, CA; Fort Carson, CO; Fort Campbell, KY; and Fort Drum, NY, to support the activation of Gray Eagle requirements. Fort Carson will also receive $60 million for an aircraft maintenance hangar to support the 13th Combat Aviation Brigade. The Military Ocean Terminal, Concord, CA, will receive $9.9 million to construct an access control point in support of ammunition shipments. The remaining $23.8 million will support other redeployment/force structure requirements.

Revitalization ($135.6 million)

The Army is requesting five projects to correct significant facility deficiencies or facility shortfalls to meet the requirements of the units and/or organization mission. Projects include a $5.3 million general purpose maintenance shop at the Military Ocean Terminal, Concord, CA, to alleviate known safety risks; a $96 million command and control facility complex, including a sensitive compartmented information facility, at Fort Shafter, HI; a $16 million rebuild shop addition at Letterkenny Army Depot, PA; a $7.7 million tactical vehicle hardstand at Joint Base Langley-Eustis, VA; and a $10.6 million missile magazine at Kadena Air Base, Japan supporting Patriot missile storage.

MILITARY CONSTRUCTION, ARMY NATIONAL GUARD

The fiscal year 2015 Military Construction, National Guard (MCNG) budget requests an authorization of $95.6 million and an appropriation for $126.9 million. The request includes appropriations for $31.3 million in planning and design and minor military construction. The MCNG program is focused on the MILCON categories of Modularity and Revitalization.

Modularity ($38 million)

The fiscal year 2015 budget request provides for a readiness center in Helena, MT. The project is an addition and alteration to the existing readiness center, which will address critical space shortfalls created by force structure changes. The project will facilitate unit operations, enhancing unit readiness.

Revitalization ($57.6 million)

The Army National Guard budget requests four projects to replace failed or failing facilities as part of the FIS. This category includes two vehicle maintenance facilities and two readiness centers. The $10.8 million maintenance facility in Valley City, ND, will improve the safety and efficiency of operations by replacing the existing facility that provides only 11 percent of the authorized unit space. An unheated storage facility included in the project will preserve equipment and increase readiness. The $4.4 million maintenance facility in North Hyde Park, VT, combines two undersized facilities into one properly-sized facility. This new building will meet current standards to create a safe, productive work environment. In Augusta, ME, multiple repurposed World War II era facilities will be replaced with a $30 million readiness center. The $12.4 million readiness center project in Havre De Grace, MD, replaces a facility built in 1922, originally for a race track clubhouse, and subsequently acquired by the National Guard. The new readiness centers will meet existing construction standards and will be configured and sized for the current units. All four projects will provide modern facilities to enhance the Army National Guard's operational readiness.

MILITARY CONSTRUCTION, ARMY RESERVE

The fiscal year 2015 Military Construction, Army Reserve (MCAR) budget requests an authorization of $92 million and appropriations for $104 million. The appropriations request includes $12 million for planning and design, and minor military construction. The MCAR program is focused on the MILCON category of Revitalization.

Revitalization ($92 million)

The fiscal year 2015 Army Reserve budget request includes five projects that build out critical facility shortages and consolidate multiple failing and inefficient facilities into energy efficient facilities. The Army Reserve will construct new Reserve Centers in California, New Jersey, and New York ($71 million) and an addition to an existing Reserve Center in Colorado ($5 million) 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 when called. The request also includes a Total Army School System Training Center in Virginia in support of the One Army School System model ($16 million).

ARMY FAMILY HOUSING

The Army's fiscal year 2015 AFH budget request of $429.6 million includes $78.6 million for construction and $351 million for housing operations worldwide. The AFH inventory includes 16,009 government-owned homes, 3,277 government-leased homes, and 86,077 privatized-end state 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.

Operations ($70.5 million)

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, assistance with housing discrimination complaints, and 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.

Utilities ($82.7 million)

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.

Maintenance and Repair ($65.3 million)

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 16,009 housing units so that we do not adversely impact soldier and family quality of life.

Leasing ($112.5 million)

The Army Leasing program is another way to provide soldiers and their families with adequate housing. The fiscal year 2015 budget request includes funding for 895 temporary domestic leases in the United States, and 2,382 leased units overseas.

Privatization ($20.0 million)

The Privatization account provides operating funds for 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 National Defense Authorization Act (NDAA) for Fiscal Year 2013, 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). The RCI program continues to provide quality housing that soldiers and their families and senior single soldiers can proudly call home. All scheduled installations have been privatized through RCI. The RCI program met its goal to eliminate those houses originally identified as inadequate and built new homes where deficits existed. RCI Family housing is at 44 locations, with a projected end state of over 86,000 homes—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- to 14-year initial development period (IDP), which includes an Army contribution of close to $2 billion. All IDPs are scheduled to be completed by 2019. After all IDPs are completed, the RCI program is projecting approximately $14 billion in future development throughout

the 44 locations for the next 40 years. From 1999 through 2013, our RCI partners have constructed 31,935 new homes, and renovated another 25,834 homes.

The Privatized Army Lodging (PAL) program is the Army's primary means of revitalizing and building new transient lodging facilities and providing for their long-term sustainment. Operations and Maintenance account funds are programmed to provide portfolio and asset management oversight for PAL. The PAL program is a natural extension of the success achieved through the RCI. The program conveyed existing transient lodging assets and executes a 50-year lease for the underlying ground to a qualified developer and hotel operator. To date, 39 installations are privatized under the PAL program, and will increase to 41 installations by 2016. PAL encompasses all current lodging operations in the continental United States, Alaska, Hawaii, and Puerto Rico, with a projected end state of 14,135 hotel rooms.

Construction ($77.3 million)

The Army's fiscal year 2015 Family Housing Construction request is for $77.3 million for new construction and $1.3 million for planning and design. The Army will construct 33 single Family homes at Rock Island Arsenal, IL, to support senior officer and senior noncommissioned officer and families. These new homes will enable the Army to begin to address the housing deficit and to reduce dependency on leased housing. Additionally, the Army will construct 90 apartment-style quarters at Camp Walker in Daegu, Korea to replace aged and worn out leased units with on-post construction to consolidate Families.

BASE CLOSURE ACCOUNT

BRAC property disposal remains an Army priority. Putting excess property back into productive re-use, which can facilitate job creation, has never been more important than it is today.

The NDAA for Fiscal Year 2013 consolidated the Prior BRAC and BRAC 2005 accounts into a single DOD Base Closure Account (BCA). The Army's portion of the fiscal year 2015 BCA budget request is for $84 million. The request includes $30 million for caretaker operations and program management of remaining properties, and $54 million for environmental restoration efforts. In fiscal year 2015, 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, CA; Fort McClellan, AL; Fort Wingate, NM; Pueblo Chemical Depot, CO; and Savanna Army Depot, IL. Additionally, the funds requested support environmental projects at several BRAC 2005 installations, including Fort Gillem, GA; Fort Monmouth, NJ; Fort Monroe, VA; Lone Star Army Ammunition Plant, TX; and Kansas Army Ammunition Plant, KS. Completing environmental cleanup is critical to transferring property back to local re-use authorities for productive re-use and job creation.

In total, the Army has disposed of almost 224,000 acres (75 percent of the total acreage disposal requirement of 297,000 acres), with approximately 73,000 acres (25 percent) remaining. The current goal is for all remaining excess property to be conveyed by 2021. Placing this property into productive reuse helps communities rebuild the local tax base, generate revenue, and, most importantly, replace lost jobs.

BRAC-impacted communities have leveraged planning grants and technical assistance from the DOD Office of Economic Assistance, as well as BRAC property disposal authorities, to adjust in ways that are often not possible outside the BRAC process.

The Newport Chemical Depot in Vermillion County, IN, was closed during the BRAC 2005 round, and successfully completed the property transfer process for 7,236 acres in a relatively short period of time. This allowed the surrounding rural community to remain focused on redevelopment, and reduced the Army's caretaker costs. In 2013, Scott Pet Products, Inc., a pet supply manufacturer, opened a 50,000-square foot manufacturing and distribution facility on this closed installation, and plans to expand there, which will create new jobs. Newport Pallet Inc. moved into an 80,000-square foot building at the site in 2010, and the General Machine and Saw Company announced plans in February 2013 to move into facilities at the redesignated Vermillion Rise Mega Park.

At Fort Monmouth, NJ, another BRAC 2005 closure site, the Army has started transferring property to return it to productive re-use. Construction crews are progressing ahead of schedule on a new 275,000-square foot facility to expand the capacity of the software data storage firm, CommVault. This is the first of several planned expansions by CommVault, with the potential to create over 1,500 jobs. The Army successfully transferred the old Paterson Army Health Clinic parcel in September 2013. The Local Redevelopment Authority (LRA) will sell it to a healthcare provider (AcuteCare). Locally-stated plans will create up to 200 new jobs, invest ap-

proximately $15 million in renovations, and will enable the LRA to avoid about $1 million in planned demolition expenses.

ENERGY

The Army is moving forward to address the challenge of energy and sustainability on our installations. In fiscal year 2015, the Installation Energy budget total is $1.6 billion and includes $48.5 million from the DOD Defense-wide MILCON appropriation for the Energy Conservation Investment Program (ECIP), $79 million for Energy Program/Utilities Modernization program, $1.47 billion for Utilities Services, and $8 million for installation-related Science and Technology research and development. The Army conducts financial reviews, business case and life cycle cost analysis, and return on investment evaluations for all energy initiatives.

ECIP ($48.5 million)

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 2015, the Army requests $48.5 million for 11 projects to include 7 energy conservation projects, 3 renewable energy projects, and 1 energy security project.

Energy Program/Utilities Modernization ($79 million)

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 at or below grid parity through the Energy Initiatives Task Force (EITF). The EITF currently has 8 large-scale renewable energy projects in the acquisition phase with a potential of over 175 MW of production capacity.

Utilities Services ($1.47 billion)

The Utilities Services account pays all Army utility bills including the repayment of Utilities Privatization, 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 180 Task Orders at over 75 installations, representing $1.32 billion in private sector investments and over 360 UESC Task Orders at 45 installations, representing $568 million in utility sector investments. We have additional ESPC projects in development, totaling over $400 million in private investment and $100 million in development for new UESCs. From December 2011 through December 2013, under the President's Performance Contracting Challenge, the Army executed $498 million in contracts with third-party investment using ESPCs and UESCs, doubling historical trends.

Installation Science and Technology Research and Development ($8 million)

Installation Science and Technology programs investigate and evaluate technologies and techniques to ensure sustainable, cost efficient, and effective facilities to achieve resilient and sustainable installation and base operations. Facility enhancement technologies contribute to cost reductions in the Army facility life cycle process and support installation operations.

ENVIRONMENT

The Army's fiscal year 2015 budget requests $1.149 billion for its Environmental Programs in support of current and future readiness. This budget supports legally-driven environmental requirements under applicable Federal and state environmental laws, BRAC authority, 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 usable 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 com-

munities. Additionally, it charts the future by allowing the Army to institutionalize best practices and technologies to ensure future environmental resiliency.

SUSTAINMENT/RESTORATION & MODERNIZATION

This year's sustainment funding is $2.4 billion or 62 percent of the OSD Facilities Sustainment Model 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 $329 billion.

In keeping with the FIS, the Army continues its investment in facility restoration through the O&M restoration and modernization account ($358 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 reduced by 36 percent to $22.7 million, which slows our rate of removal of 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 2015 Base Operations Support (BOS) request is $8.6 billion and represents a 17 percent reduction compared to fiscal year 2013 execution. Although this reduction is in accordance with the BCA, Army's fiscal year 2015 BOS funding will create challenges to our installations as they seek to provide a sustainable base for training and quality of life for our military families. The Army's fiscal year 2015 installation funding strategy continues to prioritize Life, Health, and Safety programs and services ensuring soldiers are trained and equipped to meet the demands of our Nation. The Army remains committed to its 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.

We continue to seek internal efficiencies/tradeoffs as sequestration is producing real-life consequences on our installations. Army continues to face challenges meeting day-to-day installation readiness requirements. Army installations and local communities felt the effects of sequestration in fiscal year 2013. Our efforts to balance expectations and stretch funding involve a contract management review process that enables better visibility for making decisions on how to terminate/downscope, modify, or bundle current contracts to reduce overhead rates and compete for better rates. 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 stress the overall quality of life on our installations and adjoining communities as the Army realigns its military and civilian population and reduces supporting service program contracts across the garrisons.

INTERGOVERNMENTAL SUPPORT AGREEMENTS

Under the authority provided in the NDAA for Fiscal Year 2013, section 331 (codified as 10 U.S.C. 2336), the Services may provide, receive, or share installation support services with their community counterparts if determined to be in the best interests of the department. Key elements include the ability to sole source to public entities; that State or local government wage grades may be used; and that the Intergovernmental Support Agreements (IGSAs) serve the best interests of the Department by enhancing mission effectiveness or creating efficiencies and economies of scale, including by reducing costs.

The Army developed an overarching strategy and is following its implementation plan to use the expanded public-public partnership authority to enter into IGSAs. An execution order was issued to Army Commands to collect, benchmark, and analyze data for potential IGSAs. From the information gathered from the Commands, 29 IGSAs have been proposed. As of December 2013, four proposals are being developed in conjunction with local communities. Once complete, the agreements will be submitted to Army headquarters for final approval. These initial proposals will assist the Army in developing a standardized process for identifying, evaluating, and approving IGSAs.

CONCLUSION

The Army's fiscal year 2015 installations management budget request is a balanced program that supports the Army as it transitions 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. At 490,000 Active component soldiers, we have initial evidence that the Army will have about 18 percent excess capacity. The Army needs the right tools to reduce excess capacity. Failure to reduce excess capacity is tantamount to an "empty space tax" diverting hundreds of millions of dollars per year away from critical training and readiness functions.

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 2005 BRAC round is producing a net stream of savings of $1 billion a year. In this case, BRAC 2005 is producing a non-inflation adjusted 7.7 percent annual return on investment. 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.

In closing, thank you again for the opportunity to appear before you today and for your continued support for our soldiers, families, and civilians.

Senator SHAHEEN. Thank you, Secretary Hammack.

We have had a slight change of process. Senator Ayotte has gone to vote. We are going to keep the hearing going, and when she returns, I will go vote. I am not sure when Senator Hirono wants to vote, but that way, we can keep the testimony going and we will not delay everyone as much.

Secretary McGinn.

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

Mr. MCGINN. Chairwoman Shaheen, Senator Hirono, you have, in your opening statements, outlined key important issues that are relevant to our program for fiscal year 2015.

In the interest of time, I would simply like to submit my written statement for the record. I look forward to answering your questions about our program that we believe best supports giving the funding available to the finest expeditionary force the world has ever known, our Navy and Marine Corps, and their families and the civilians that support them.

Thank you very much, madam chairwoman.

[The prepared statement of Mr. McGinn follows:]

PREPARED STATEMENT BY HON. DENNIS V. MCGINN

Chairwoman Shaheen, Ranking Member Ayotte, and members of the subcommittee, I am pleased to appear before you today to provide an overview of the Department of the Navy's investment in its shore infrastructure.

THE CHALLENGE OF "FORWARD PRESENCE" & ACHIEVING BALANCED INVESTMENTS

From our Nation's infancy, the U.S. Navy and Marine Corps Team has operated far from our shores to protect our vital security and economic interests. "Forward presence" is no less important today than in 1802 when Congress authorized President Jefferson to "employ such of the armed vessels of the United States as may be judged requisite . . . for protecting effectually the commerce and seamen thereof on the Atlantic ocean, the Mediterranean and adjoining seas." The nature of today's threats, however, is far more lethal and insidious than 200 years ago. The means and methods available to those who wish us harm range in sophistication from advanced nuclear and cyber weaponry to improvised explosive devices detonated by cell phone. Our Navy and Marine Corps must be manned, trained, and equipped to deter and respond to belligerent actors wherever, whenever, and however they strike.

Yet the fiscal imperative to reduce the Nation's debt and control the deficit introduces additional complexity as the Department strives to strike the right balance of resources, risk, and strategy. The Navy's President's budget for fiscal year 2015 (PB 2015) supports the 2014 Quadrennial Defense Review, which embodies key elements of the 2012 Defense Strategic Guidance and is informed by the Strategic Choices and Management Review completed last year. Fortunately, prudent infrastructure investments made in prior years will enable the Department to achieve forward presence without undermining the shore establishment in the near term. We welcome the additional flexibility Congress provided in the Balanced Budget Act of 2013, but challenges remain.

INVESTING IN OUR INFRASTRUCTURE

Overview

Our installations provide the backbone of support for our maritime forces, enabling their forward presence. The Department is requesting $10.5 billion in various appropriations accounts, a reduction of $1.6 billion from amounts appropriated in fiscal year 2014 to operate, maintain, and recapitalize our shore infrastructure. Figure 1 provides a comparison between the fiscal year 2014 enacted budget and the PB 2015 request by appropriation.

Category	FY 2014 *enacted* ($M)	PB 2015 ($M)	Delta ($M)	Delta (%)
Military Construction, Active + Reserve	1,659	1,070	-589	-35.5%
Family Housing, Construction	73	16	-57	-78.1%
Family Housing Operations	379	354	-25	-6.6%
BRAC[1]	145	95	-50	-34.5%
Sustainment Restoration & Modernization (O&M)	2,545	2,135	-410	-16.1%
Base Operating Support	7,015	6,590	-425	-6.1%
Environmental Restoration, Navy	316	277	-39	-12.3%
[1]Prior funds will also support FY2015 BRAC activites				
TOTAL	**12,132**	**10,537**	-1,595	-13.1%

Figure 1: DoN Infrastructure Funding by Appropriation

While the overall fiscal year 2015 budget request represents an appreciable reduction from previous years, it demonstrates continued investment to enhance combatant commanders' capabilities, continue support for the introduction of new weapons systems and platforms, maintain servicemember and family quality of life, and recapitalize aging infrastructure. The fiscal year 2015 budget also manifests the Department's commitment to energy security by funding cost effective efforts that will improve our energy infrastructure and reduce our consumption.

Military Construction

Our fiscal year 2015 President's budget request of just over $1 billion supports several key objectives of 2014 Quadrennial Defense Review. For instance, the Navy and Marine Corps are investing approximately $181 million to enhance warfighting capabilities in the Asia-Pacific region including: facilities that will support current and future Marine Corps training requirements on Guam ($51 million); modifications to existing facilities that enables the Marine Corps to relocate its unmanned aerial vehicle squadron to Marine Corps Base Hawaii ($51 million); and a submarine training facility at Joint Base Pearl Harbor-Hickam, HI ($9.7 million).

Additionally, the Navy is investing over $80.3 million in projects such to support the basing of the new P–8A Poseidon in Washington State ($24.4 million) and Florida ($21.7 million) that will ensure the United States remains capable of projecting power in anti-access and area denial environments. The fourth and final increment of the Explosive Handling Wharf ($83.8 million) at Naval Submarine Base Bangor and the Transit Protection System at Port Angeles ($20.6 million), both in Washington State, support the objective of maintaining a safe, secure, and effective nuclear deterrent. Finally, the Department is investing $81 million in laboratories and testing facilities to sustain key streams of innovation and maintain our technological advantage over potential adversaries.

The Department continues efforts to reduce our energy costs. The fiscal year 2015 request includes $47 million to decentralize steam plants at Naval Base San Diego, installing new gas-fired energy efficient space and domestic water-heating systems for 10 piers and approximately 45 buildings. Additionally, the Department will benefit from nearly $55 million in energy and water conservation projects funded through the Defense-Wide Energy Conservation Investment Program. These funds will increase sources of cost effective renewable energy ($14.6 million); improve water conservation efforts ($2.4 million); and increase energy efficiency in many other locations ($30.7 million). While the Department plans to invest another $271 million of operations and maintenance funding in shore energy projects; however, the reduction of $930 million in SRM/O&M and Base Operating Support (Figure 1 above) from the fiscal year 2014 levels—and compounded by the fiscal year 2013 sequester—will make the statutory energy intensity goals more difficult to achieve. Moreover, reduced investments in energy projects now will result in lost opportunity for savings in the future, higher utility costs and, ultimately, reduced readiness as funds are diverted to pay these bills.

Facilities Sustainment, Restoration, and Modernization

The Department of Defense uses a Facilities Sustainment Model to calculate life cycle facility maintenance and repair costs. Using industry-wide standard costs for various types of buildings and geographic areas, the model is updated annually. Sustainment funds in the operation and maintenance accounts are used to maintain facilities in their current condition. The funds also pay for preventative maintenance, emergency response to minor repairs, and major repairs or replacement of facility components (e.g. roofs, and heating and cooling systems).

The Navy budgeted $1.3 billion (70 percent of the model) in fiscal year 2015, an increase of $62 million (7 percent) enabled by the additional topline provided in the Balanced Budget Act of 2013. The Marine Corps funds sustainment at 75 percent of the model ($498.8 million), dropping below the DOD goal for the first time since the criteria was established. Both Services will manage the risk to its shore infrastructure by prioritizing work to address life-safety issues and mission-critical facilities in poor condition.

Restoration and Modernization provides major upgrades of our facilities. In fiscal year 2015, the Department of the Navy proposes a total investment of $1 billion to restore and modernize existing infrastructure: $427 million in Military Construction projects, $361 million in Operation and Maintenance funds, and $216 million in Working Capital funds.

INVESTING IN OUR PEOPLE

Overview

The strength of our Navy-Marine Corps team lies not in advanced weaponry or faster, stealthier ships and aircraft. Our naval forces derive their 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 martial 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 billion request for military construction, the Navy and Marine Corps together have programmed over $301 million in operational and technical training and academic facilities. For example, the Navy will construct facilities to support training for the Littoral Combat Ships homeported at Naval Station Mayport ($20.5 million) and will continue efforts begun in fiscal year 2014 to accommodate increased student loading at the Nuclear Power Training Unit in South Carolina

($35.7 million). Finally, the Department will construct a Cyber Securities Studies Building ($120.1 million) at the U.S. Naval Academy to develop sophisticated and technically savvy Navy and Marine Corps officers able to leverage our strategic advantage in the cyber domain.

Unaccompanied Housing

The Navy plans to make $35 million in operations and maintenance-funded repairs to its bachelor housing inventory, focusing on the barracks in the worst condition. The Marine Corps completed its program of substantial investment in unaccompanied housing in support of the Commandant's Barracks Initiative. Its fiscal year 2015 investment will provide new berthing facilities at Naval Weapons Station, Yorktown, VA, enabling the Marine Corps Security Force Regiment and its Fleet Antiterrorism Security Teams to continue consolidating various elements that are dispersed within the Hampton Roads area.

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 2015 budget request of $370 million supports Navy and Marine Corps family housing operation, maintenance, and renovation requirements, including $16 million to revitalize 44 homes at Marine Corps Air Station Iwakuni, Japan. The budget request also includes $260.2 million that will provide for the daily operation, maintenance, and utilities expenses necessary to manage its military family housing inventory.

To date, over 60,000 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 the majority of sailors, marines, and their families. The Department has programmed $27.9 million to provide oversight and portfolio management for over 63,000 privatized homes to ensure the Government's interests remain protected and quality housing continues to be provided to military families. Although the Navy and Marine Corps have identified several remaining phases associated with existing projects, no funds are requested in the fiscal year 2015 budget.

MANAGING OUR FOOTPRINT

Overview

It is 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. Coupled with the fiscal imperative to conserve resources, especially in this era of deficit reduction, the Department of the Navy has more than enough incentive to reduce its footprint both at home and abroad.

European Consolidation

The Navy is completing its evaluation of various basing scenarios, including joint use, at its four primary bases in Europe: Naval Station Rota, Naval Air Station Sigonella, and the Naval Support Activities in Naples and Souda Bay These analyses will inform the basis for DOD recommendations that are expected to be released in spring 2014.

Base Closure and Realignment

With respect to consolidating our domestic infrastructure, the Base Realignment and Closure (BRAC) process offers the best opportunity to assess and evaluate opportunities to properly align our domestic infrastructure with our evolving force structure and laydown, and the Department of the Navy supports the administration's request to authorize a single round of BRAC in 2017. Since the first round of BRAC in 1988, the Navy has closed 186 domestic installations and activities, including 52 major installations. Figure 2 demonstrates the evolution of the Department's force structure since 2005:

Year	Service	Battle Force Ships	Primary Authorized Aircraft-Active	Personnel-Active	Installations[1]
PB 2005	Navy	290	1402	365900	94
	USMC		995	175000	26
Total			**2397**	**540900**	**120**
PB 2015	Navy	283	2331	323600	83
	USMC		1201	182700	25
Total			**3532**	**506300**	**108**

[1] For ease of comparison, the number of current installations is adjusted to account for separate activities that are geographically proximate and now administered as a single base.

Figure 2: Force Structure vs. Number of Installations

The Department has programmed $95 million and plans to utilize an additional $43 million in prior year funds to continue environmental cleanup, caretaker operations, and property disposal. By the end of fiscal year 2013, we had disposed 93 percent of our excess property identified in prior BRAC rounds through a variety of conveyance mechanisms with less than 14,000 acres remaining. Here are several examples of what we were able to achieve in the past year.

In May 2013, the Department conveyed 1,917 acres at the former Naval Station Roosevelt Roads to the Commonwealth of Puerto Rico Local Redevelopment Authority under an Economic Development Conveyance bringing the total property transferred to over 8,521 acres. The same month, the Department also conveyed the 118 acre Federal City West Property at Naval Support Activity New Orleans to the Algiers Development District. The remaining 24 acres of the East Bank Property was conveyed to the City of New Orleans via an Economic Development Conveyance in October 2013.

In June 2013, the Department completed the Phase I conveyance of 1,380 acres at the former Naval Air Station Alameda to the City of Alameda under a No-Cost Economic Development Conveyance. This conveyance is the first significant transfer of property at NAS Alameda since 2000.

Overall, the Navy continues to reduce its inventory of properties closed under BRAC. Of the original 131 installations with excess property, the Navy only has 21 installations remaining with property to dispose. We anticipate reducing this number by four installations this year, with the remainder to be disposed as we complete our environmental remediation efforts.

Under the previous BRAC efforts, the Navy has been able to realize approximately $4.4 billion in annual recurring savings. BRAC 2005 alone resulted in approximately $863 million in annual recurring savings. 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 Navy and Marine Corps' ability to operate and train, and protecting important natural habitats and species. 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 of Defense provides funds through the Readiness and Environmental Protection Initiative that are used in conjunction with Navy and Marine Corps O&M funds to leverage acquisitions and restrictive easements in partnership with States, local governments, and non-governmental organizations. Figure 3 represents the activity and funding for restrictive easements the Department acquired in fiscal year 2013:

	Expenditures in FY 2013 using Multiple FY funding ($000)					Total Expenditures FY2005 through FY2013 ($000)				
	FY 2013 Acres	DoD REPI (O&M)	Service (O&M)	Partner funds	Total Funds	Total Acres	DoD REPI (O&M)	Service (O&M)	Partner funds	Total Funds
Navy	8,593	3,808	631	10,403	14,842	24,899	45,719	6,330	59,146	111,195
Marine Corps	459	2,168	4,655	2,682	9,505	44,553	47,706	22,353	72,954	143,013
Totals	9,052	5,976	5,286	13,085	24,347	69,452	93,425	28,683	132,100	254,208

Figure 3: Restrictive Easements Acquired through Encroachment Partnering in FY 2012

Vital to the readiness of our naval forces is unencumbered access to critical land, water, and air space adjacent to our facilities and ranges. The Department understands that energy exploration, on land and off-shore, plays a crucial role in our Nation's security and are activities not necessarily incompatible with military training. However, we must continue to actively work to sustain freedom of maneuver or avoidance of restrictions to tactical action in critical range space to ensure the ability of naval forces to achieve the highest value from training and testing. As an active participant in the DOD Clearinghouse, the Department of the Navy assisted in the mission compatibility evaluation of 2,075 proposed energy projects submitted through the Federal Aviation Administration Obstacle Evaluation process during calendar year 2013. Ninety-six percent (1,992) of the projects were assessed to have little or no impact on military operations. As of December 31, 2013, the remaining 4 percent (84 projects) were either still under review (76) or assessed to have sufficient adverse impact to military operations and readiness (8) to warrant establishment of a Mitigation Response Team (MRT). The MRTs were established to engage in mitigation discussions with the developer to determine whether agreements can be reached to prevent negative impacts to military training and readiness.

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 2015 is about 8 percent less than enacted in fiscal year 2014, as shown in Figure 4. Included in this request are two military construction projects totaling $58 million: a replacement for the water treatment plant at Marine Corps Air Station, Cherry Point, NC ($41.6 million) and a collection system that will capture industrial process water from the dry docks at Puget Sound Naval Shipyard for treatment prior to discharge ($16.4 million).

Category	FY 2014 ($M)	PB 2015 ($M)	Delta ($M)	Delta (%)
Conservation	99	86	-13	-13.1%
Pollution Prevention	24	29	5	20.8%
Compliance*	529	547	18	3.4%
Technology	39	29	-10	-25.8%
Active Base Cleanup (ER,N)	316	277	-39	-12.3%
BRAC Environmental	130	82	-48	-37.0%
TOTAL	**1,137**	**1,050**	-87	-7.7%

*

Figure 4: DoN Environmental Funding by Appropriation

The Department continues to be a Federal leader in environmental management by focusing our resources on achieving specific environmental goals, achieving efficiencies in our cleanup programs, proactively managing emerging environmental issues, and integrating sound environmental policies and lifecycle cost consider-

ations into weapon systems acquisition to achieve cleaner, safer, more energy-efficient, and affordable warfighting capabilities.

Conservation and Military Training are Compatible

Last year, the Department of the Navy highlighted our conservation achievements on the Navy's San Nicolas Island and San Clemente Island off the coast of California, which have led to the proposed delisting of the Island Night Lizard by the U.S. Fish & Wildlife Service from the Federal list of threatened and endangered species. This delisting reflected our successful recover efforts for these species and will also reduce the regulatory encumbrances the Navy experiences at San Clemente Island—the Navy's premier land, air, and sea combination live fire range. The Navy appreciates congressional approval in 2014 of our land withdrawal requests, as this provides us the opportunities to exercise our stewardship skills which provide for critical military training lands while simultaneously managing those lands for species recovery.

RELOCATING MARINES TO GUAM

Overview

Guam 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.

Moving Forward

The Department appreciates the limited exceptions provided in the National Defense Authorization Act for Fiscal Year 2014, as well as the authorization and appropriation of nearly $86 million for construction of the Marine Corps hangar at the North Ramp of Andersen Air Force Base. Together, these provisions will enable the Relocation to stay on track and support current and future Marine Corps training activity in Guam and the Commonwealth of the Northern Marianas Islands. The scope of the ongoing Supplemental Environmental Impact Statement, which the Department expects to release a draft for public comment in spring 2014, includes the live fire training range complex, alternatives for the location of the main cantonment area, family housing, and associated infrastructure. Presently, the Department anticipates signing a record of decision in spring 2015.

The fiscal year 2015 budget request includes funding for two military construction projects on Guam for a total investment of $51 million: Ground Support Equipment Shops ($21.9 million) and facilities for the Marine Wing Support Squadron ($28.8 million). Both projects support current and future operations and were addressed in the Record of Decision signed in September 2010.

Finally, the United States and Japan are continuously looking for more efficient and effective ways to achieve the goals of the Realignment Roadmap. Toward this end, the Governor of Okinawa signed the landfill permit request to build the Futenma Replacement Facility (FRF) at Camp Schwab on December 26, 2013. While the United States and Japan no longer link the requirement of "tangible progress" on FRF construction to the relocation effort, this is another indication of Japan's commitment to the Roadmap. Both countries remain steadfast in maintaining and enhancing a robust security alliance, and the United States remains committed to enhancing the U.S.-Japan Alliance and strengthening operational capabilities.

FUELING OUR FUTURE

Overview

Power and energy are central to our naval forces and our ability to be in the right place, around the world. It is what we need to get them there and keep them there. The Navy has a long, proud history of energy innovation. From sail to coal to oil to nuclear, and now to alternative fuels, the Navy has led the way.

The Strategic Imperative

Energy is a national security issue and can be, and is, used as a geostrategic weapon. Even with domestic oil production up, imports declining, and new oil and gas reserves being discovered, energy is still a security concern and military vulnerability. DOD is the largest single institutional consumer of fossil fuels on earth and budgets about $15 billion each year on fuel. The more we spend on fuel, whether from increased consumption or increased unit cost, the fewer resources we have for maintenance and training. But more importantly, the cost of meeting our high fuel demand can also be measured in the lives of marines killed or wounded guarding fuel convoys. During the height of operations in Afghanistan, we were losing 1 marine, killed or wounded, for every 50 convoys transporting fuel into theater. That

is far too high a price to pay. Burning cleaner fuel, or burning less fuel, is better for the environment but that is not our primary incentive. We're pursuing these alternatives because they can make us better warfighters.

Under a Presidential Directive, the Department of the Navy is working with the Departments of Energy and Agriculture to help promote a national biofuel industry. This past year, under the authority in Title III of the Defense Production Act (DPA), we took an important step forward, with a DOD DPA award to four companies which committed to produce 160 million gallons of drop-in, military-compatible biofuels each year at an average price of well below $4.00 per gallon, a price that is competitive with what we are paying today for conventional fuels. DOD policy and my prior commitment has been that we will only buy operational quantities of biofuels when they are cost competitive. This initiative moves us far down that road. At full production, biofuels combined with conventional fuel at a 50/50 blend hold the promise of being able to cost-effectively provide our fleet with much of its annual fuel demand, providing real competition in the liquid fuels market.

We also continue to develop our energy efficiency through research and development of more efficient propulsion systems, shore-based power management and smart-grid technology, and conservation measures. For example, in the past year the Naval Facilities Engineering Command's Engineering and Expeditionary Warfare Center provided technology demonstrators at Camp Lemonnier, Djibouti which reduced fuel consumption 9 percent base wide, even with a 3 percent increase in energy demand because of an increased population. At Joint Base Pearl Harbor Hickam a $2.2 million contract for the Daylight Project was awarded, which will use sunlight to light warehouse spaces and utilize photo sensors to automatically turn off lights when daylight levels are sufficient. In aggregate, fiscal year 2013 energy programs in Hawaii are projected to save the government $4.7 million a year. The Marine Corps' development of expeditionary power solutions, through the Experimental Forward Operating Bases has made them better warriors who are lighter and more agile in the face of today's global threats.

The Navy has a long and successful history of partnering with industry to promote business sectors and products important to our Nation's military and economic security. From the development of the American steel industry to nuclear power, the Navy has helped the country develop economically while helping sailors benefit from the cutting edge of technology to defend our Nation. These programs are about diversifying fuel supplies, stabilizing fuel costs, and reducing overall energy needs. In achieving these energy goals, we will maximize our reach and maintain our global presence and make our Navy and Marine Corps more combat capable.

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. As the threats facing our Nation continue to evolve, the fiscal reality creates its own challenges in striking the right balance. The Department's fiscal year 2015 request supports critical elements of the 2014 Defense Quadrennial Review by making needed investments in our infrastructure and people; reducing our world-wide footprint; and preserving access to training ranges, afloat and ashore.

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

Senator SHAHEEN. Thank you.

Ms. Ferguson.

STATEMENT OF KATHLEEN I. FERGUSON, ACTING ASSISTANT SECRETARY OF THE AIR FORCE FOR INSTALLATIONS, ENVIRONMENT, AND LOGISTICS

Ms. FERGUSON. Good morning, Chairwoman Shaheen and distinguished members of the subcommittee. Thank you for the opportunity to speak to you today about the Air Force's MILCON, environmental, energy, and base closure programs. On behalf of the Secretary of the Air Force, Ms. Deborah Lee James, and the Chief of Staff of the Air Force, General Mark A. Welsh III, USAF, I

would like to thank the subcommittee for your unwavering support to the Air Force and our airmen.

The current fiscal environment required the Air Force to make some difficult choices. We attempted to strike the balance between a ready force today and a modern force tomorrow. To help achieve the balance, the Air Force took risk in installations support, MILCON, and facilities sustainment programs.

In this budget, the Air Force is asking for $1.9 billion in MILCON, family housing, and BRAC. This reflects a 28 percent decrease in MILCON. We deferred infrastructure recapitalization requirements while supporting combatant commander requirements and weapons system beddowns like the KC–46 and the F–35. This budget request also distributes MILCON funding equitably between the Active, Guard, and Reserve components.

The Air Force is the largest single consumer of energy in the Federal Government, with over $9 billion spent last year to fly aircraft and power our installations. In fiscal year 2015, we are requesting over $600 million for energy initiatives to identify opportunities and invest in solutions. So far, our efforts have helped us avoid $2.7 billion in total fuel and electricity costs just last year, compared to baseline years.

At 86 percent, our aviation fuel represents the largest share of our energy bill. To address this, the Air Force has a goal to improve aviation energy efficiency of our fleet by 10 percent by 2020. While there are significant upfront costs to those improvements, there are also significant long-term savings. For example, we are working to re-engine the KC–135 by upgrading the engine's high pressure components. This effort will improve each engine's efficiency, reliability, and maintainability, and while it costs nearly $100 million, this investment is expected to save approximately 85 million gallons worth of fuel through 2046. Additionally, there are maintenance savings which will start in 2025, and they should save an additional $3.1 billion.

The Air Force has also reduced its facility energy intensity by over 22 percent since 2003, and last year resulted in savings or cost avoidance of $270 million.

Right now, we are working to meet our target to develop over $400 million in energy efficiency contracts, and these projects are a win-win. They address our sustainment shortfalls and implement new technology and obtain funding through third party financing.

Last year, 8 percent of electricity came from renewable energy, which was above our goal of 7.5 percent, and we are continuing to build on our successes. Just recently, we cut the ribbon on a 16.4 megawatt solar array at Davis-Monthan Air Force Base in Arizona, the largest of its kind on any DOD installation.

My closing topic is BRAC, and the bottom line for the Air Force is we need another round of BRAC and to support the fiscal year 2015 President's budget request. While the Air Force has not done a recent capacity analysis, our analysis from 2004 estimated that we had 24 percent excess infrastructure capacity. BRAC 2005 directed the Air Force to close under 1 percent of our plant replacement value. Since that time, the Air Force has reduced aircraft by more than 500, our military end strength by nearly 8 percent, and in our fiscal year 2015 budget request, have asked to reduce force

structure and military personnel even further. Even though we have not done an updated capacity analysis, we intuitively know we have excess infrastructure capacity and continue to spend dollars maintaining that that could be put toward readiness and modernization.

In conclusion, the Air Force made hard choices to our budget formulation. We attempted to strike the delicate balance of a ready force today and a modern force tomorrow, while adjusting to budgetary reductions. To help achieve that balance, the Air Force elected to accept risk in installations support, MILCON, and facilities sustainment. We believe this risk is prudent and manageable in the short term, but we must continue the dialogue on right-sizing our installations for a footprint that is smaller but more capable.

Members of the subcommittee, thank you for your strong support of the airmen and men and women of the U.S. Air Force, Active, Guard, Reserve, and civilians.

This concludes my statement. I look forward to your questions.

[The prepared statement of Ms. Ferguson follows:]

PREPARED STATEMENT BY MS. KATHLEEN I. FERGUSON

INTRODUCTION

The mission of the U.S. Air Force is to fly, fight and win . . . in air, space and cyberspace. We do so through our six core capabilities of air and space superiority, global strike, rapid global mobility, precision engagement, information superiority, and agile combat support. These capabilities are enabled and reinforced by our global network of Air Force installations, and managing those installations involves understanding and balancing mission requirements, risk, market dynamics, budgets, and the condition of our assets. As such, the health of our installations, environment, and energy programs directly contributes to overall Air Force readiness.

INSTALLATIONS

Ready installations are an integral part of ensuring a ready Air Force. We view our installations as foundational platforms comprised of both built and natural infrastructure which: (1) serve as enablers for Air Force enduring core missions—we deliver 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 in times of peace, and when needed for conflict. Taken together, these strategic imperatives require us to provide efficiently operated sustainable installations to enable the Air Force to support the Defense Strategic Guidance.

In our 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, military construction (MILCON), and facilities sustainment. The Air Force funded facilities sustainment at 65 percent of the Office of the Secretary of Defense's (OSD) Facilities Sustainment Model; reduced the restoration and modernization account by 33 percent and MILCON by 28 percent from the fiscal year 2014 President's budget. In doing so, we acknowledge near-term facilities sustainment, restoration & modernization, and MILCON program reductions will have long term effects on the health of infrastructure. However, these reductions are critical to maintaining adequate resourcing across the Future Years Defense Program for some of the Air Force's unique capabilities.

In total, our fiscal year 2015 President's budget request contains $3.32 billion for MILCON, facility sustainment, restoration and modernization, as well as another $328 million for Military Family Housing operations and maintenance. For sustainment, restoration, and modernization, we request $2.3 billion; and for

MILCON, we request $956 [1] million, which is $366 million less than our fiscal year 2014 President's budget request. This decrease in MILCON defers infrastructure recapitalization requirements while supporting combatant commander requirements, weapon system beddowns, capabilities to execute the Defense Strategic Guidance, and distributes MILCON funding equitably between Active, Guard, and Reserve components.

READINESS

Our fiscal year 2015 President's budget request includes vital facility and infrastructure requirements in support of Air Force readiness and mission preparedness. Examples of this include investments in projects which strengthen our space posture at Clear Air Force Station, AK, and support Total Force cyberspace and intelligence, surveillance, and reconnaissance projects at several locations including W.K. Kellogg Airport, MI; Willow Grove, PA; and Des Moines International Airport, IA.

Consistent with Defense Strategic Guidance, the Asia-Pacific Theater is a key focus area for the Air Force where we will make key investments 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 8 years, Joint Region Marianas-Andersen Air Force Base (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 fully support Pacific Command's strategy, the Air Force is committed to hardening critical infrastructure, mitigating asset vulnerabilities, and increasing redundancy, as part of Pacific Airpower Resiliency. In 2015, we plan to continue the development of the Pacific Regional Training Center by constructing a combat communications infrastructure facility, a Red Horse logistics facility, and a satellite fire station. These facilities will enable mandatory contingency training and enhance the operational capability to build, maintain, operate, and recover a 'bare base' at forward-deployed locations, and foster opportunities for partnership building in this vitally important area of the world.

MODERNIZATION

The fiscal year 2015 President's budget request includes key infrastructure investments to support the beddown of the F–35A and KC–46A. Our ability to support the beddowns of our new fighter and tanker aircraft depends on meeting construction timelines for critical infrastructure—facilities such as aircraft maintenance hangars, training and operations facilities, and apron and fuels infrastructure. This year's President's budget request includes $187 million for the beddown of the KC–46A at three locations. This consists of $34 million at McConnell AFB, KS, the preferred alternative for Main Operating Base (MOB) 1, $111 million at Tinker AFB, OK, for KC–46A depot maintenance, and $42 million at Pease International Tradeport Air National Guard Base, NH, the preferred alternative for MOB 2. This request also includes $67 million for the beddown of the F–35A at two locations, consisting of $40 million at Nellis AFB, NV, and $27 million at Luke AFB, AZ.

Our fiscal year 2015 program also supports vital combatant commander priorities, such as continuation of a multi-year effort to recapitalize the U.S. Strategic Command headquarters facility at Offutt AFB, NE, construction of the U.S. Cyber Command Joint Operations Center at Fort Meade, MD, and construction of the U.S. European Command Joint Intelligence Analysis Center Consolidation (Phase 1) at RAF Croughton, United Kingdom.

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 servicemembers 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 our military family housing at each of our stateside installations. To date, the Air Force has awarded 32 projects at 63 bases for 53,323 end state homes.

[1] $956 million is the Total Force funding request including Active, Guard, and Reserve

The Air Force continues to manage more than 18,000 government-owned family housing units at overseas installations. We use Military Family Housing Operations and Maintenance sustainment funds to sustain adequate units, and MILCON to upgrade and modernize homes older than 20-plus years, to meet the housing requirements of our airmen and their families, and the joint servicemembers we support overseas.

Similarly, our focused and efficient investment strategy for dormitories has enabled 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 2015 President's budget request for MILCON includes one dormitory at Hanscom AFB, MA—our Dormitory Master Plan's top priority. With your support, we will continue to ensure wise and strategic investment in these quality of life areas providing modern housing and dormitory communities. More importantly, your continued support will take care of our most valued asset, our airmen and their families.

CLOSURES AND REALIGNMENTS

We do all of this while recognizing that we are carrying infrastructure that is excess to our needs. This excess infrastructure and pending future force structure and personnel reductions make it clear the Air Force needs another round of Base Realignment and Closure (BRAC).

While we have no recent excess infrastructure capacity analysis from which to draw, the Department's capacity analysis from 2004 estimated that the Air Force had 24 percent excess infrastructure capacity. BRAC 2005 directed the Air Force to close only 8 minor installations and 63 realignments affecting 122 installations. Since then the Air Force has reduced our force structure by more than 500 aircraft and reduced our Active-Duty military end strength by nearly 8 percent. So, intuitively we know we still have excess infrastructure.

Since the last BRAC round, we have strived to identify new opportunities and initiatives that enable us to maximize the impact of every dollar we spend. Our efforts to demolish excess infrastructure, recapitalize our family housing through privatization, unlock the fiscal potential value of under-utilized resources through leasing, and reduce our energy costs have paid considerable dividends.

Since 2006, we have demolished 44.2 million square feet of aging building space that was excess to our needs and we estimate the resultant savings at greater than $300 million. We have demolished antiquated administrative facilities, ill-suited for today's technological age; we have eliminated aircraft operations and maintenance facilities that we no longer need based on reductions to the size of our aircraft fleet; and we have demolished old and energy-inefficient warehouse facilities no longer needed due to rapidly evolving supply chains that reduce the need for localized storage.

Despite our best efforts and the innovative programs, the Air Force continues to spend money maintaining excess infrastructure that would be better spent recapitalizing and sustaining our weapons systems, training to improve readiness, and investing in the quality of life needs of our airmen. Divestiture of excess property on a grander scale is a must; the Air Force strongly supports DOD's fiscal year 2015 President's budget request for another round of BRAC.

EUROPEAN INFRASTRUCTURE CONSOLIDATION

The Secretary of Defense directed a capacity analysis to explore opportunities for reducing long-term expenses through infrastructure consolidation in Europe, and the Air Force fully supports this effort. Since 1990, the Air Force has reduced the number of MOBs in Europe from 25 to 6 and reduced the number of aircraft, personnel, and infrastructure in Europe by almost 75 percent. Currently, the Air Force is thoroughly evaluating its European infrastructure. Today we operate from six main operating bases to support our North Atlantic Treaty Organization commitments and provide throughput and global access for six unified combatant commands. We removed one A–10 squadron in Europe in fiscal year 2013, programmed for the reduction in the level of operations at Lajes Field, Portugal to better match infrastructure requirements to mission demand, and divested one Air Control Squadron and two Air Support Operations Squadrons. Through the OSD-led European Infrastructure Consolidation study, we are using a comprehensive process to analyze a variety of scenarios.

ENVIRONMENTAL

Our environmental programs priorities are to: (1) comply with legal obligations; (2) reduce risk; and (3) continuously improve. The President's 2015 budget request seeks a total of $919 million for environmental programs. This is $127 million less

than last year and reflects savings in two broad areas—centralized program management and innovative acquisition strategies. Through centralized program management, Air Force has reduced approximately 12 percent of our overhead and management costs allowing us to eliminate 270 positions. Further, our environmental programs are designed to provide the mission-ready people, infrastructure, and natural resources necessary to meet mission requirements today and tomorrow.

ENVIRONMENTAL RESTORATION

Our fiscal year 2015 President's budget request seeks $494 million in Environmental Restoration funding for cleanup of both current installations and those closed during previous BRAC rounds. We established our cleanup program in 1984 to clean-up former hazardous waste disposal sites on these installations. Our 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. Ultimately, we seek to make real property available for mission use at our non-BRAC installations, or for transfer and reuse at our BRAC installations. We believe this balanced approach continues to serve our mission needs, our regulators' requirements, and our stakeholders' interests well.

With over 7,100 restoration sites at our non-BRAC installations, and over 5,800 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 our BRAC restoration sites are on-track to meet the next DOD milestone to have 95 percent remedies-in-place by the end of fiscal year 2014, our non-BRAC restoration sites are currently projected to fall 19 percent short of this goal.

In early 2011, we recognized our performance for this goal at our non-BRAC restoration sites was not acceptable and put into place a new policy and a new contracting strategy specifically to improve our performance. Since a large component of our cleanup program relies on expertise acquired under contracts, this policy made a change to fixed-price, 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.

After 2-plus years of focused effort, our new policy and performance-based contracting strategy has generated substantial improvements, but work still remains to meet DOD goals for non-BRAC installation cleanup. With our new approach, we are finding better solutions and are cleaning up sites faster with lower projected lifecycle costs. Due to the efficiency and effectiveness of this approach, we expect our performance and progress to accelerate over the next year.

We continue to meet Federal, State, and other stakeholder requirements in implementing this new approach. We have received positive feedback from many regulators on our intent and means to finish clean-up more expediently and more efficiently. Our focus is to return real property for mission use or reuse under BRAC.

ENVIRONMENTAL QUALITY

Our fiscal year 2015 President's budget request seeks $425 million in Environmental Quality funding for environmental compliance, environmental conservation, pollution prevention, and environmental technology investments. We have programmed for all known, eligible environmental quality requirements to keep us in compliance with the law and allow us to continue to be good stewards of the environment.

In our environmental quality programs, we have refocused our efforts to streamline and more effectively manage our compliance, conservation, and environmental planning activities. We have instituted a standardized and centralized requirements development process that prioritizes all Air Force environmental requirements in a manner that minimizes risk to airmen, the mission, and the natural infrastructure. Our environmental quality budget request follows our prioritized list and ensures the continued availability of land, air, and water resources at our installations and ranges so we can train and operate today and into the future.

The Air Force remains committed to a robust environmental conservation program in fiscal year 2015. Prior appropriations allowed the Air Force to invest in conservation activities on our training ranges, providing direct support to mission readiness. The conservation program in fiscal year 2015 builds on the efforts of past years to continue habitat and species management for threatened and endangered species, improve the inventorying and management of Cold War context and other historic properties, and enhance our consultation activities with Native American tribes. The fiscal year 2015 President's budget request also provides for continued

cooperation with other agencies, like the U.S. Fish and Wildlife Service, to maintain current Integrated Natural Resource Management Plans, and to operate the Wildland Fire Center to manage risk from wildfires, enhance ecosystem resilience through application of prescribed fire, and provide key fire-related information for planning and incident response.

We will maintain our strong performance as good environmental stewards complying with legal requirements, reducing risk to our natural infrastructure, and honing our environmental management practices. Working together with regulatory agencies, other Federal partners, and industry experts, the Air Force continuously innovates and adopts best practices to lessen environmental financial liabilities and the impact of our operations. We do this to maintain the Air Force's mission-ready posture and meet combatant commander requirements. With this approach, we seek the sustainable management of the resources we need to fly, fight, and win into the future.

ENERGY

Energy is a corner stone of the Air Force's ability to maintain global vigilance, reach, and power which requires a robust energy security posture. Energy security means "having assured access to reliable supplies of energy and the ability to protect and deliver sufficient energy to meet operational needs." To enhance its energy security, 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 our airmen's understanding of energy and its impact to the mission.

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 2013, the Air Force spent approximately $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 this is only expected to increase in future years as the price of energy continues to rise. Every dollar the Air Force does not need to spend on energy allows the Air Force to invest that dollar into enhancing a high quality and ready force.

As part of our ongoing effort to achieve our energy vision to sustain an assured energy advantage, the Air Force is requesting over $614 million for targeted energy initiatives in fiscal year 2015. This includes $24.5 million for aviation energy, over $60 million for facility energy initiatives, and $193.7 million for materiel acquisition and energy research, development, test, and evaluation opportunities. Additionally, over $200 million of our facility sustainment, restoration, and modernization projects will have additional energy savings as a secondary benefit by updating inefficient infrastructure and building components. While these energy improvements are small on a project-by-project basis, collectively they make a meaningful contribution to reducing the Air Force's energy consumption and build upon the nearly $855 million the Air Force has invested for such projects over the last 4 years.

Although sequestration in fiscal year 2013 deferred the spending of the $216 million energy focus fund until late in the fiscal year, the Air Force did fund 135 of the planned 220 projects to improve our facility energy efficiency. The savings from these investments are expected to begin in fiscal year 2015, and the majority are expected to payback before or just shortly after the Future Years Defense Program. However, the delay due to sequestration may cause the Air Force to miss its 2015 target year energy intensity reduction of 30 percent. Additionally, sequestration deferred spending on facility audits, advanced meter and advanced meter reading system installations, and delayed utilities privatization contract awards.

ENERGY CONSERVATION

The Air Force takes a centralized asset management approach in infrastructure investments, which has led to a reduction in our overall facility energy intensity by more than 22 percent since fiscal year 2003. However, the 67 percent increase in energy unit costs over that same period has resulted in a relatively stable amount the Air Force spent to power its facilities since fiscal year 2006. Nonetheless, our

energy conservation efforts have helped the Air Force cumulatively avoid over $1.7 billion in facility energy costs since 2003, enabling the Air Force to use those funds to increase mission effectiveness.

The Energy Conservation Investment Program (ECIP) is a critical element of the Air Force's strategy to improve the energy performance of its permanent installations. The Air Force fiscal year 2014 program includes 12 ECIP projects totaling $35.1 million. The Air Force fiscal year 2015 program submitted to OSD includes 14 projects totaling $40.8 million. The Air Force is also looking to reduce demand by using smarter construction methods that maximize energy efficiency and use environmentally-friendly materials while continuing our initiative to identify and demolish 20 percent of our old, unnecessary, and high-energy use facilities by 2020.

By reducing our aviation fuel consumption more than 24 percent since fiscal year 2006, the Air Force avoided almost $2.5 billion in aviation fuel costs in fiscal year 2013, compared to fiscal year 2006. Moving forward, the Air Force is looking towards an efficiency goal to improve our aviation productivity by 10 percent by fiscal year 2020. At our installations, the Air Force spent more than $1 billion in fiscal year 2013 for facility energy. However, without our efforts to reduce consumption over the last 10 years, our facility energy bill would have been over $270 million higher last year.

RENEWABLE ENERGY

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 2013, 8 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, our goal is to develop 1,000 megawatts (MW) of renewable energy capacity on our installations. By making the most of private sector knowledge, technology, and financing, we plan to capitalize on underutilized land on our installations to develop those projects. Currently, the Air Force has 256 renewable energy projects in operation across a wide variety of renewable energy sources, including wind, solar, geothermal, and waste-to-energy projects, increasing energy production by over 53 percent from 2012 to 2013. This year, we are planning projects that are expected to provide over 31 MW of capacity, with another 31–41 MW of capacity planned for fiscal year 2015.

The Air Force is not limiting its efforts to renewable energy projects, but is also incorporating alternatively fueled ground vehicles into our fleet. With the support of private and public stakeholders, the Air Force is currently working to develop an all-electric vehicle fleet at Los Angeles AFB, CA, the first Federal facility to replace 100 percent of its general-purpose vehicle fleet with electric vehicles. Additional vehicles are slated for several other DOD installations, including Joint Base Andrews—Naval Air Facility Washington and Joint Base McGuire/Dix/Lakehurst.

THIRD-PARTY FINANCING

While the Air Force has made considerable progress to reduce our energy consumption and increase our energy diversity, there is still more to do. The Air Force is pursuing a third-party financing approach for both renewable and energy conservation projects.

Direct Air Force renewable energy project funding through Air Force capital sources is rarely cost-effective when compared to commercial utility rates. To address this, the Air Force is using existing authorities, such as Enhanced Use Leases and Power Purchase Agreements, to attract private industry to develop renewable energy projects. We see tremendous potential for third-party investments to construct on-base renewable projects.

The Air Force is reinvigorating third-party financing to fund energy conservation projects through Energy Savings Performance Contracts (ESPC) and Utility Energy Service Contracts (UESC). Since fiscal year 2012, the Air Force awarded $94 million in such contracts, improving our energy conservation with no upfront capital required. Over the next 2 years, the Air Force anticipates awarding five ESPC and five UESC projects. These projects will help the Air Force achieve its goal under the President's Federal Energy Performance Contracting Challenge.

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. To help achieve that balance the Air Force elected to accept risk in installation support, MILCON, and facilities

sustainment. We believe this risk is prudent and manageable in the short-term, but we 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 airmen and their families. The privatization of housing at our stateside installations provides 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 airmen.

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 SHAHEEN. Thank you very much, Ms. Ferguson. Thank you all for your testimony.

Everyone, except Secretary McGinn, has mentioned BRAC as part of their testimony, so I want to begin with that.

I know, Mr. Conger, you did a good job of explaining and describing the difference between the transformational aspects of the 2005 round and the savings aspects. But looking at GAO's report, they pointed out that even in the savings round, that the costs of the 2005 BRAC changes were 15 percent higher than were projected.

I wonder if you could respond to that, why those were higher, and then if you could talk about whether you are beginning or have developed an estimate for what the implementation costs would be for another round in 2017 and when the real savings would actually begin.

Mr. CONGER. Sure. First, on cost escalation, there are a variety of factors that drove those costs up. For the most part, the costs that increased during the last BRAC round were driven by additional requirements in MILCON, whether it was because renovations turned into construction projects or new requirements were placed on DOD. One of those examples is the world-class hospitals requirement. It was added during the BRAC round and literally added billions of dollars of costs to the implementation. But that said, that is not the only factor.

What the GAO said was that it was more specific than systemic when it came to those cost escalations. You can account for the preponderance of the cost increases at a relatively small number of the recommendations.

We are hopeful. The preponderance was in the transformation section of the BRAC round. We are hopeful that we can mitigate and minimize those. But it is a fair point, and we have to keep our eyes open.

One example is the information technology (IT) costs. IT costs were higher than anticipated. We have learned a lesson from that, and our cost projections going forward will accommodate a larger investment in IT for these recommendations.

Senator SHAHEEN. Can I just ask you why were IT costs higher than anticipated?

Mr. CONGER. I do not have the detail at my fingertips, but I think we did not fully model the costs for IT in that environment.

Senator SHAHEEN. Again, to the second part of the question, have you begun to estimate what implementation costs would be for another round?

Mr. CONGER. We have an estimate and we have programs within DOD's FYDP. For a BRAC round, if it started in 2017, it would cost $6 billion to implement. It would cost $2 billion in the initial years. Keep in mind that as you begin the implementation of a BRAC round and you get closures early in the round, savings would appear as well, early in that BRAC round. By about the third year, savings would outweigh costs. By the end of the 6 years, we anticipate the cumulative savings would be about a wash. It would cost about $6 billion, but we will have already saved $6 billion at that point in time.

This is all based on a projection of an approximately 5 percent reduction in plant replacement value. It is not specific installations that we are looking at or anything like that.

Senator SHAHEEN. I apologize. We are about to run out of time on this vote. I am going to have to recess the hearing for a few minutes until Senator Ayotte comes back. [Recess.]

Senator AYOTTE [presiding.] Hi, everyone. We are obviously dividing today and trying to make the most of the time before us. I appreciate all of your patience.

I wanted to ask all of you what steps you are taking to prepare to prevent and respond to threats to personnel and facilities in light of not only the 2009 Fort Hood shooting, but also last year's shooting at the Washington Navy Yard and last week's shooting at Naval Station Norfolk. Obviously, our thoughts and prayers go to all those who have been affected by those incidents. But I think it raises this idea of insider threats and how your Services are addressing those threats.

Mr. MCGINN. Senator, thank you. That is a very important question.

Much of the information related to what not only the Department of the Navy but, indeed, DOD is doing to recognize and mitigate these threats is contained in a package that was sent to the committee the week before last. Secretary Hagel and Secretary Mabus rolled out the results of all of the investigations that have been conducted in the wake of the Navy Yard shooting. These include the judge advocate general manual investigation report that Admiral John Richardson did for the Secretary of the Navy, and two reports for Secretary Hagel, one an internal report that was done under the guidance of Mr. Vickers, and another one that was done by former Admiral Olson from Special Operations Command and Mr. Stockton, a former member.

In the package that was sent up is a list of all of the recommendations, and in the case of the Department of the Navy, the actions that have been taken. Screening people for clearance, access, physical security, and anti-terrorism efforts have already been taken and will be taken in the future for the ones that have not already been implemented.

I would like to just point out that as tragic as the shooting was last week in Norfolk, and I was aboard the naval station when that happened, there was a difference. That was not an insider threat, but rather someone who was a proven criminal that got unauthorized access through circumstances that are being investigated now. The results were tragic.

But I assure you, this has the attention of everybody in the Department of the Navy, indeed, in talking with my colleagues in DOD and other Services, to take actions that help us identify threats and mitigate them.

Senator AYOTTE. Does anyone else want to comment on that?

Ms. HAMMACK. Yes. All the Services are working together on this, have reviewed the report, and are working jointly to identify actions to take.

One of the things that Secretary McGinn mentioned is identifying and deterring potential hostile actors before they have a chance to act. One of the recommendations in the report was a continuous evaluation process of security clearances versus the current 5- to 10-year periodic reevaluation system. That will help ensure that potential problems are flagged and dealt with in a more timely manner.

Senator AYOTTE. I appreciate that. I also serve on the Senate Homeland Security and Governmental Affairs Committee, and Senator Collins, Senator Heitkamp, and I have a bill that would require periodic random auditing rather than the 5- to 10-year window. When we look at the situation with the Navy Yard, obviously things can change pretty dramatically over a 5- to 10-year window, particularly with the history that we saw there. I hope that DOD will consider taking a look at our legislation as a tool as well.

I agree with you that we do need to have more regular vetting of these security clearances for those who have access to our most sensitive facilities and also, most importantly, our personnel. But I also think we are in a position where there needs to be more regular auditing and also with the contractors that we are working with. I think that is a significant issue to ensure that to the extent we are working with contractors, that they are sufficiently accountable to us. I think that needs to be reviewed as well.

I appreciate that all of you have a priority on that. Secretary McGinn?

Mr. MCGINN. Senator, one other thing related to your other committee's work. There was an additional report called "The 120-Day Report" that was managed by the Office of Management and Budget and the Office of Personnel Management that would be very relevant to overall Homeland security. It certainly affects DOD. We participated very actively in the development of that report and its recommendations.

But to the point about continuous evaluation and not letting folks have clearances that just go un-reinvestigated for a long time—I think we are moving quickly beyond that.

Senator AYOTTE. Yes, and I think that Congress will move quickly on that with you. I appreciate that.

I raised in my opening statement an issue related to the Portsmouth Naval Shipyard. That is two projects that I mentioned in the opening statement. One is the P285 barracks project that has been tentatively delayed from fiscal year 2015 to 2016 and the P309 rail project that has been delayed from 2016 to 2017.

I am hoping, Secretary McGinn, that you can comment on these projects. I would also like to see a list of delayed projects that are for public shipyards, but also, obviously, any comment you have to make on these two particular projects.

Also, on this issue of the 6 percent in MILCON funding as required by the law, if you could comment on the minimal capital investment plan. I would like an answer to the question of whether the Navy plans to comply with section 2476 of title 10 on this 6 percent issue. If you are able to answer that, I would appreciate it.

Mr. MCGINN. On the first point about the projects, I would like to take that question for the record and give you some detailed information on that.

[The information referred to follows:]

The naval shipyards are essential to meet operational requirements, and the Navy is committed to sustaining and recapitalizing shipyard infrastructure. Yet, fiscal constraints and competing priorities have caused the Department to delay some Military Construction projects at the naval shipyards in our 2015 budget request, including P285 for barracks and P309 for rail improvements at Portsmouth Naval Shipyard.

Mr. MCGINN. Regarding the 6 percent, we will do our utmost in the execution year of 2015 to meet that criteria. We fully intend to comply with the requirement.

At Portsmouth, as in all of our public shipyards, the throughput is absolutely critical to getting the kind of product out there in the fleet. You mentioned submarines in particular, but new ship construction as well and refitting. We recognize that we cannot take too much risk too much longer in any of our infrastructure projects, but especially our shipyards and aviation depots.

Senator AYOTTE. I appreciate that and I look forward to the more detailed answer.

My time is up, so I would like to turn it over to Senator Hirono.

Senator HIRONO. Thank you very much.

I want to start by saying that I am disappointed in the overall MILCON reductions, as I am sure all of you are, but I do understand the need to help shore up our operations and readiness accounts.

That said, Mr. McGinn, you just mentioned that you do have a concern about the MILCON cuts to our shipyards, and of course, we have Pearl Harbor in Hawaii. I hope that the risks taken on by delaying some of these projects will be mitigated as additional MILCON funds become available through other efficiencies or sources. One of the opportunities to increase these available resources is to attain energy savings, and all of you have talked about that.

My question is to Ms. Burke. At the end of your testimony, you state that "institutional change within DOD, which is the biggest energy user, is difficult, timeconsuming, and not for the faint of heart." Recognizing that your office was only established in 2010, would you say that DOD has learned from the operational energy challenges it has had to address over the last decade? Is the memory of the impact of energy price spikes, in-theater threats to fuel convoys, and other constraints placed on DOD by its energy needs being fully internalized and included in the future planning to the degree that it should be? If so, how? Can you describe briefly what everybody is doing to make sure that energy savings is very much a part of the decisionmaking within DOD?

Ms. BURKE. Thank you, Senator Hirono. You have been a great champion of energy security, so we have appreciated your support.

One of the reasons in my written statement that I said that this kind of institutional change is so difficult is because you cannot just buy something to fix it. You have to get into the whole process of how we plan for the future and incorporate energy as a consideration.

When it comes to operational energy, the number one consideration is always going to be capability, which is what we need to do in order to get the mission done. That is where we are looking to press for innovation and for change, to make sure we have the energy we need and that we are using the very best options to get the mission done. We want more range. We want more endurance. We want a lighter footprint in terms of our logistics and our supportability. Those are all things that, as we have seen in Iraq and Afghanistan, are important both in terms of the volume of fuel we are putting on the battlefield but also the fuel at the last tactical mile where it is not a lot of volume, but it is the hardest fuel to get to the warfighter.

Our number one goal is to improve the mission and the capabilities when it comes to operational energy. We often achieve savings in the process, but it is not the number one goal. The number one goal is to support the warfighter.

Yes, I think we have learned those lessons, but incorporating them is not an easy prospect because you have to get into how we conduct war games, how we conduct requirements generation, and how we plan with our operational planning and with our scenario planning. All those things are improved. All these people at the table have put a great deal of time and effort to changing the processes, and we will see a change in the demand signal for a more efficient force and a force that takes advantage of a greater range of technologies.

Senator HIRONO. For the other members of the panel, would you say that in the Army, Air Force, and Navy that energy needs and the efficiencies that we should attain are being internalized?

Ms. HAMMACK. From the Army's standpoint, I would say they are being internalized.

What is challenging to many is they see the energy costs on our installations as one of those almost uncontrollable budgets. One base that I was at last week said that their energy consumption had declined 37 percent in the last 6 years, but over the same time period, their energy costs went up 57 percent. They are working very hard on efficiency, and that is helping to curb some of the rapid growth in energy costs. That is why we have such a focus on renewable energy because that helps dampen some of the costs that are driven by dramatic increases in fossil fuel.

But in operational energy, that is one of the areas that our soldiers are seeing immediate returns. There is a forward operating base that we worked with in Afghanistan, that was getting an aerial resupply every 3 days. That meant every 3 days, they had to stop fighting. They had to secure a drop zone to pick up fuel. With energy efficiency and operational efficiency, we brought it to one air drop every 10 days. That is direct impact on mission, as Sec-

retary Burke mentioned, and that is what helps institutionalize energy measures. It has a direct return to mission capability.

Senator HIRONO. I would say that probably the energy costs in the installations are very obvious, and there are things that all of you are doing to decrease those costs, and you are probably doing that in partnership with the private sector. To the extent that you are dependent on the grids that are already there, you are doing work in that area also. I know that you are all nodding your heads. I assume that all of you are doing similar kinds of things to attain energy efficiencies.

I have a continuing concern about DOD's ongoing commitment to energy efficiency. Climate change is here. There was a recent report that acknowledged climate change and the impacts on energy costs. For all of you, and particularly for Secretary Burke, how important is research and development (R&D) in the energy side of things?

Ms. BURKE. R&D and test and evaluation is a very important part of the investment that we make. Certainly, my office has a specific fund that we manage for those purposes and we look at where the gaps in funding are that we can help address. Those investments are looking across the board for everything from better engine and propulsion systems technologies to better materials. We are looking at materials that reduce drag on aircraft, for example. We have test and evaluation investments for alternative fuels, of which I know you are very aware. We have investments in R&D across the board that are really important for our future capabilities in this area. Our Under Secretary for Acquisitions, Technology, and Logistics has gone to great lengths to protect those investments.

Mr. MCGINN. Senator, we think, all of us, in three different dimensions related to energy efficiency or alternative energies. We certainly talk about the technology, and that seems to start the conversation. But equally important are partnerships, partnerships among our Services, partnerships in the Federal Government, for example, the Navy's partnership with the Departments of Agriculture and Energy for our biofuels program, and especially partnerships for energy efficiency with the private sector, third party financing, ESPCs, and utility energy savings contracts. We want to use all of these partnerships to further our goals.

The last area, and perhaps in some ways the most important, is culture. We all have very aggressive programs to educate and increase the awareness at every level, every member of DOD about energy and how it directly relates, as Ms. Burke pointed out in her statement, to warfighting capability and operational efficiency.

Senator HIRONO. Thank you. My time is up. Thank you, Madam Chairwoman.

Senator SHAHEEN. Thank you.

Senator Kaine.

Senator KAINE. Thank you, Madam Chairwoman.

I appreciate the witnesses being here. I was coming from another hearing, and I am going to apologize because I suspect I will repeat a little bit of what might have been asked before.

Secretary McGinn, in particular, I want to talk about the incident at the shipyard last week. I think Senator Ayotte may have talked with you about it as well.

It was a horrible thing, this Petty Officer Mayo in Norfolk. It really rocked the community there, and I know it rocked the entire DOD world. In the aftermath of the shooting last fall at the Navy Yard here, it raised a lot of questions about the issuance of these Transportation Worker Identification Credential (TWIC) access permits, but more broadly, are we doing what we need to do.

If you could, address this TWIC issue and how this individual was able to get one of these identifications with a criminal record, to the extent that you can talk about details. I am sure there is an investigation that is ongoing. But then talk more generally about what you are doing to try to make sure that our installations are as secure as possible.

Mr. MCGINN. Yes, Senator. The Secretary of Defense and the Secretary of the Navy, Ray Mabus, released the results of three investigative reports the week before last. They were precipitated by the tragedy that happened on September 16 here in the Washington Navy Yard. The package that was sent to the committee includes all of those investigative reports, which have a long list of actions that have been taken or are underway to increase our security on bases, whether that is physical security or the clearances to help diminish the threat from insider threats, for example.

Last Monday, I was at Naval Base Norfolk when that tragedy occurred, and as you rightly point out, Petty Officer Mayo, the sailor who was killed, was absolutely a hero. He saved a shipmate's life.

We are looking at that with a great deal of scrutiny, trying to see if there were lessons learned from the Washington Navy Yard shooting that could have or should have been applied. We think that there is a significant difference. This was an outside threat who, by the way, was unarmed, entered an unauthorized area and ultimately made it to the ship's quarterdeck. But we will take a strong look, including the type of documentation he had, this so-called TWIC card, to help him gain access through the main gate at Naval Base Norfolk.

I will be happy to provide a more detailed response on exactly what we are doing about that type of transportation pass that allows some of our trucking agencies to get onboard.

[The information referred to follows:]

The Navy is supporting the Department of Defense (DOD) Physical Security and Policy Branch review of all security procedures for access control, including the Transportation Worker Identification Credential (TWIC). DOD authorized the use of the TWIC primarily for those transportation personnel who deliver or pick up materials/goods, as well as mariners who work on our installations. The TWIC is a Federally-issued ID card and was specifically designed for the purposes of facilitating physical access to designated secure areas under the Department of Homeland Security purview. Navy policy requires a purpose/justification and a government or commercial bill of lading (in the case of transport) for TWIC holders to be granted access.

Senator KAINE. Secretary McGinn, I do not know if you can answer this question, and the details might have been in a press account that I missed, but has it been established whether this individual received the TWIC card prior to his criminal conviction and

the card was never revoked or whether he received the TWIC card in spite of having a manslaughter conviction?

Mr. MCGINN. I do not have the answer now, but I will provide it to you, Senator.

[The information referred to follows:]

The Transportation Worker Identification Credential is administered by the Transportation Security Administration (TSA), not the Department of the Navy. I believe any inquiries regarding TSA vetting procedures and protocols or details regarding any individual card holder are best answered by the TSA.

Senator KAINE. Thank you.

When I was Governor, there was the horrific shooting at Virginia Tech University and we engaged in a significant investigation, and we found all kinds of problems. Some were system problems. Some were errors in judgment. Some were funding problems. We were underfunding certain kinds of community mental health services, and that was one of the factors that led to this horrible shooting. I am sure there is a whole series of things both with the Navy Yard and perhaps with this Norfolk Naval Station incident, maybe some human error, maybe some systems improvements, or maybe some funding issues.

I know this subcommittee and the Seapower Subcommittee I just came from are very worried about sequester going forward and how it affects everything that we do. We were able to work to find some sequester relief in 2014 and 2015 in connection with the 2-year budget. The White House and DOD, from 2016 going forward, has asked for sequester relief, not sequester elimination. Madam Chairwoman, I am impressed with the fact that as they have come to us and asked us for sequester relief, they basically said we will absorb more than 50 percent of the sequester cuts over the entire length of the sequester. Give us relief so that we can eliminate about 45 percent of the sequester cuts, which seems like a very reasonable request to me, maybe a little too reasonable, but very reasonable. You are trying to work with the will of Congress to try to deal with the deficit in this strategy.

It is my hope that we are not, but, I frankly think we are, tightening the belt in ways that will come back to bite us in a lot of different ways. I do not know if security is one of those ways, but everything costs money, and if we are trying to foolishly save here or there, I just worry that we have instances like this, or all kinds of other things that go wrong, that would not go wrong if we were taking a more strategic approach. That is an editorial comment, not a question.

I look forward to getting the answer about this particular instance. I was not aware that you were there on that day. You know how seriously the Hampton Roads community——

Mr. MCGINN. Yes, sir. Senator, I talked directly with Admiral Bill Gortney, the Commander of Fleet Forces Command; Admiral Dixon Smith, Regional Commander, and they are all extremely focused on getting every answer we possibly can related to that tragedy.

Senator KAINE. Thank you. Thank you, Mr. Secretary.

I have a question on R&D to follow up a little bit from Senator Hirono's questions. We have a lot of DOD R&D facilities and labs in Virginia. We have the highway sign planted right in the heart

of Arlington. This is where the Defense Advanced Research Projects Agency first created ARPANET, which is the foundation of the Internet on which so much of the global economy now depends.

Our research capacity depends upon people, but it also depends upon having the infrastructure we need to do the R&D. Please talk a little bit about R&D challenges in the DOD right now. The civilian R&D has been hit very hard in sequester through the National Institutes of Health and other civilian R&D. How much have you been able to shelter or protect the R&D priorities of DOD in this tough environment?

Ms. BURKE. Senator, thanks for the question.

I can really only speak for the R&D that I have oversight of, but we certainly will take the question for the record back to our colleague, Al Shaffer, who oversees all research and engineering for DOD.

[The information referred to follows:]

The Department of Defense (DOD) must protect the future. Although the science and technology (S&T) budget has been relatively flat since 2005, the fiscal year 2015 budget request represents a strong S&T investment, but shifts priorities to the Defense Advanced Research Projects Agency and key capability areas like anti-access/aerial denial. The S&T program has developed a number of key emerging technologies, with advances in future capabilities, such as Directed Energy where we are deploying a high energy laser on the USS *Ponce* in the summer of 2014, and a new class of turbine engines that offers the promise of a 25 percent reduction in fuel use. S&T investments have also led to the development of new classes of high performance radars, as well as rapid development of unmanned aerial and autonomous systems. DOD must make sound investments in the next generation of technologies to maintain our military and technological superiority.

Ms. BURKE. Mr. Conger and I are certainly aware that Under Secretary Kendall has put a very high priority on protecting those investments. It is our seed corn and we have to do that.

For energy, we are seeing a consistent investment in R&D in this area. There has been some reduction, but it is consistent with the reduction in the overall budget.

In my own funds that I manage, for R&D they have been consistent and we have been able to protect those investments. Again, those are aimed at military capabilities and some of them for the short term, for the fight. We think they are very important investments, and we have been able to keep them consistent.

Senator KAINE. Thank you, Madam Chairwoman.

Senator SHAHEEN. Thank you.

Secretary McGinn, as you are sharing the reports of the Navy shooting, if you could share those with the subcommittee, we will make sure that everybody receives them as well.

Mr. MCGINN. I will, Senator.

Senator SHAHEEN. Thank you.

Senator Donnelly.

Senator DONNELLY. Thank you, Madam Chairwoman, and thanks to all the witnesses.

Mr. Conger, as you look forward, how are facilities that promote the mental well-being of our servicemembers and military families being prioritized as installation funding changes?

Mr. CONGER. You are speaking specifically about the subset of health facilities that deal with mental health?

Senator DONNELLY. Yes, sir.

Mr. CONGER. In fairness, I should probably take that for the record if we are talking about the construction or maintenance. From a health care perspective, in the programs managed by the Defense Health Agency, we have done our best to maintain the maintenance accounts that are associated with those specific facilities. Where DOD, as a whole, has taken significant risk in facility maintenance, in our health facilities, we have maintained those accounts.

[The information referred to follows:]

As a general rule the mental health facilities within the Department of Defense (DOD) are included as a functional component housed in the medical treatment facility or in limited cases, stand-alone facilities. In all cases, DOD prioritizes military construction projects based upon the strategic priorities of the Military Health System. All potential projects received by DOD are processed through the "Demand Signal" process, which takes into consideration enterprise priorities, clinical and business case analyses, as well as a number of other criteria facilitating the appropriate prioritization of a potential facility project.

Mr. CONGER. From a construction perspective, there have been reductions in health care, hospitals, and clinics, just the same as across the board.

Senator DONNELLY. As you make MILCON and other installation management decisions, do you take the access to readily accessible mental health services into account for men and women as you make those decisions as to how easy it is to obtain those services?

Mr. CONGER. Let me take that for the record simply because there are so many individual processes within DOD where things are prioritized, that there is not an overarching governance to make sure that these particular kinds of facilities get this particular amount of money.

[The information referred to follows:]

The Department of Defense is continually seeking opportunities to increase availability of and access to mental health services for our servicemembers. Decisions involve consideration of both facility and functional factors that will facilitate quick and effective delivery of the services needed. For example, Embedded Behavioral Health Teams have been used to align mental health resources with operational units in order to improve access to care, continuity of care, communication between mental health and line leaders, mission readiness, and safety of servicemembers. Decisions regarding facilities for these teams ensure they are collocated with the supported operational unit and are within walking distance for those seeking services. Mental health providers are also being placed within Patient-Centered Medical Homes, which further expands the range of locations for receiving mental health care as well as improves access and convenience.

Senator DONNELLY. Okay.

Ms. Burke, I apologize. I had to vote. I got here as quick as I could. You may have already answered this. Can you tell us, as you look, what percentage of the energy used overall is now American energy or that it came from this country?

Ms. BURKE. Senator, DOD uses about $20 billion a year worth of energy. Three-quarters of that is for military operations, and one-quarter of that is to support facilities.

For the facilities, which my colleagues are the experts on, we are generally on the commercial grid. We are generally relying on civilian commercial infrastructure for that energy.

For military operations, it is almost all petroleum fuels, and we have a tactical and operational imperative to buy it as close as we can to where we operate. Approximately 60 percent of that fuel we

purchased overseas where our operations were taking place. It really depends on where we are operating.

Senator DONNELLY. Okay. As you move forward, what are the most cutting-edge areas you have for our own facilities and for other things, obviously, other than the imperatives of having to purchase fuel where you are when you are in military actions? For our facilities, what are some of the things we can look forward to over the next 5 years?

Ms. BURKE. I will let my colleague answer for facilities.

Mr. CONGER. We have a R&D program specifically focused on facilities and energy efficiency, on micro-grids, and on various ways of production. There is a long list of projects. I think that you will see fruition in building efficiency. Certainly we have a lot of micro-grid programs going on right now, but they are each testing a different facet of the overall picture. These are research programs not necessarily designed to end up in a project.

But we do have a small amount of money in an energy test bed that we are taking technologies and programs that are pre-commercial but that have not gotten the data to push them over the edge into viability where they might be able to be purchased by the entire Department. I can get you a list of what those projects are.

[The information referred to follows:]

The following table provides the Environmental Security Technology Certification Installation Energy Test Bed projects:

Project #	Project Title	Technology	Description	Location(s)	Lead Org
EW-201136	Air Source Cold Climate Heat Pump	Energy Efficient Components	This project validated the CCHP technology as a way to reduce the primary energy used for heating small commercial or residential buildings and expand the range of air-source heat pumps to DoD facilities in the northern half of the US.	Camp Atterbury, IN	Purdue University
EW-201252	Demonstration Program for Low-Cost, High-Energy-Saving Dynamic Windows	Building Control and Retrofit	This project will demonstrate the energy savings offered by dynamic windows that can switch from a tinted state to a clear state on demand to optimize solar heat gain and daylighting, improving building energy performance.	MCAS Miramar, CA	View, Inc.
EW-201150	Systems Approach to Improved Facility Energy Performance	Building Control and Retrofit	This project is demonstrating a systems integration approach to building retrofits which will reduce energy consumption and promote sustainability.	Fort Detrick, MD	United States Army Corps of Engineers-Construction Engineering Research Laboratory (USACE-CERL)
EW-201149	Energy Efficient Phase Change Materials (PCM) Insulation	Building Control and Retrofit	This cellulose insulation can regulate excessive heat flow and maintain comfortable interior temperatures by exploiting the energy stored and released when the material changes phase.	Fort Bragg, NC	United States Army Corps of Engineers-Construction Engineering Research Laboratory (USACE-CERL)

Project #	Project Title	Technology	Description	Location(s)	Lead Org
EW-201148	Solar Air Heating Metal Roofing for Re-Roofing, New Construction, and Retrofit	Building Control and Retrofit	This project utilized the thermal energy collected by a metal roof to distribute it into a building's heating water or deliver heated air to spaces within the building.	Fort Meade, MD	American Solar
EW-201139	High-Performance Energy-Efficient Cool Metal Roof Assemblies Utilizing Building Integrated Renewable Solar Energy Technologies for New and Retrofit Building Construction	Building Control and Retrofit	Solar electric and solar thermal technologies are integrated with a retrofit metal roof system to improve energy efficiency, lower environmental impact, and reduce operating costs in existing DoD buildings.	Goodfellow AFB, TX	Metal Construction Association (MCA)
EW-201015	Scalable Deployment of Advanced Building Energy Management Systems	Building Control and Retrofit	The objective of this project was to demonstrate an advanced building energy management system that enables facility managers to visualize building energy performance, diagnose building energy faults, and assess alternative, energy efficient HVAC operation strategies.	Naval Station Great Lakes, IL	United Technologies Research Center (UTRC)
EW-200938	Wireless Platform for Energy-Efficient Building Control Retrofits	Building Control and Retrofit	The project demonstrated that a wireless sensor network-based building heating, ventilation and air conditioning (HVAC) control system, compared to a conventional wired system, could provide 55-65% reduction in HVAC system energy use while improving occupant comfort.	USACE ERDC-CERL, IL	United Technologies Research Center (UTRC)
EW-200814	Zero Energy Housing for Military Installations	Building Control and Retrofit	This project evaluated the design approach and operational performance of two zero energy housing units compared to two typically designed (baseline) housing units.	Fort Campbell, KY	Pacific Northwest National Laboratory (PNNL)

Project #	Project Title	Technology	Description	Location(s)	Lead Org
EW-200724	Design, Monitoring, and Validation of a High Performance Sustainable Building	Building Control and Retrofit	Whole building design principles, which optimize for multiple benefits, including cost, quality of life, future flexibility, resource efficiency, environmental impact, and occupant productivity and health, were applied to the design, construction, and operation of a newly constructed combined emergency services situation at Fort Bragg, NC.	Fort Bragg, NC	Pacific Northwest National Laboratory (PNNL)
EW-201404	Cost-effective Islanding of Grid-tied PV using Advanced Energy Storage	Distributed Generation	The objective of this project is to demonstrate Lockheed Martin's intelligent, durable, affordable, and safe (iDAS) Energy Storage System (ESS) capable of reducing facility energy costs and emissions while grid-tied and enabling grid-tied photovoltaic arrays to operate off-grid safely, securely and cost effectively at a scale useful for DoD.	Fort Bliss, TX	Lockheed Martin Corporation
EW-201346	Demonstration of the Zero Emission Distributed Generation and Storage (DGS) System	Distributed Generation	This project will demonstrate a dozen high concentration photovoltaics (HCPV) with a total electrical generation capacity of 200kW.	1. Camp Roberts, CA 2. California Army National Guard, Stockton, CA	Electricore Inc.
EW-201341	Demonstration of Innovative, Cost Effective Micro-cell based Highly Concentrated Photovoltaic (HCPV) System Energy Technology with Optional Storage Capabilities on DoD Installations	Distributed Generation	The objective of this renewable energy security demonstration program is to show that a recently emerged, micro photovoltaic (PV) cell based, high concentration solar electric technology is poised to transition into cost effective use at Department of Defense (DoD) installations situated in sunny climate zones.	Edwards AFB, CA	Aeroject Rocketdyne
EW-201334	Waste Gasification System for Fixed Installation On-Site Distributed Generation	Distributed Generation	Sierra Energy's FastOx Pathfinder™ waste-to-electricity system incorporates Sierra's innovative FastOx™ gasifier and converts waste into syngas using a simple modification of the centuries-old ironmaking blast furnace. Resulting gases ("syngas") are captured and fed to a distributed generator.	Fort Hunter Liggett, CA	Sierra Energy

Project #	Project Title	Technology	Description	Location(s)	Lead Org
EW-201301	Soitec 1MW Concentrated Photovoltaic Demonstration Project for On-Site Distributed Power Generation	Distributed Generation	Soitec's Concentrix™ CPV technology converts sunlight into electricity with a module efficiency of almost 31%, and is a cost-effective solar power technology with low environmental impact that requires no water for power generation.	Fort Irwin, CA	Soitec
EW-201251	Conversion of Low Quality Waste Heat to Electric Power with Small Scale Organic Rankine Cycle (ORC) Engine/Generator Technology	Distributed Generation	This project will evaluate an organic rankine cycle system developed by ElectraTherm called the Green Machine that produces inexpensive electric power from waste heat common throughout DoD.	1. NALF San Clemente, CA 2. NAVFAC-ESC Port Hueneme, CA	Southern Research Institure
EW-201250	Increasing Efficiency by Maximizing Electrical Output	Distributed Generation	This project will demonstrate the waste heat to electricity conversion potential of a modular, drop-in organic rankine cycle system to achieve high efficiencies at low temperatures and thus increase electricity production from low quality waste heat	West Point, NY	Ener-G-Rotors Inc.
EW-201248	Solar cogeneration of electricity and hot water at DoD installations	Distributed Generation	Proven PV and SHW (solar hot water) technologies have been combined into a single integrated solar cogeneration system that extracts as much of the sun's incident power as possible as high-value electricity and delivers the rest as useful heat.	1. Camp Parks, CA 2. Naval Base Ventura County, CA	Cogenra Solar Inc.
EW-201146	Concentrating Photo-Voltaic System for DoD Rooftop Installations	Distributed Generation	This project will combine a standard dual-axis tracking solar array with a concentrating lens that increases the intensity of sunlight by 500 to 1000 times.	Naval Air Weapons Station China Lake, CA	Electricore Inc.
EW-201135	Coupling Geothermal Heat Pumps with Underground Seasonal Thermal Energy Storage (USTES)	Distributed Generation	This project will demonstrate that the coupling of Geothermal Heat Pumps (GHPs) with Underground Seasonal Thermal Energy Storage (USTES) is a cost effective way to achieve an energy efficient and truly renewable HVAC system for DoD facilities	1. Fort Benning, GA 2. MCLB Albany, GA	Andrews, Hammock & Powell

Project #	Project Title	Technology	Description	Location(s)	Lead Org
EW-201013	Subsurface Thermal Energy Storage for Improved Heating and Air Conditioning Efficiency	Distributed Generation	This project will demonstrate a subsurface thermal energy storage (STES) system consisting of two sets of borehole heat exchangers (one hot and one cold) tied to a ground source heat pump, to enable higher heating and cooling efficiency than conventional, single-loop geothermal systems.	Marine Corps Air Station Beaufort, SC	Clemson University
EW-200940	Modular Biopower System Providing Combined Heat and Power for DOD Installations	Distributed Generation	Modular, renewable energy technology for distributed generation applications by on-site conversion of biomass residues for displacement of conventional, non-renewable heat and power.	Fort Carson, CO	Community Power Corporation
EW-200939	Distributed Power Systems for Sustainable Energy Resources	Distributed Generation	Suite of technologies enabling distributed power sources and storage to be electrically wired together, a unique point of coupling with the grid, and communication with an energy management system to optimize performance and stability.	McGuire AFB, NJ	United Technologies Research Center (UTRC)
EW-200932	Demonstration and Validation of a Waste-to-Energy Conversion System for Fixed DoD Installations	Distributed Generation	A waste to energy conversion system capable of converting combustible municipal solid waste and biomass on fixed installations into electricity and heat.	Edwards AFB, CA	Infoscitex
EW-200823	Joint Demonstration and Verification of the Performance of Microturbine Power Generation Systems Utilizing Renewable Fuels with the U.S. EPA's Environmental Technology Verification Program	Distributed Generation	Unique microturbine that can generate electrical power from landfill gas with methane concentrations as low as 1.5%.	Fort Benning, GA	Southern Research Institute

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EW-200813	Building Integrated Photovoltaic (BIPV) Roofs for Sustainability and Energy Efficiency	Distributed Generation	The objective of this project is to demonstrate and validate the building integrated photovoltaic (BIPV) roof concept by verifying whether an energy efficient roof and a solar photovoltaic system performs comparably to that of conventional roofing systems.	1. Luke AFB, AZ 2. Marine Corps Air Station Yuma, AZ 3. Naval Air Station Patuxent River, MD	Naval Facilities Engineering and Expeditionary Warfare Center (NAVFAC EXWC)
EW-201411	Solving Low Delta T Syndrome in Hydronic Systems	Energy Efficient Components	Belimo will demonstrate a technology to improve the efficiency of hot and chilled water systems suffering thermal inefficiencies and low temperature differentials.	US Army Garrison, Natick MA	Belimo Aircontrols Inc.
EW-201408	Demonstration of Energy Savings in Commercial Buildings for Tiered Trim and Respond Method in Resetting Static Pressure for VAV Systems	Energy Efficient Components	The Tiered Trim and Respond (TTR) method is intended to improve the efficiency of variable air volume (VAV) air control systems by optimizing the pressures within the system. The goal of the demonstration is to achieve 30% to 50% fan energy savings compared to constant pressure setpoint controls.	Iowa National Guard	Iowa State University
EW-201348	Demonstration of a High-Efficiency Evaporative Cooler for Improved Energy Efficiency in DoD Data Centers	Energy Efficient Components	This project involves installation of a state-of-the-art indirect evaporative cooler called the Oasis Polymer Fluid Cooler system at a DoD data center and is expected to reduce data center energy costs by 50%.	Camp Pendleton, CA	Brookhaven National Laboratory (BNL)
EW-201347	Immersion Cooling of Electronics in DoD Installations	Energy Efficient Components	The objective of this project is to demonstrate the ability to efficiently cool high heat density electronics used in data centers by open bath immersion cooling.	Naval Research Lab, DC	Lawrence Berkley National Laboratory (LBNL)
EW-201344	High Efficiency Dehumidificati on System	Energy Efficient Components	The objective of this project is to demonstrate the High Efficiency Dehumidification System in Department of Defense (DoD) buildings which can cut peak day cooling loads by approximately 30% and eliminate completely the reheat energy required for proper relative humidity control on peak load days.	1. Fort Bragg, NC 2. West Point, NY 3. Tinker AFB, OK	United States Army Corps of Engineers-Construction Engineering Research Laboratory (USACE-CERL)

Project #	Project Title	Technology	Description	Location(s)	Lead Org
EW-201338	Demonstration & Testing of an EER Optimizer System for DX Air-Conditioners	Energy Efficient Components	The objective of this project is to demonstrate an energy efficiency ratio (EER) measurement and feedback control technology for reducing the energy consumption of Department of Defense (DoD) unitary air-conditioning equipment.	1. Fort Irwin, CA 2. MCAS Beaufort, SC 3. Cape Canaveral Naval Ordnance Test Unit, FL	Advantek Consulting
EW-201332	Data Center Liquid-Cooling: 60% Cooling Savings, Waste-Heat Recovery and 1 Year Payback	Energy Efficient Components	RackCDU is a unique data center efficiency technology that brings high-performance liquid-cooling directly to the hottest elements inside each server ("hot-spot cooling"), cutting cooling energy by 60-80%, allowing that heat to be reused as on-site renewable energy, and enabling 2.5x data center consolidation with no additional infrastructure costs.	Redstone Arsenal, Huntsville AL	Asetek Inc.
EW-201154	Field Validation of Microencapsulated Phase Change Material Slurry as Heat Transfer Fluid	Energy Efficient Components	This project focuses on the use of phase change material mixed into the thermal transfer fluid to increase the amount of energy that can be transported for a given volume of fluid, and reduce pumping energy costs in HVAC systems.	1. Fort Hood, TX 2. Fort Drum, NY	United States Army Corps of Engineers-Construction Engineering Research Laboratory (USACE-CERL)
EW-201153	Full-Scale Evaluation of an Energy Foundation for Buildings	Energy Efficient Components	This project will document design and construction requirements and costs of an Energy Foundation heat pump system to reduce energy use for a building as compared to a conventional HVAC system.	USAF Academy, CO	US Air Force Academy
EW-201152	Converting Constant Volume, Multizone Air Handling Systems To Energy Efficient Variable Air Volume Multizone Systems	Energy Efficient Components	This project focuses on taking antiquated, inefficient multi-zone air handling systems and retrofitting them with modern technologies.	1. Fort Bragg, NC 2. Fort Campbell, KY 3. USACE ERDC-CERL, IL	United States Army Corps of Engineers-Construction Engineering Research Laboratory (USACE-CERL)
EW-201151	Exhaust Hood and Air Makeup Air Optimization	Energy Efficient Components	This project will demonstrate the optimization of exhaust hoods and related makeup air units, primarily in dining facilities. The technology is also applicable to vehicle maintenance facilities and paint spray booths.	1. Ft Lee, VA 2. Ellsworth AFB, SD 3. Fort Carson, CA 4.US Air Force Academy	United States Army Corps of Engineers-Construction Engineering Research Laboratory (USACE-CERL)

Project #	Project Title	Technology	Description	Location(s)	Lead Org
EW-201144	Demonstration & Testing of ClimaStat® for Improved DX Air-conditioning Efficiency	Energy Efficient Components	This project reduced HVAC energy consumption 15 to 30%, and doubled dehumidification capability with reliable, maintainable components.	1. Patrick AFB, FL 2. Marine Corp Air Station Beaufort, SC	Advantek Consulting
EW-201141	Dynamic Exterior Lighting for Energy and Cost Savings in DoD Installations	Energy Efficient Components	A suite of three exterior lighting control technologies that addresses lighting level delivery based on predetermined schedules and movement around individual luminaires and enables remote management to optimize lighting energy consumption.	Fort Sill, OK	Phillips
EW-201138	Innovative Phase Change Approach for Significant Energy Savings	Energy Efficient Components	The objective of this project is to demonstrate the ability of PCM integrated into heat exchanger design and building ventilation systems to maintain heated and cooled spaces within a comfortable temperature range, with significant energy savings, up to 75%, on Department of Defense (DoD) installations.	Tyndall Air Force Base, NJ	Applied Research Associates
EW-201137	LDDX: A High-Efficiency Air Conditioner for DOD Buildings	Energy Efficient Components	The objective of this project is to demonstrate capabilities of the liquid-desiccant direct-expansion air conditioner (LDDX) to provide a more efficient approach for the Department of Defense (DoD) to control indoor humidity, thereby maintaining healthy, comfortable, and productive indoor environments.	1. Fort Belvoir, VA 2. Picatinny Arsenal, NJ	AIL Research Inc.
EW-201133	Architectural Daylighting System	Energy Efficient Components	The 3M core daylighting system pipes sunlight deep into buildings, thereby reducing electrical energy use in the building and providing occupants with natural sunlight, even in areas of the building that are remote from external windows.	Fort Bliss, TX	3M
EW-201017	Bi-Level Demand-Sensitive LED Street Lighting Systems	Energy Efficient Components	This demonstration project deployed an energy efficient light emitting diode (LED) street lighting system with an intelligent controller as a retrofit to an existing system at Naval Surface Warfare Center, Carderock Division (NSWCCD) Headquarters in West Bethesda, Maryland.	Naval Surface Warfare Center, Carderock, MD	Virginia Polytechnic Institute

Project #	Project Title	Technology	Description	Location(s)	Lead Org
EW-201016	High Efficiency Reduced Emissions Boiler Systems for Steam, Heat, and Processing	Energy Efficient Components	The demonstration of automated control systems for boilers showed the potential to save approximately 5% of natural gas usage for large DoD boilers.	Watervliet Arsenal, NY	United Technologies Research Center (UTRC)
EW-201014	Daylight Redirecting Window Films	Energy Efficient Components	The project reduced lighting and HVAC energy consumption and personal discomfort caused by glare by installing daylight redirecting window films on selected Department of Defense (DoD) buildings.	1. MCAGCC 29 Palms, CA 2. Naval War College Newport, RI 3. Fort Bliss, TX 4. Naval Hospital Bremerton, WA 5. Naval Postgraduate School, CA 6. Norfolk Naval Air Station, VA	3M
EW-201012	Advanced Lighting Controls for Reducing Energy Use and Cost at DoD Installations	Energy Efficient Components	The lighting retrofit project demonstrated how to retrofit buildings with advanced lighting control systems that combined dimmable light sources, occupancy and daylight sensors and intelligent controls to significantly lower the lighting energy consumption as well as reduce cooling loads.	Fort Irwin, CA	Phillips
EW-200928	Demonstration of a Solar Thermal Combined Heating, Cooling and Hot Water System Utilizing an Adsorption Chiller for DoD Installations	Energy Efficient Components	This project will demonstrate a solar thermal collector on the roof of the dining facility at the Marine Corps Basic Training base at Paris Island to create domestic hot water and cool the building with an adsorption chiller.	Marine Corps Recruit Depot (MCRD) Parris Island, SC	Southern Research Instiute
EW-200822	A Liquid-Desiccant Outdoor Air Conditioner for Low-Electricity Humidity Control	Energy Efficient Components	This project demonsrated a high performance liquid desiccant air conditioning for dedicated outdoor air systems that enhances cooling efficiency and comfort in humid climates; substantially reduces peak power demand for air-conditioning; and effectively utilizes low-grade solar heat and store cooling energy .	Tyndall AFB, FL	National Renewable Energy Laboratory (NREL)

Project #	Project Title	Technology	Description	Location(s)	Lead Org
EW-200821	Dewpoint Evaporative Comfort Cooling	Energy Efficient Components	The project demonstrated an innovative evaporative air conditioning system for dry climates that saved 70% in electricity costs, however, the system required a substantial amount of water.	Fort Carson, CO	National Renewable Energy Laboratory (NREL)
EW-201405	Continuous Industrial Control System (ICS) Security Situational Awareness Tool (CISSAT)	Energy Investment Tools	The Continuous Industrial Control System Security Awareness Tool (CISSAT) automates a currently manual system security documentation system, transforming stagnant documentation into living documents that can be rapidly updated from one screen; CISSAT integrates multiple security perspectives merging baseline accreditation data with continuous monitoring.	1. Naval Support Activity (NSA) South Potomac 2. Washington Naval Yard	Booz Allen Hamilton
EW-201402	Visualization of Energy Monitoring, Benchmarking, Modeling, and Project Generation through Integration of the Comprehensive Army Master Planning System (CAMPS) Dashboard with the Net Zero Installation Tool (NZI Tool)	Energy Investment Tools	This demonstration will integrate the Comprehensive Army Master Planning System (CAMPS) Dashboard with the Net Zero Installation Tool (NZI Tool) and this unified tool will enable reductions in energy usage at installations by going beyond basic monitoring of energy data towards visualization of energy flows, flagging facilities that show excessive energy use compared to benchmarks, automatic identification of facility-level Energy Efficiency Measures (EEMs), and generation of opportunities for district-level solutions.	Fort Hood, TX	United States Army Corps of Engineers-Construction Engineering Research Laboratory (USACE-CERL)
EW-201351	ROOFER Energy Performance Assessment and Courses of Action Analyses	Energy Investment Tools	The objective of this project is to demonstrate course of action analysis methods and techniques that employ the ROOFER Sustainment Management System currently used by DoD and its information database to enable facility managers to evaluate energy-saving options as part of developing roof repair and replacement projects.	1. Fort Riley, KS 2. McConnell AFB, KS 3. Jacksonville NAS, FL	United States Army Corps of Engineers-Construction Engineering Research Laboratory (USACE-CERL)

Project #	Project Title	Technology	Description	Location(s)	Lead Org
EW-201342	Optimized Decision Support for Portfolio Energy Investment	Energy Investment Tools	This project will demonstrate an innovative technology that provides optimized decision support for portfolio energy investment planning to assist energy managers and leadership amidst the many policy guidelines.	1. Luke AFB, AZ 2. Davis Monthan AFB, AZ 3. Mark Center	The Boeing Company
EW-201335	Real-Time Itemized Electricy Consumption Intelligence for DoD Bases	Energy Investment Tools	The objective of this project is to provide the Department of Defense (DoD) with real-time energy consumption information itemized by device.	1. Camp Pendleton, CA 2. MCAS Miramar, CA	Belkin International
EW-201263	Model-Driven Energy Intelligence	Energy Investment Tools	This project will demonstrate an innovative building information model with medium fidelity that can be applied to many existing DoD buildings. Coupled with energy metering and asset-level monitoring, this tool will enable rapid identification of chronic and recurring operating inefficiencies.	Fort Jackson, SC	Honeywell International Inc
EW-201262	Tools for Building Energy Asset Management (BEAM)	Energy Investment Tools	The BEAM technology optimizes building energy usage to reduce costs while supporting the critical missions of the organization residing in the building or cluster of buildings.	US Air Force Academy, CO	Siemens Corporate Research
EW-201261	Rapid Building Assessment	Energy Investment Tools	The project uses energy consumption data from past utility bills as well as freely-available visual images of buildings from Google Earth to assess energy performance.	NB Ventura County, CA - also 30 Army locations?	FirstFuel
EW-201260	Electronic Auditing Tool with Geometry Capture	Energy Investment Tools	This project will integrate an established energy auditing methodology for DoD facilities, a building geometry capture software, an established whole-building energy simulation engine, and a database of building component information into a single computer-based tablet and desktop software tool for energy auditing.	Naval Support Activity Monterey, CA; Fort Bliss; Ft Jackson; NAVFAC SE; Tyndall AFB; USAFA	National Renewable Energy Laboratory (NREL)
EW-201259	Rapid Energy Modeling Workflow Demonstration Project	Energy Investment Tools	The objective of this demonstration was to evaluate Rapid Energy Modeling (REM) workflows and performance by comparing simulated to actual building energy consumption and investigate the scalability of REM workflows for DoD.	1. Fort Leonard Wood, MO 2. JB Lewis McChord - WA 3. USACE Norfolk, VA	Autodesk

Project #	Project Title	Technology	Description	Location(s)	Lead Org
EW-201258	Energy Reduction through Real-Time Electricity Monitoring	Energy Investment Tools	The 3M Energy Analyzer is a tool that aggregates energy consumption data and depicts those data in a way that enables users to visualize their electrical energy usage and cost in real-time.	1. Fort Bliss, TX 2. Davis Monthan AFB, AZ	3M
EW-201257	Decision Support Tool for Deep Energy Efficiency Retrofits in DoD Installations	Energy Investment Tools	The objective of this project is to demonstrate an innovative decision-making tool for assessing DoD facility energy use and planning deep retrofits across the DoD building stock (250,000 domestic, 300,000 worldwide).	1. Lackland AFB, TX 2. Randolph AFB, TX 3. Fort Bragg, NC 4. Fort Sam Houston, TX	United Technologies Research Center (UTRC)
EW-201241	Kinetic Super-Resolution Long-Wave Infrared (LWIR) Thermography Diagnostic for Building Envelopes	Energy Investment Tools	The objective of this project is to demonstrate and validate rapid kinetic super resolution long-wave infrared imaging and analysis as a diagnostic tool to enhance the capabilities of conventional thermographic imaging for assessing building energy loss.	1. Scott AFB, IL 2. Camp Lejuene 3. West Point, NY	United States Army Corps of Engineers-Construction Engineering Research Laboratory (USACE-CERL)
EW-201240	Demonstrate Energy Component of the Installation Master Plan using 'Net Zero Installation Virtual Testbed'	Energy Investment Tools	This project will demonstrate a novel energy optimization process called the Net Zero Energy Installations (NZEI) Virtual Testbed, which analyzes appropriate packages of energy efficiency measures using automated runs of the EnergyPlus model.	1. West Point, NY 2. Washington Navy Yard, DC	United States Army Corps of Engineers-Construction Engineering Research Laboratory (USACE-CERL)
EW-200929	Automated Continuous Commissioning of Commercial Buildings	Energy Investment Tools	Real-time building measurements and weather predictions are integrated with a simulation model, data mining, and anomaly detection algorithms to identify consumption deviations from design intent, prioritize corrective actions, and monitor performance following action. Successful implementation of this technology will enable reduced energy consumption, peak electric demand, and water use in DoD buildings by providing actionable information to facility managers and building operators.	Naval Station Great Lakes, IL	United Technologies Research Center (UTRC)

Project #	Project Title	Technology	Description	Location(s)	Lead Org
EW-201410	Software-defined Wireless Decentralized Building Management System	Energy Management System	This project will demonstrate a new BMS architecture that significantly lowers total lifecycle cost to half that of state-of-the-art competitors in the small building sector, enabling ROIs that make retrofits possible through performance contracts.	Tinker AFB, OK	Ameresco, Inc.
EW-201409	Rapid Deployment of Optimal Control for Building HVAC Systems using Innovative Software Tools and a Hybrid Heuristic/Model-Based Control Approach	Energy Management System	The BrightBox software product applies advanced, model-based control to existing commercial and industrial HVAC systems and is expected to generate HVAC system energy savings in the 20-40% range in a cost-effective, time-efficient manner across a broad range of system types	Naval Post Graduate School, CA	BrightBox Technologies, Inc.
EW-201407	Building Performance Optimization while Empowering Occupants Toward Environmentally Sustainable Behavior through Continuous Monitoring and Diagnostics	Energy Management System	The objective of this demonstration project is to improve the energy efficiency of DoD's buildings while maintaining or improving indoor air quality by increasing the intelligence of building energy management using virtual flow meter technologies.	Tinker AFB, OK	University of Oklahoma
EW-201406	Building Performance Optimization while Empowering Occupants Toward Environmentally Sustainable Behavior through Continuous Monitoring and Diagnostics	Energy Management System	This project will utilize an integrated software platform for Building Performance Optimization through Continuous Monitoring and Diagnostics amd demonstrate that at least 30% of a building's annual energy consumption can be saved through continuous diagnostics and controls of HVAC, plug load and lighting systems. At the same time, building occupants will be empowered to engage in proactive energy-conservation and sustainable behavior.	Pennsylvania National Guard	Carnegie Mellon University

Project #	Project Title	Technology	Description	Location(s)	Lead Org
EW-201349	Central Plan Optimization for Waste Energy Reduction (CPOWER)	Energy Management System	The demonstration objective is to measure the energy savings impact of real-time optimization of a large DoD central plant.	Fort Bragg, NC	Honeywell International Inc
EW-201345	Climate Management System (CMS) for Corrosion Control Facilities (CCF)	Energy Management System	This project is demonstrating an advanced Climate Management System that upgrades traditional controls systems with an innovative management approach that processes, manages, analyzes, and effectively communicates disparate data streams in a user friendly, secure graphical interface.	Robins AFB, GA	Geosyntec Consultants
EW-201336	Collaborative Building Energy Management and Control	Energy Management System	A low-cost collaborative energy management and control system that allows interactive communications among occupants, facility managers and building control systems for active building energy conservation and productivity improvement.	IAP Air Reserve Station, PA	Siemens Corporate Research
EW-201255	Integrated Control for Building Energy Management	Energy Management System	This project will demonstrate the functionality of an intelligent Building Energy Management System (iBEMS) for providing advanced, integrated control of building systems, dynamic demand response, and compatibility with microgrid central energy management.	U.S. Air Force Academy, CO	Siemens Corporate Research
EW-201254	Optimizing Operational Efficiency: Integrating Energy Information Systems and Model-Based Diagnostics	Energy Management System	This project will demonstrate an enhanced energy information system that goes beyond historical building data and incorporates fault detection, diagnostics, and optimization to prioritize repairs and improve building O&M.	Washington Navy Yard, DC	Lawrence Berkley National Laboratory (LBNL)
EW-201238	NDW Cognitive Energy Management System (CEMS)	Energy Management System	This effort will implement a web-enabled enterprise building and energy monitoring, control, and management system that optimizes building automation systems and improves building energy usage by incorporating occupancy data into its control algorithms.	Navy District Washington CIO, VA	Naval District Washington (NDW)

Project #	Project Title	Technology	Description	Location(s)	Lead Org
EW-201237	Converged Energy Management Control System (EMCS) Proof of Concept	Energy Management System	This project will evaluate the utility of a converged, IT-friendly energy management control system (EMCS) designed for DoD food courts. This converged EMCS approach offers large system scalability, simplicity, and security that will enable repeatable energy reduction plans for all DoD food courts.	Fort Campbell, KY	Army Air Force Exchange Service (AAFES)
EW-201142	Energy Performance Monitoring and Optimization System for DoD Campuses	Energy Management System	The objective of this project is to demonstrate a campus-scale building energy performance monitoring and optimization (EPMO) system prototype.	Naval Station Great Lakes, IL	United Technologies Research Center (UTRC)
EW-201246	Sodium-Metal-Halide Battery Energy Storage for DoD Installations	Energy Storage	This project will demonstrate a sodium metal halide battery system designed to function in extreme desert climates and integrate with an existing microgrid to help alleviate renewable energy intermittency, improve island-mode operations, and reduce demand charges and peak load stress on the main transformers and other grid equipment.	Marine Corps Air Ground Combat Center (MCGCCA) 29 Palms, CA	PDE Total Energy Solutions
EW-201243	Optimal Scheduling of Air Force Demonstration Plug-in Electric Vehicles	Energy Storage	This project will develop and apply a plug-in electric vehicle fleet management and optimization tool and implement the hardware needed for a DoD installation to conduct the complex task of managing an electrified fleet of non-tactical vehicles.	Los Angeles AFB, CA	Lawrence Berkley National Laboratory (LBNL)
EW-201242	Zinc Bromide Flow Battery Installation for Islanding and Backup Power	Energy Storage	This project integrates an innovative Zn/Br flow battery with a patented intelligent energy command and control technology to provide energy security, islanding capability, and reduced energy use.	Marine Corps Air Station (MCAS) Miramar, CA	Raytheon Integrated Defense Systems

Project #	Project Title	Technology	Description	Location(s)	Lead Org
EW-201401	Market Aware High Performance Buildings Participating in Fast Load Response Utility Programs with a Single Open Standard Methodology	Microgrids	This project will demonstrate a unified, standards-based platform, supporting direct participation by installations in wholesale and fast response curtailment programs, driving savings that may be quickly redirected toward core military readiness and deployment objectives.	Picatinny Arsenal, NJ	IPKeys Technologies
EW-201352	DC Microgrid Building Energy Management Platform for Improved Energy Efficiency, Energy Security, and Operating Costs	Microgrids	The Bosch Direct Current (DC) Microgrid Building Energy Management Platform (DCMG-BEMP) will provide a flexible, DC-based building-level energy management tool that enables direct, on-site usage of DC-based renewable energy sources without the efficiency losses inherent to AC systems.	Fort Bragg, NC	Robert Bosch LLC
EW-201350	Portsmouth Naval Shipyard Microgrid and Ancillary Services	Microgrids	The objective of this project is to demonstrate that microgrid control systems (MCS) and battery energy storage systems (BESS) can be integrated with on-site generation at military bases to enhance the security and reliability of electric service to the base, provide ancillary services to the electric grid Independent System Operator (ISO), and generate cost savings.	Portsmouth Naval Shipyard, ME	Ameresco, Inc.
EW-201343	Demonstrating Enhanced Demand Response Program Participation for Naval District Washington	Microgrids	The objective of this project is to integrate the Naval District Washington (NDW) energy management systems and tools and demonstrate the ability to cost-effectively and securely participate in the available Demand Response (DR) programs as part of the overall energy reduction strategy.	1. Naval District Washington, DC: 2. Washington Navy Yard, Dahlgren VA 3. US Naval Academy, CO	Weston Solutions
EW-201340	Secure Automated Microgrid Energy System (SAMES)	Microgrids	The Secure Automated Microgrid Energy System (SAMES) will operate a cluster of naval microgrids to maximize energy security and efficiency at the lowest possible operating cost.	1. Naval Base San Diego, Coronado, 2. Point Loma, CA	Power Analytics

Project #	Project Title	Technology	Description	Location(s)	Lead Org
EW-201333	Secure Network of Assured Power Enclaves	Microgrids	The Secure Network of Assured Power Enclaves (SNAPE) project will demonstrate a full-scale microgrid system that builds on existing microgrid technologies with an innovative cyber security architecture and new power generation source control approach.	Fort Bragg, NC	Honeywell International Inc
EW-201256	Automated Demand Response for Energy Sustainability	Microgrids	This project will implement OpenADR communications and control technology at Fort Irwin, California. The objective is to demonstrate how a variety of electric loads can be automated to participate in emerging electric grid independent system operator (ISO) ancillary services markets.	Fort Irwin, CA	Honeywell International Inc
EW-201245	Distributed Storage Inverter and Legacy Generator Integration plus Renewables Solution for Microgrids	Microgrids	This project will demonstrate the ability to operate a secure microgrid with natural gas generators and renewable energy sources without long term battery energy storage.	Fort Sill, OK	Eaton Corporation
EW-201147	Advanced Micro-Grid Energy Management Coupled with Integrated Volt/VAR Control for Improved Energy Efficiency, Energy Security, and Power Quality at DoD Installations	Microgrids	The objective of this project is to enhance and demonstrate advanced microgrid distribution management control technologies (including Integrated Volt/VAR Control (IVVC)) at Twentynine Palms, California.	Marine Corps Air Ground Combat Center (MCGCCA) 29 Palms, CA	GE Global Research
EW-201140	Microgrid Enabled Distributed Energy Solutions for DoD Installations	Microgrids	Lockheed Martin is designing and installing a microgrid on a subset of buildings that, if successful, can be scaled up to appropriate size for a military installation.	Fort Bliss, TX	Lockheed Martin

Project #	Project Title	Technology	Description	Location(s)	Lead Org
EW-200937	Smart Micro-Grid Energy Management Controls for Improved Energy Efficiency and Renewable Energy Integration at DoD Installations	Microgrids	This project demonstrated advanced microgrid control technologies capable of improving energy efficiency, expanding use of renewables, and increasing energy security for the Department of Defense (DoD).	Marine Corps Air Ground Combat Center (MCGCCA) 29 Palms, CA	GE Global Research

Senator DONNELLY. That would be great.

Secretary McGinn, I am from Indiana. We have Naval Surface Warfare Center (NSWC) Crane, with over 3,000 Navy employees; 67 percent of them are scientists, engineers, or technicians doing some of the most cutting-edge work. We were wondering, as we look forward to improve the infrastructure there, if you know of those MILCON plans or if you can get to us the infrastructure improvement plan that we have moving forward?

Mr. MCGINN. Senator, I look forward to actually visiting NSWC Crane in about 3 weeks. I am going to go out there to your great State and visit NSWC Crane to see some of those facilities.

Senator DONNELLY. Do you need a ride from the airport, sir? [Laughter.]

Mr. MCGINN. No, sir. I am also going to go to Purdue University and see some of the good research they are doing on biofuels up there. I will take a close look at what is going on and what is needed.

NSWC Crane has some world-class capabilities in battery technology, everything from watch-sized batteries to batteries in intercontinental ballistic missiles. That is critical. We want to keep that viable.

Senator DONNELLY. Thank you.

Secretary Hammack, one thing, in looking at how things are being done, is the different standards of liability protection for hazardous waste risks at former Army facilities, for instance, in cases where they are closed by a BRAC, there is help with hazardous waste. If not a BRAC, often not. If the only substantive difference is how the facility was closed, how do you make those determinations and why the difference in treatment?

Ms. HAMMACK. I appreciate your highlighting one of the benefits of BRAC in the base closure operations.

Senator DONNELLY. You will not have that happen too often, ma'am. [Laughter.]

Ms. HAMMACK. I want to take advantage of it for the record here, sir, and I appreciate that.

The BRAC program does give additional protections for both base transfer and base closures in dealing with environmental liabilities. For bases that were closed prior to that, it is difficult, if not impossible, to go backwards in giving protections once a base has been closed and already transferred. At the time of transfer, there are terms and conditions of that transfer. There are terms and conditions that are agreed upon by all parties that we work forward on.

I understand there is some legislation that is looking at grandfathering things backwards called the Base Redevelopment and Identification Correct Act. I have not had a chance to thoroughly review that. We will review it and take a look at it. But I think using BRAC as a closure mechanism by some of the prior year mechanisms in the early 1980s does highlight benefits to the community.

Senator DONNELLY. Thank you, Madam Chairwoman.

Senator SHAHEEN. Thank you.

I am glad Senator Donnelly got us back to BRAC because I want to pick up on the line of questioning that we were discussing before I had to go vote.

Mr. Conger, I think one of the things you were talking about was the fact that some of the construction requirements had changed. You mentioned hospitals, in particular. GAO has said DOD did not include some of those MILCON requirements that were needed to implement the recommendations as envisioned and, therefore, the additional requirements increased costs. I am paraphrasing what GAO said.

I still want to go back to the idea of how you are improving on the ability to accurately assess what the cost of another BRAC round would be? I think I am accurately quoting your response to the GAO report where you said that: "I am concerned with the report's emphasis on establishing goals, measurements of effectiveness, and capacity reduction targets, because it seems to me that that is exactly what we ought to be doing as we are thinking about how we develop a proposal for another BRAC round." I wonder if you could enlighten me a little more on how we are looking at assessment. Secretary Hammack, if you have anything you want to add, feel free to do that too.

Mr. CONGER. There are two things that I think you mentioned that I would like to touch on, and if anybody else has amplifying comments.

The reason that we are concerned about goals is because while we execute a BRAC round to save money, the individual recommendations have been premised on the idea that they are focused, first and foremost, on military value. We do not want to reduce military value through these actions. The intent is to amplify it. We specifically do not want to have a requirement set out at the beginning of a BRAC round that says you have to close this many bases. That is what I am concerned about. You do not want to get down to a point on the list of items under consideration and say these are the ones that I would do if it made sense, but I need 10 more bases to close in order to meet my targets. We do not want something like that, and that is my concern with the GAO.

Senator SHAHEEN. That makes sense to me, but it still makes sense that there should be goals for cost savings in a BRAC round. Also, those goals might include not just cost savings, but also what kind of value we want to maintain for the operations that we want to continue. It is the whole metrics piece, how we model those assessments, the extent to which we are comfortable with what is in them, the accuracy of them, and that Congress is aware of how we are doing this, so that we can avoid what happened in 2005 from happening again.

Mr. CONGER. You are asking how we measure the effectiveness of a BRAC round, I think.

Senator SHAHEEN. No, I am asking a little bit of a different question, and that is, how do we anticipate the costs and the effectiveness of a BRAC round?

Mr. CONGER. Let me talk to costs.

Senator SHAHEEN. Okay.

Mr. CONGER. I think if you look at the specific recommendations in 2005 that had the most cost associated with them, they were the actions that were characterized as transformational. I know that word gets thrown around a lot, so let me play that out a little bit more.

If you consolidate all of the criminal investigative services at one particular location down at Quantico, that is more of a transformational thing rather than being done for the sake of savings. If you colocate the various Services' health functions in one building, that is more of a transformation, looking for efficiencies and effectiveness, but not necessarily in cost savings. Those are the things that had a lot of costs associated with them but did not necessarily drive savings.

But I think there is a finer point here. If you look at the previous BRAC rounds where we were driven by closure or driven by efficiency, the MILCON requirements associated with those actions were very small. If you look at the 2005 round and you segregate the closure and efficiency actions from the transformation actions, there was a relatively small component of MILCON in those efficiency recommendations, keeping in mind the fact that the entire cost is not a MILCON cost. There is operation and maintenance (O&M). You have to move people from place to place. There are a variety of O&M costs as well. But the MILCON costs associated with the 2005 BRAC round were an order of magnitude larger than the MILCON requirements from the previous round, and that was because of the kinds of recommendations that were put forward and accepted.

Senator SHAHEEN. I think it would be helpful to this subcommittee, and probably to the full committee, to have a better understanding of how you assess what you are trying to achieve through another BRAC round.

Secretary Hammack, do you want to respond?

Ms. HAMMACK. Yes, I would like to.

One of the things that we are doing in the European infrastructure consolidation process is looking at a very methodical process. First, determine the military value and rank the military value of each site. Second, look at the capacity analysis from every type of building that is located on that base, such as headquarters buildings, barracks, motor pools, et cetera. Where do you have excess capacity? Third, do a scenario analysis. What are the various scenarios? What could you move where to consolidate, and what is that cost?

In prior rounds, a budget has been set. As Mr. Conger spoke of, you set a $6 billion budget, and as you are looking at all the different scenarios, you evaluate those that have the best return on investment to return the best military value to take up as much capacity as you can. It can be a very analytical, mathematical process. Yet, military value of the locations is a priority to ensure that we are appropriately positioned.

From the Army's standpoint, if you look at BRAC 2005, the cost to the Army was $13 billion. Of that, $2 billion was efficiency BRAC. Of that $2 billion, we are getting $574 million in savings every year, and that is about a 3.4-year return on investment. I think that is a good deal. I think that is the efficiency BRAC.

That is what I want to see from the Army's standpoint in the next round. Give me a budget and we will do the military value. We will do the capacity analysis. We will run some scenarios and we will identify those scenarios with the best efficiency that we can return to this Nation.

In the BRAC process, it is all with congressional oversight. You will appoint a BRAC commission that will take a look at all the details here before it comes to Congress for a vote. I think it can be very clear. I think it can be very transparent. It can be very focused on efficiencies. We want to work with you to identify the characteristics of the next round of BRAC because we need it in order to work within the budgets that this Nation is asking of us.

Senator SHAHEEN. My time is up, but I just want to get a clarification. I assume the excess capacity analysis that you are doing now is going to be part of the European infrastructure consolidation review.

Ms. HAMMACK. Yes, it already is. We have already finished our capacity analysis in Europe on a site-by-site basis, and it shows us a range of 10 to 15 percent excess capacity in Europe. We are running through the scenario analysis right now to determine what have the best returns on investments.

Senator SHAHEEN. Because I think, given the request from this subcommittee and the full committee about getting that report, and I know you addressed it in your comments, Mr. Conger, but that is the kind of information that is very helpful as you are asking us to make decisions about another BRAC round.

So my time has ended. Senator Kaine?

Senator KAINE. Thank you, Madam Chairwoman. I am going to follow up for 1 minute on this same topic, really more to say what I do not necessarily like about BRAC, being a former Governor.

I can see why DOD likes the BRAC process. I can see why it was established.

Being Lieutenant Governor and Governor during the 2005 BRAC round, my objections are not the cost savings issue. My primary objection is a process one.

DOD makes budgetary recommendations to us about everything, what weapons systems to buy, what weapons systems not to buy, whether to have one uniform, whether to have multiple. You make recommendations to us about everything and you do not need external panels except in rare instances to make recommendations to us.

I would prefer that the base decision be like everything else and that DOD make recommendations to us. Then we would kick them around up here and we would not agree with all of them. We would probably agree with two-thirds of them, just like we do about weapons systems. Maybe 50 percent. Maybe not two-thirds.

But you are the experts in a way that we are not, and we rely on your expertise.

My observation about a BRAC process: when a BRAC process starts, every community in the country that has a military asset, whether the asset is actually in jeopardy or not, has to lawyer up and lobbyist up, and they start to spend tons of money to make this big effort to protect what they have, even communities whose assets really are not in jeopardy. I saw a community in Virginia that says we do not think this is in jeopardy. There is important stuff that goes on here. But if we do not hire all the lawyers and lobbyists and make this big effort and then we end up on the short end of the stick, people will say you are a dope, you should have done this.

I think there is an enormous wasted energy in a BRAC process for communities needing to come together and make this massive case, even when there is really no likelihood there is ultimately going to be a recommendation that would change the status of the installation.

My preference would be that DOD come to us with recommendations about installations like they do anything else, and then we debate them and kick them around. I know you are going to bring the European consolidation study to us, and I gather that because those are external bases, those are not subject to the same requirements of congressional approval. Yet, when that report comes, if Members of Congress do not like a piece of it, they will probably put in some kind of legislation to say yes, but do not do that one thing that you mentioned. By legislation, we can always overturn a recommendation even if there is not a requirement of approval.

As we think about the way to deal with these installation questions, I would like DOD to give us their professional recommendation about installations, recognizing that Congress would kick them around, recognizing that local politics and everything else would create headwinds and crosswinds. But that is the same as in every other line item in the budget.

Mr. CONGER. Right. BRAC was not created for no reason. BRAC was created because before BRAC, there was a lot of politics in these decisions, and there were accusations of partisanship in which bases ended up closing. This enforced a process that was deliberate, that was analytical, that treated all bases equally, and set forth a way that was defensible and auditable for DOD to determine the ones to keep. These are the places of highest military value, and I would like to fill those in even if it is more empty.

In an environment where we are not able to do that, then you are probably going to end up with folks looking at the places that have more capacity even if they are of higher military value. That is a concern. You end up with actions that are more subject to litigation, especially since BRAC takes the place of some of the National Environmental Policy Act process. What you will end up with is rather than less lawyering up, you will end up with far more lawyering up if you do not have BRAC.

Senator SHAHEEN. Sadly, Senator Kaine, everybody is not as reasonable as you and me. [Laughter.]

Senator KAINE. Thank you, Madam Chairwoman.

Senator SHAHEEN. Thank you.

Secretary Hagel, in his remarks to the press when the budget was released, said that he was mindful that Congress has not agreed to BRAC requests in the last 2 years. "If Congress continues to block these requests, even as they slash the overall budget, we will have to consider every tool at our disposal to further reduce infrastructure."

Mr. Conger, what tools was Secretary Hagel referring to? What are you considering in terms of using them in the absence of any authorization for a BRAC round in 2017?

Mr. CONGER. Clearly he was listening to Senator Kaine saying to do things outside of the BRAC process. [Laughter.]

The Secretary has amplified his comments subsequent to that and noted that there is an authority that Congress provided DOD

in 10 U.S.C. 2687. It has a process for how one would take base closure and realignment actions independent of a BRAC round.

The Secretary has also said he would much rather do this through a BRAC process. It is apolitical. It is analytical. It is transparent. It is the preferred way of doing business, and it makes the most sense to DOD. That is why we asked for BRAC authority.

Senator SHAHEEN. I assume that DOD does not have an interest in getting into a back and forth with Congress over taking action that Congress has not authorized in a way that would produce a backlash in Congress.

Mr. CONGER. Of course not. We will only use authorities that Congress has provided. Moreover, even if we are using existing authorities, DOD often has consultations with Congress in advance of actually using those authorities. The MILCON statutes are replete with examples of notification requirements where we come up and have that conversation, and if the committees advise against taking a particular action, that we accede to the will of the committees. Those kinds of things are there already.

I do not think you are witnessing a desire to have a back and forth with Congress per se, but you are recognizing a degree of frustration and a recognition, as has been demonstrated by the witnesses up here, that we are paying for facilities and bases that are essentially waste. You do not want to do that. You do not want to tax the warfighter in order to pay for facilities that you do not need and for bases that you do not need. If you have a way to save money and are able to plow that money back into readiness, we really would like to do that.

Senator SHAHEEN. I think that is the interest on the part of all of us here, but if we do not have information on which to assess what is being proposed, it is really hard. All we have is past history, and past history, at least the 2005 past history, is not a very good example of what we would want to accomplish in the future. I am just saying to all of you the more you can provide information for us about how you assess what you are looking at in the 2017, if you are coming up with a 2017 proposal, how you get to savings, and what you are trying to achieve before we get to the BRAC process, I think the better audience you are going to have for what you are trying to do.

Ms. HAMMACK. I understand that, but the BRAC process is where we bring you those ideas. That is what the BRAC process is, and that is where we do the site-by-site capacity analysis and the site-by-site military value and put it together as part of an analytical process with the ground rules defined in the BRAC authorization.

Senator SHAHEEN. I get that, but I am not going to go home to my constituents in New Hampshire and say I have authorized something when I do not have a good idea of where I think the outcome of that might be. I think I probably represent most of the Members of Congress when I say that.

I understand what you are saying in terms of the BRAC process itself, but I am saying something a little bit different. I think for us to have reports like the European consolidation review as you are coming to us to say this is what we want to do is really helpful. Last year we heard we were going to get that before you came back

with another budget request. We still do not have it. We have beaten this dead horse, I think, already. But I am just trying to convey my frustration about not having the information that I think is helpful in making a decision.

Ms. HAMMACK. But one of the things to understand that you are authorizing in the BRAC process is you are authorizing the analysis. You have to vote on the recommendations. You are authorizing the analysis.

Senator SHAHEEN. Right.

Ms. HAMMACK. One of the things in section 2687 that Mr. Conger talked about is that any bases closed under 2687 would be submitted as part of a budget. You did not see any as part of the 2015 fiscal year budget, but if we do not get authorizations for a BRAC 2017, you might see some bases listed in the budget request for 2016 because at this point in time, I do not have the money to run the bases the way they should be run, and it is not appropriate due diligence on my part to continue in this manner. If I cannot run the buildings appropriately, if I cannot appropriately support soldiers, then I am going to have to do something to ensure that I am not spreading an ever-thin budget across a base that I cannot afford.

Senator SHAHEEN. Listen, I get that. I have been opposed to the cuts from sequestration that are putting additional pressure on DOD. But as long as we have GAO coming back with reports that raise questions about how the BRAC rounds are being done, I think they need to be answered.

Ms. HAMMACK. But I would just say look at the prior year rounds. Look at all the prior efficiency BRACs that were duly noted as efficiency BRACs that are returning the investments stated, that did not exceed the budgets. Anytime any BRAC project exceeded budget, we came back to Congress and said this project is going to increase in cost because of the following reasons and got approval from Congress for that incremental cost. Everything was done in an open and transparent manner. All prior BRAC rounds are delivering the expected savings. For the Army, the efficiency savings expected from this BRAC round in 2005 are delivering savings, and those measures that were not expected to deliver savings are not.

Mr. CONGER. If I could strike a conciliatory note. Your staff has asked us a series of questions about the BRAC 2005 round, and we have done our best to get that information. I think we still have a couple extra things to provide. We will continue to provide that information.

We actually have a fairly good story here. There is a good justification, even inside of the 2005 efficiency actions that we have identified, to justify the fact that a future round can be done with a mind to efficiency and can be done with minimal cost increases. We think we can manage this process and we think there are a lot of good examples that demonstrate that.

Senator SHAHEEN. We look forward to getting that information.

Senator Kaine, do you have any more questions?

Senator KAINE. No, thank you.

Senator SHAHEEN. I want to go to energy, something we can all agree on hopefully. I think one of the best stories that is untold is

the work that is being done in the military to save energy and to produce new research that is going to benefit everybody in the private sector, as well in terms of energy savings. I wonder if we could explore that issue a little bit more.

I have a specific question because my understanding is that there was some confusion around questions at the full hearing and the renewable energy projects that are valued at $7 billion a year as part of the President's performance contracting challenge. Secretary Hammack, can you explain what the contractual agreement is on that direct funding? Because my understanding is that people, when the topic was raised, assumed that that $7 billion was money that was going to be paid through DOD's budget, and my understanding is it is actually an agreement with the private sector. Can you explain that further?

Ms. HAMMACK. Absolutely. Thank you, Senator Shaheen.

The multiple award task order contracts (MATOC) for $7 billion is what is generating questions, and that is solely focused on renewable energy. It is not an energy efficiency or performance contracting.

Awards were made under MATOC to a total of 48 companies, of which 20 are small businesses. The award recipients are qualified through this process to compete for future task orders. They did not get a contract that we are going to commit to buy anything. This was a prequalification. It is like developing a short list of contractors. We are going to issue task orders to bid for power purchase arrangements, and the power purchase arrangements are anywhere from 20- to 30-year contracts to buy the energy generated from renewable energy.

If you look at the next 30 years, the Army's bill for facility energy is projected to be $40 billion. Our objective and our mandate from Congress is 25 percent of our energy to come from renewable energy. If you take 25 percent of $40 billion, that gets you about $10 billion. We put a contract ceiling in for $7 billion. When we contract to buy energy from someone, it might be a 30-year contract to buy energy at this price with this acceleration for this time period, and that is considered the value of that power purchase agreement.

I understand that it is confusing, and I hope I have been able to clarify it, that it is not money that we are coming to you to ask for. It is money paid out of our utilities account to buy electricity.

Senator SHAHEEN. Good.

Mr. Conger, do you want to clarify that more?

Mr. CONGER. Could I amplify one point in there that is very important? As people hear about us buying renewable energy, when we do these arrangements with third party entities to develop renewable energy and bring a utility function onto our base, generally we are paying either the same amount or less, and more often than not, it is less than we would normally pay for our electric bill. In essence, what you are looking at represents a reduction in costs over the life of these projects.

Senator SHAHEEN. Ms. Ferguson, one of the things you talked about was the 10 percent savings, I think I understood you correctly, to fuel use that you were hoping to achieve in actual usage. I assume mostly for flying planes. I do not know to what extent you

are sharing or there is collaboration between the Air Force and the Department of the Navy in terms of the energy work that is being done by the Navy. But my understanding is that most of the development in fuel savings on the Navy side was to develop drop-in fuels that did not require any changes in engines. Is that right, Secretary McGinn?

Mr. MCGINN. Yes, it is.

Senator SHAHEEN. Is that what you are looking at? Because I understood you to say something a little different.

Ms. FERGUSON. We are actually looking at how we operate the aircraft and how we can do that more efficiently. One of the things we are looking at is how many tons of cargo we can move per gallon of fuel. Right now, we are doing 9.5 percent more cargo tons moved at 8.6 percent less fuel. We are doing this in a variety of ways.

One of the things we have done is updating the KC–135 landing weight restriction. We have an energy analysis task force that is made up of reservists across the United States and in the area of responsibility, and they are looking for opportunities to save money with operational efficiencies. We save $1.2 million annually through decreased fuel dumping. In the past, the aircraft had to have a certain amount of fuel left in their bowels before they could land, and they would dump the fuel if they had too much. Now we have adjusted that so they are able to save that and not dump that fuel. That is one of the things that we are looking at to save.

Senator SHAHEEN. To what extent are you collaborating with what the Navy is doing as you are looking at these efforts?

Ms. FERGUSON. All the Services collaborate together on energy initiatives under Ms. Burke's leadership through the Defense Operational Energy Review Board. We are collaborating. The three deputy assistant secretaries for energy meet together quite frequently, and so all this information is shared across all the Services.

Mr. MCGINN. We look for good ideas wherever we can find them, including with the Air Force. [Laughter.]

We similarly are looking at this forward thinking about key performance parameters to buy things that have better military capability but operate with less energy.

But importantly, because our force structure that we own is where we could really make and save a lot of money on energy, it is how we use them. For example, Ms. Ferguson mentioned loadouts of aircraft and policies that relate to how much fuel you need to have to land. We are doing similar things. We are trying to look at eliminating what we call hot refueling, where a jet that lands goes through to the flight line and shuts down right away, and then we will bring a truck in which is better than sitting in fuel skids or fuel pits where the engines are running and you are filling it up with fuel.

We are looking at the right balance of actual flight time and simulators to maintain the same levels of training and readiness, to do it without as much expenditure of fuel, but always with the idea that combat readiness comes first and energy comes later. But we are making great strides. We have an air energy conservation program that we are launching in 10 days that is similar to what we have done with our surface ships over the past year.

Senator SHAHEEN. Secretary Burke, are we on track to reach the fuel savings targets that we are hoping to reach? How are those spread out across each branch of the military? How do you determine what those targets should be?

Ms. BURKE. Senator, each of the Services have their own targets. At a departmental level, we have not set targets, and here is the reason why. This is really about operational effectiveness, and we have wanted to get that metric right. If you say, for example, that at a departmental level, we are just going to reduce our consumption by 10 percent but then we have to go somewhere, your target is going to become irrelevant. We have been working very hard with all the people here and lots of others in the operational community to develop logistics supportability metrics. In other words, what you need to be able to do, what is the planning scenario or the operational plan, do you have the energy you need, and do you have the logistics you need to support that plan? If not, it helps us put a value on the innovation or the changes in doctrine that you need to make in order to support the plan. That is the metric that we are aiming for that will measure military effectiveness.

As for whether we are hitting the targets, yes and no. Our top line goal is to make sure that our forces have what they need, wherever they are for whatever purpose.

As we look at the future, one of the ways we know we have to get there is by improving our efficiency. We are very much in tune with your own priorities. We have to improve our performance and we have to get that volume of fuel off the battlefield.

Our analysis suggests that right now we are on track to increase our overall fuel consumption by 2025 by about 10 percent. If we continue with all the initiatives——

Senator SHAHEEN. To increase or reduce?

Ms. BURKE. Increase. Because of all the new systems coming in that have been in the pipeline for some time, they are fabulous capabilities, they consume more fuel, generally speaking. If all the initiatives that the people here at the table have been championing go in, we will cut that by 6 percent, but it is still an increase.

This again points back to our need to get into the planning process and make sure that we are putting a value on what this means for us when we actually have to go to war to have this kind of energy demand. That is where we are really putting the effort. We should see that pay off over time, but right now, we have a lot of things in the pipeline. We are not where we want to be, but we are heading in the right direction and we are developing the kinds of measurements that will be meaningful in this space.

Senator SHAHEEN. I think it was you, Secretary McGinn, who talked about changing the culture in terms of energy use. I wonder if you could speak to that, and perhaps you could also, Secretary Burke, talk about how we are trying to change the culture of energy use within the military.

Mr. MCGINN. To illustrate what I am talking about, Senator, all of our fleet commanders have changed the expression "save energy when you can" to "save energy unless you cannot" to drive home that message that energy equals warfighting readiness.

I was in Norfolk last week working with Admiral Gortney and his team of operators on our energy education and awareness an-

nual event. I was out in San Diego in February doing the same thing with Admiral Harris from Pacific Fleet. We had divisions in air, surface, subsurface, infrastructure, and installation support where they are doing nothing but swapping best practices. We are measuring a lot better than we ever have in the past in terms of individual performance. We are trying to introduce more and more competition, which is something that has done great things in all of the military Services, into this idea of getting the same or better combat readiness out of every gallon of liquid fuel or kilowatt hour of electricity.

Senator SHAHEEN. I have had the opportunity to tour the Portsmouth Naval Shipyard and see the energy savings there, and it is really very impressive, and to be part of one of your award ceremonies where you recognized various units for their savings.

Mr. MCGINN. We are very proud of Portsmouth. In fact, we want to do more. That is a case where the culture has already changed and folks are looking for even more ways to save energy.

Ms. BURKE. Senator, to also field the question, I would say it is two things from the Secretary of Defense's point of view. It is not so much to change the culture, but to find the parts of the culture that you can harness and where it makes sense for people. I will tell you a story that I think illustrates what I mean by that.

The Marine Corps, when they were first putting some of their experimental forward operating bases into play where they were introducing some of these new energy efficiency and renewable energy measures, were bringing it to Twentynine Palms to marines who were in training. The marine in charge at the time of this went to these guys and he said: you have solar panels on the outside of your tent and geothermal heat exchange in the floor. You have more efficient lights, more efficient tents, and a more efficient generator. If you stay below that red line on this meter, you will not turn on your generator. Do what you have to do for your lights and your computers. If you go above the red line, that is fine, but the generator will come on. You will hear it, you will smell it, and you will also have to get resupplied. But if you stay below that red line, you will not have to get resupplied. These marines said they got it, and they stayed below the line.

They had all been deployed, or most of them had, and they know what it means when they are in a forward base where they do not have to have the noise and the fumes of a generator right next to their tent. They also do not have to put a person on it to refuel it, and they are also lowering the risk to their fellow marines or to our partners in the private sector who have to bring them the fuel through a battlefield. If you tell them what it is for and what it gets them in warfighting terms, and then you give them the tools, it is in their culture to understand that.

The challenge is really to us. Where I think as an official, I see the most need for a culture change, though, is back in DOD in the way that we run our business processes. It is really the same challenge. The burden is on all of us to explain why this is beneficial for the mission. Once we do that, we are finding that people do incorporate these changes, but it is hard. As I said, there are no shortcuts on that. Sometimes, it is a one person at a time conversion. But we are all working hard on that.

Senator SHAHEEN. I did a hearing in Norfolk a couple of years ago with demonstrations of various technologies that were being implemented out in the field in Afghanistan. I remember very clearly when I asked the Marine Corps colonel how people had responded to the technology. He said their immediate reaction was that it was a piece of crap, but then they realized how much it improved their mission, and then they embraced it. I think it is a great lesson.

To what extent are we anticipating maintaining the technology and the improvements that we made and integrating that into the continued operation so that it is sustainable? Is that part of what we are planning for as well?

Ms. BURKE. Absolutely. I think both the Marine Corps and the Army have made great strides in incorporating some of the improvements they have put into play in Afghanistan into programs of record. That is a great step forward. But we are also all putting a lot of effort on capturing the lessons learned and making sure that we not just document them and have a report, but that we are translating it into changes and into actual change requests. That is a really important effort for us now. But we have also already seen the Services incorporating these changes.

I think the Army in particular has done some things in Afghanistan with an effort called Operation Dynamo. At these little outposts where it is hardest to deliver fuel, they have returned 40 to 60 percent fuel savings at times. Those are things that they are incorporating into their program of record. So the next time someone orders that kind of base, it is already incorporated.

Senator SHAHEEN. Great.

Someone mentioned, it may have been you, Secretary Hammack, energy service companies (ESCO) and the use of ESCOs. I wonder, Secretary Burke, if maybe you can speak to all of the branches, whether we are incorporating those opportunities to use performance contracts in what we are doing and whether there are any impediments to doing that.

Mr. CONGER. It is more of a facilities thing. We are. The President has an initiative that is emphasizing performance contracts across the Federal enterprise. He had a goal of achieving $2 billion over the past 2 years of ESPCs. We in DOD have more than half of that goal.

Let me actually take the opportunity to brag on the Army a little bit. They have been particularly aggressive, particularly efficient, and I will let Secretary Hammack talk to it in particular, but they have an innovative way that they are pursuing these.

Senator SHAHEEN. Can I also ask you, before we go to Secretary Hammack, to what extent have you had challenges with the accounting of how we deal with the costs of those performance contracts? The reason I ask is because this has been an issue with Federal agencies because of the way the Congressional Budget Office (CBO) scores the ESCOs. Has that been an issue for all of you and how have you gotten around that?

Mr. CONGER. Let me defer to Secretary Hammack to start.

Ms. HAMMACK. We have not found that to be an issue to us. Right now, as Mr. Conger mentioned, we are doing about 25 percent of the ESPCs in the Federal Government. It is something that

we have had a very focused effort on and a focused team. But we do realize that there are upper limits to what you can do with an ESCO because it is paid for out of your utility budget. Your utility budget is something you pay every year. It is like your mortgage. If we all had cash, we would buy our house, and we know that your long-term 30-year price point is lower if you bought it all upfront yourself. But an ESPC brings in those experts to bring in the technologies and the strategies. There is a measurement and verification process to ensure that you are achieving those savings and you pay them back out of the savings.

Senator SHAHEEN. Is there an outline for what you are allowed to use within DOD? I am trying to figure out how CBO does not have a problem with you all using them, but they have a problem when the Department of Energy is using them or the Department of Homeland Security or somebody else.

Mr. CONGER. To best answer your question, we will probably want to take it for the record and find out what the specific issue is.

[The information referred to follows:]

The authority for Federal agencies to enter into Energy Savings Performance Contracts (ESPC) is established by 42 U.S.C. section 8287. Further guidance for Department of Defense is provided by 10 U.S.C. section 2913. All Federal agencies are authorized to use ESPCs to finance energy saving measures. If a Federal agency uses the ESPC authority to include renewable energy which requires a power purchase agreement (e.g. larger than rooftop solar), the term in which the Federal agency can purchase the energy produced is for up to 10 years.

Senator SHAHEEN. I will be happy to see that.

Mr. MCGINN. Senator, I would just like to add that we have implemented an energy return on investment model that we are working with the ESCOs. We are saying here are the criteria that we are using to decide the terms and conditions of an ESPC. We are educating them so that they can aim at meeting those criteria when they make proposals. But also we are asking them what is wrong about this model. Are there other things that we should be considering that you have learned from your business case analysis in private sector transactions similar with a university, municipality, or a light industrial park where they have brought their considerable technological and financial wherewithal to bear to reduce those energy costs? We are finding that this dialogue with the ESCOs is absolutely essential to meeting those goals and really exceeding them.

Senator SHAHEEN. I am a big proponent, having seen it work as Governor when we did buildings in New Hampshire. I think it is a great way to provide savings and something that I think we ought to be doing across the Federal Government and trying to figure out why CBO is viewing this in a different way when it comes to other Federal agencies.

In terms of performance incentives, it is my understanding, Secretary McGinn, that you have presented an award to some folks for actual savings and that that helps to incentivize crews. For example, I was given the example of the USS *Peleliu* that saved $5.3 million in fuel compared to ships in the same class. Can you talk about how incentivizing that comparison is helpful?

Mr. MCGINN. I mentioned earlier that I had been in Norfolk last week and I was in San Diego in February with the fleet com-

manders and their chains of command to present awards like the one to the *Peleliu*. We actually recognized a whole variety of different types of ships, the absolute best performers with cash awards. The only stipulation is that cash has to be used for increasing their energy savings and energy efficiency. We also recognized individual commanding officers and senior enlisted folks with certificates to illustrate the point that we really value the kinds of practices that these ships have used to achieve those energy savings. We do this in a formal way on an annual basis for all of our fleet concentration areas, but it is an ongoing process with the fleets to make sure that everybody gets it and they are availing themselves of the lessons learned.

Senator SHAHEEN. How do we codify the goals for energy savings in a way that means that they continue, if leadership changes or if there are other issues that come up, so that we can continue to produce these kinds of savings?

Mr. MCGINN. At the highest levels in our precepts that are assigned for selection for various promotion boards, Secretary Mabus has put in energy and energy awareness, energy savings as one of the criteria that should be considered by the promotion board. It is discussed in fitness reports and evaluations. In every way possible, we are emphasizing this idea that we are all about warfighting readiness. There is a bright connection, inextricable connection, between warfighting readiness and energy. Therefore, if you want to be a warfighter, you have to be an energy warfighter as well.

Senator SHAHEEN. Are the Army and Air Force doing similar kinds of efforts to codify the goals into what you are doing in the future?

Ms. HAMMACK. Yes. The Army just updated our officer evaluation reports and we have a similar metrics in it.

But one of the things we have also done is every month we issue a report and it shows who the largest energy consumers are and the percent change. We have found that showing where you stack up on the chart is one method of promoting efficiencies, and you do not want to be the one who is the biggest consumer with the highest growth rate.

Ms. FERGUSON. I would say the Air Force does this a lot through our Air Force governance process for energy, and that is overseen by the Vice Chief of Staff of the Air Force and the Under Secretary of the Air Force, so at the highest levels. Each one of the major commands sits on that, and we track each one of the metrics, whether it is the industrial energy, facilities energy, or operational energy.

To get back to the earlier question, we also do provide some financial awards, particularly Air Mobility Command, to both individuals and to units for saving fuel, operational fuel.

To brag just a little bit on the Air Force, we have won 21 Federal energy management level awards since 2010. A lot of Air Force folks have been recognized at a national level for the good work they have done in energy initiatives.

Senator SHAHEEN. What have you found to be most effective in terms of encouraging energy savings? Has it been the cash awards?

Has it been the comparison to how you stack up against other units or other operations? What is the most effective?

Ms. FERGUSON. I do not know if I could say what the most effective is, but I think all of them have great benefits. I think the folks like to get recognized for the great work that they are doing, no matter how we do it.

Mr. MCGINN. I would say probably competition, that professional pride in your unit and your individual performance that is a real driver. The cash awards are nice, but they are not as important as that professional pride and competition.

Ms. HAMMACK. I will echo the competition. The competition seems to be one of the biggest drivers. You want to be a winner, and so highlighting those who are winners and showing where you rack and stack can help motivate individuals.

Senator SHAHEEN. Thank you all very much. I have no further questions.

We will leave the record open until close of business on Friday.

The hearing is adjourned.

[Whereupon, at 11:39 a.m., the subcommittee adjourned.]

[Questions for the record with answers supplied follow:]

QUESTIONS SUBMITTED BY SENATOR JEANNE SHAHEEN

FUNDING FOR ARMY LABORATORIES

1. Senator SHAHEEN. Ms. Hammack, it appears that the fiscal year 2015 military construction (MILCON) request does not include funding for U.S. Army laboratories. While I understand that current budget pressures have forced significant cuts to the MILCON account, I am concerned that the underfunding of laboratory facilities has been a long-term trend that has resulted in degraded capabilities, putting them at a significant disadvantage relative to private sector facilities. Do you share this concern?

Ms. HAMMACK. Yes, I share your concern with the state of our laboratory infrastructure. While we have not requested MILCON funding for laboratories in this year's request, the laboratories have been able to use recent authorities granted to them by Congress to maintain their capabilities.

2. Senator SHAHEEN. Ms. Hammack, is there any relief programmed in the Future Years Defense Program (FYDP)?

Ms. HAMMACK. While the Army is committed to laboratory revitalization, there are no MILCON projects for laboratories in the current FYDP.

COST SHARING

3. Senator SHAHEEN. Ms. Hammack, would there be value in developing usable mechanisms by which the Army can share in the costs of building and maintaining new research infrastructure with other Services, other Federal or State/local agencies or the private sector?

Ms. HAMMACK. Yes. Having clearly defined and usable mechanisms to share the capital and maintenance costs would benefit the Army. Currently, mechanisms exist to share in the costs of building and maintenance of new research infrastructure with other military Services. For example, projects can be conjunctively funded by two MILCON appropriations (two Services or a Service and a Defense-wide appropriation). However, this process is cumbersome and requires considerable congressional engagement. To avoid over-complication, the two appropriation owners will generally coordinate to determine the best Service to execute the entire project and then coordinate with the Office of the Secretary of Defense (OSD) to transfer funding across appropriations to fund the project.

QUESTIONS SUBMITTED BY SENATOR TIM KAINE

NAVAL FACILITIES SECURITY AND UNAUTHORIZED ACCESS

4. Senator KAINE. Secretary McGinn, I want to offer my condolences to the Navy on the loss of a sailor, Petty Officer 2nd Class Mark A. Mayo, at Naval Station Norfolk last week on March 24. I know the Navy is conducting an investigation into the incident, but I am pleased to hear that the Navy is now conducting additional screening measures at installations. Along with the steps the Navy has already taken to address the concerns of facility security and unauthorized access at installations as well as planned actions, was the Transportation Worker Identification Credential (TWIC) card for the perpetrator issued before or after he was convicted with the manslaughter charge?

Mr. MCGINN. The TWIC is administered by the Transportation Security Administration (TSA) not the Department of the Navy. Inquiries regarding TSA vetting procedures, protocols, or details regarding any individual card holder should be provided to the Department of Homeland Security (DHS) or TSA.

5. Senator KAINE. Secretary McGinn, if the conviction came before issuance of the TWIC card, why was the credential still issued to the individual and how can such cases be prevented in the future?

Mr. MCGINN. The safety of our people and resources are our highest priorities. The TWIC is administered by the TSA not the Department of the Navy. Inquiries regarding TSA vetting procedures, protocols, or details regarding any individual card holder should be provided to DHS or TSA.

6. Senator KAINE. Secretary McGinn, if the conviction came after issuance of the TWIC card, what measures can be put in place to cross-check such individuals who are later involved in serious crimes?

Mr. MCGINN. The safety of our people and resources are our highest priorities. The TWIC is administered by the TSA not the Department of the Navy. Inquiries regarding TSA vetting procedures, protocols, or details regarding any individual card holder should be provided to DHS or TSA.

QUESTIONS SUBMITTED BY SENATOR KELLY AYOTTE

DELAYED PROJECTS AT PUBLIC SHIPYARDS

7. Senator AYOTTE. Secretary McGinn, could you please give me a list of delayed projects at our four public shipyards?

Mr. MCGINN. There are two MILCON projects for naval shipyards that were programmed in our 2014 budget request for fiscal year 2015, but are now delayed to later in our FYDP. These projects are:

1. P285 Addition to Building 373 Barracks at Portsmouth Naval Shipyard.
2. P401 Regional Ship Maintenance Support Facility to support depot-level work performed by Puget Sound Naval Shipyard.

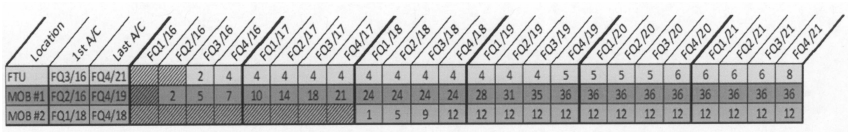
KC–46 BEDDOWN

8. Senator AYOTTE. Ms. Ferguson, this year's budget prioritizes Air Force investments in the KC–46A, both development as well as the beddown. On May 22, 2013, the Air Force selected the first three bases that will host the KC–46A tanker. Across the FYDP, would you please review the MILCON funding amounts and timelines that the Department of Defense (DOD) is requesting for the KC–46A beddown at McConnell, Pease, and Altus?

Ms. FERGUSON. The Air Force has completed the Environmental Impact Statement (EIS) for the KC–46A Formal Training Unit (FTU) and Main Operating Base (MOB) 1, and a final decision on the beddown locations was made and announced as Altus for the FTU and McConnell for the first MOB on April 22, 2014.

The final basing decision for MOB 2, the first Air National Guard (ANG) location is expected early summer. Please see the tentative KC–46A delivery schedule below for FTU, MOB 1, and MOB 2.

Note: Depot planning is geared towards making sure everything is in place to support aircraft C-checks that are scheduled to begin in fiscal year 2018.



Location	1st A/C	Last A/C	FQ1/16	FQ2/16	FQ3/16	FQ4/16	FQ1/17	FQ2/17	FQ3/17	FQ4/17	FQ1/18	FQ2/18	FQ3/18	FQ4/18	FQ1/19	FQ2/19	FQ3/19	FQ4/19	FQ1/20	FQ2/20	FQ3/20	FQ4/20	FQ1/21	FQ2/21	FQ3/21	FQ4/21
FTU	FQ3/16	FQ4/21			2	4	4	4	4	4	4	4	4	4	4	4	4	5	5	5	5	6	6	6	6	8
MOB #1	FQ2/16	FQ4/19		2	5	7	10	14	18	21	24	24	24	24	28	31	35	36	36	36	36	36	36	36	36	36
MOB #2	FQ1/18	FQ4/18									1	5	9	12	12	12	12	12	12	12	12	12	12	12	12	12

Please also see the attached spreadsheet for information on proposed MILCON projects pending Air Force final decisions.

KC-46A Aircraft and Project Delivery Schedule

Base	1st A/C Arrival	Full PAA	Program Year	Project	PA ($M)
Altus	FQ3/16	FQ4/21	FY14	FTC Simulator Facility, Phase 1	12.60
				Fuselage Trainer, Phase 1	6.30
				Add/Alter Squad Ops/AMU	7.40
				Add/Alter Hangar for Tail Dock	3.35
				Renovate Facility for 97 OGS	1.20
			FY17	FTC Simulator Facility, Phase 2	10.40
			FY19	Fuselage Trainer, Phase 2	3.50
McConnell	FQ2/16	FQ4/19	FY14	3 Bay General Purpose Maintenance Hangar	80.00
				2 Bay Corrosion Control/Fuel Systems Hangar	82.00
				Alter Apron Fuels Distribution Systems	12.80
				Alter Miscellaneous Facilities	0.97
				1 Bay Maintenance Hangar	32.00
				Pipeline Student Dormitory	7.00
				Add/Alter Flight Simulator Buildings	2.15
				Alter Aircraft Parking Apron	2.20
			FY15	Add/Alter Mobility Bag Storage Expansion	2.30
				Add/Alter Regional Maintenance Training Facility	16.10
				Alter Composite Maintenance Shop	4.10
				Alter Taxiway Foxtrot	5.50
				Fuselage Trainer	6.40
			FY16	Alter Roads, Parkings Lots and Utilities	2.65
			FY17	Alter Flight Simulator Buildings	1.05
				Alter Taxiway Delta	4.75
Pease (ANG)	FQ1/18	FQ4/18	FY15	Add/Alter Airfield Pavements & Hydrant Systems	7.10
				Add/Alter Fuel Cell Building 253	16.80
				Add/Alter Maintenance Hangar Building 254	18.00
			FY16	Add/Alter Flight Simulator Building 156	2.77
			FY17	Install Fuselage Trainer	1.48
Tinker			FY14	Land Acquistion	8.60
			FY15	Depot Maintenance Complex Support Infrastructure	48.00
				2 Bay Depot Maintenance Hangar	63.00
			FY16	Depot Maintenance Dock	36.50
			FY17	Depot Systems Integration Lab	17.00
			FY18	Depot Engine Test Cell	23.00
			FY19	Depot Maintenance Hangars	139.00

9. Senator AYOTTE. Ms. Ferguson, are there any outstanding issues that this subcommittee needs to be aware of regarding the beddown of the KC–46A at this time?

Ms. FERGUSON. MILCON in support of the KC–46A FTU and first MOB is on track to be awarded in June 2014. Further, the Air Force is on schedule to announce the final basing decision for the second MOB this summer. Pending support for MILCON in the fiscal year 2015 President's budget request, and resolution of fair market valuation and a plan by the City of Oklahoma City for the acquisition of real estate adjacent to Tinker Air Force Base, OK (in support of KC–46A depot beddown), there are no outstanding issues regarding KC–46A beddown the subcommittee should be aware of.

EAST COAST MISSILE DEFENSE SITE

10. Senator AYOTTE. Mr. Conger, section 239 of the National Defense Authorization Act (NDAA) for Fiscal Year 2014 requires the Secretary of Defense to provide the congressional defense committees with a detailed briefing on the current status of efforts and plans for an East Coast Missile Defense site not later than 180 days after the completion of the site evaluation study. In January of this year, DOD announced four sites to include an EIS for potential missile defense sites. What is the current status of the EIS at each of the four announced sites?

Mr. CONGER. The Missile Defense Agency (MDA) initiated the EIS for the Continental United States Interceptor Site (CIS) (i.e. East Coast Missile Defense Site) in January 2014. The EIS is expected to take approximately 24 months. MDA conducted initial meetings with each of the announced installation's environmental staff and State and Federal regulators. Additionally, MDA is in the final stages of planning/coordinating the necessary environmental surveys required for each specific installation. MDA plans to submit the notice of intent in June/July and conduct public scoping meetings in the July/August timeframe.

11. Senator AYOTTE. Mr. Conger, are there any issues that this subcommittee needs to be aware of that would impact meeting timelines directed by law?

Mr. CONGER. No, there are no issues that would impact meeting timelines directed by law. As required by the NDAA for Fiscal Year 2014, section 239, Vice Admiral Syring will update the congressional professional staff members in July/August 2014.

BASE REALIGNMENT AND CLOSURE COSTS AND SAVINGS

12. Senator AYOTTE. Mr. Conger, Secretary Burke, Secretary Hammack, Secretary McGinn, and Ms. Ferguson, are each of the Services still paying environmental cleanup expenses from past Base Realignment and Closure (BRAC) rounds?

Mr. CONGER and Ms. BURKE. Yes, each military Service is still paying environmental cleanup expenses from past BRAC rounds. Through the end of fiscal year 2013, the military Services have completed cleanup at 83 percent of BRAC sites and they are on track to exceed DOD's goal to complete cleanup at 90 percent and 95 percent of sites by the end of fiscal year 2018 and fiscal year 2021, respectively. Most of the remaining expenses are for operating cleanup systems and conducting long-term management (e.g., environmental monitoring, review of site conditions) to ensure continued protection of human health and the environment, once active cleanup is complete.

Ms. HAMMACK. Yes, the Army continues to pay for environmental cleanup expenses from past BRAC rounds.

Mr. MCGINN. Yes, the Navy is still paying environmental cleanup expenses from past BRAC rounds.

Ms. FERGUSON. Yes, there are ongoing environmental cleanup expenses from all five BRAC rounds.

13. Senator AYOTTE. Mr. Conger, Secretary Burke, Secretary Hammack, Secretary McGinn, and Ms. Ferguson, how much in fiscal year 2015 do each of the Services propose spending on previous BRAC rounds?

Mr. CONGER and Ms. BURKE. DOD is planning to spend $355 million in fiscal year 2015 at BRAC installations: $93 million at Army BRAC installations, $154 million at Navy BRAC installations, $106 million at Air Force BRAC installations, and $2 million at Defense-wide installations.

Ms. HAMMACK. The Army has requested $84.4 million in fiscal year 2015 for environmental and caretaker activities for the following previous BRAC rounds: BRAC

1988 $12.4 million; BRAC 1991 $4.3 million; BRAC 1993 $1.8 million; BRAC 1995 $21.1 million; and BRAC 2005 $44.8 million.

In addition to the expenditures programmed in the fiscal year 2015 budget request, the Army is taking advantage of the flexibility provided by the consolidation of the BRAC accounts to accelerate environmental cleanup. The Army plans to expend unobligated prior-year balances during execution of its fiscal years 2014 and 2015 BRAC program which will bring the total combined fiscal years 2014 and 2015 obligations to approximately $680 million. These projected obligations will help to significantly reduce the remaining BRAC environmental cleanup liability currently estimated at $1.2 billion.

Mr. MCGINN. The Navy's BRAC fiscal year 2015 $138 million budget request will be spent on BRAC rounds II through V.

Ms. FERGUSON. The Air Force's fiscal year 2015 President's budget request, including environmental and operation and maintenance, is in the amount of $92 million.

14. Senator AYOTTE. Mr. Conger, Secretary Burke, Secretary Hammack, Secretary McGinn, and Ms. Ferguson, what are the earliest BRAC rounds from which each of the Services are still incurring expenses?

Mr. CONGER and Ms. BURKE. 1988 is the earliest BRAC round from which the military Services are incurring expenses. The military Services are making good progress completing cleanup at BRAC sites, and they are on track to exceed DOD's goal to complete cleanup at 90 percent and 95 percent of sites by the end of fiscal year 2018 and fiscal year 2021, respectively.

Ms. HAMMACK. The earliest BRAC round for which the Army is still incurring expenses is BRAC 1988.

Mr. MCGINN. The Navy still has environmental liabilities for one base from BRAC round I; however, all BRAC round I property has been transferred.

Ms. FERGUSON. The Air Force is still incurring expenses from round 1 (BRAC 88) at the following former installations: Chanute Air Force Base, IL; George Air Force Base, CA; and Norton Air Force Base, CA.

15. Senator AYOTTE. Mr. Conger, Secretary Burke, Secretary Hammack, Secretary McGinn, and Ms. Ferguson, how much would the proposed BRAC round in 2017 cost?

Mr. CONGER and Ms. BURKE. A 2017 BRAC round should be similar to the 1993 and 1995 rounds. Based on a notional 4 to 5 percent reduction in plant replacement value and using the average of actual costs and savings from previous rounds (BRAC 1993/1995 data) as the basis, DOD estimates that over the 6-year implementation (2018–2023) period, cumulative costs would be $5.8 billion, slightly more than the cumulative savings of $5.7 billion, therefore it would be a wash during the timeframe. Our projection is that we can achieve recurring savings (after implementation) on the order of $2 billion/year with another round.

Ms. HAMMACK. The Department proposes a fiscal year 2017 BRAC round to accomplish reductions in civilian workforce levels and garner future multiyear savings. This proposal results in a budget of $1.6 billion through fiscal year 2019, but generates multiyear savings starting in fiscal year 2020.

Mr. MCGINN. OSD anticipates a 2017 BRAC round would be similar to the 1993 and 1995 rounds. Based on a notional 4 to 5 percent reduction in plant replacement value and using the average of actual costs and savings from previous rounds (BRAC 1993/1995 data) as the basis, DOD estimates that over the 6-year implementation (2018–2023) period, cumulative costs would be $5.8 billion, slightly more than the cumulative savings of $5.7 billion, therefore it would pay for itself during the implementation period. The Department of the Navy welcomes the opportunity to conduct the analysis and determine what savings we may achieve through an additional round of BRAC.

Ms. FERGUSON. The Air Force's portion of the overall cost for a BRAC round in 2017 would depend on OSD criteria for evaluation and the resulting recommendations. The Air Force has not done any analysis to date to calculate costs.

16. Senator AYOTTE. Mr. Conger, Secretary Burke, Secretary Hammack, Secretary McGinn, and Ms. Ferguson, the Government Accountability Office (GAO) found in 2012 that BRAC 2005 implementation costs grew to about $35 billion—exceeding the initial 2005 estimate of 67 percent. Given this discrepancy between the original cost estimates and the actual costs from the 2005 BRAC round, how confident can we be regarding cost estimates for a new BRAC round?

Mr. CONGER and Ms. BURKE. As we have indicated previously, GAO's 2012 report found that most of the cost increase could be tied to only 14 of the 182 recommenda-

tions. Those increases were largely due to deliberate and subsequent decisions to expand the originally-envisioned scope of construction and recapitalization to address deficiencies in our enduring facilities or to expand the capabilities they provide as opposed to issues of accuracy. Second, BRAC 2005 occurred during a time of growth (both personnel and resources) and as such, contributed to scope increases. Third, we will incorporate our own lessons learned and the findings of GAO to improve our cost estimating, particularly for areas such as information technology.

Ms. HAMMACK. There are good reasons to be confident that a future BRAC round would not experience similar cost growth analyzed in GAO's 2012 report. GAO found that most of the cost increase (72 percent) tied to only 14 of the 182 recommendations. The Army was the main lead on 6 of those 14. The cost increases were largely due to deliberate and subsequent decisions to expand the originally-envisioned scope of construction and recapitalization to address deficiencies in enduring facilities and/or expand the capabilities provided as opposed to issues of accuracy.

Another reason I am confident: BRAC 2005 was an anomaly in several important ways. There were four major factors that drove most of the Army's cost increases, all of which would be absent in a future BRAC round.

Factor #1: BRAC 2005 was a transformational BRAC conducted while fighting two wars. This was an anomaly because prior BRAC rounds occurred as the Cold War ended. The Army used the BRAC 2005 process to transform how we train and organize our modular Brigade Combat Teams. For example, we created a Maneuver Center of Excellence at Fort Benning that combined the Armor and Infantry Schools, creating new and better capability. Similarly, at Fort Lee, VA, we created a Combat Service Support Center of Excellence. Those were two of the six Army-led BRAC recommendations that generated much of the cost increase evaluated by GAO. The Senate Armed Services Committee reviewed every project during its annual budget oversight and authorization process.

Factor #2: BRAC 2005 was implemented while Army end strength and force structure were increasing. This was an anomaly because all prior BRAC rounds occurred while end strength and force structure were decreasing. A future BRAC round would similarly occur while end strength and force structure are decreasing.

Factor #3: BRAC 2005 accommodated the return of tens of thousands of soldiers from overseas, back to the United States. This was an anomaly because a future BRAC round would have no expectation that large numbers of forces stationed in Europe would return to the United States. The Army had existing facilities in Europe and Korea, but needed to construct new facilities here at home.

Factor #4: The BRAC 2005 process produced two types of recommendations—efficiency and transformation. The Army saves $1 billion a year in annual recurring savings from the BRAC 2005 process and began realizing those savings when the BRAC process concluded in September 2011. For the Army, BRAC 2005 efficiency recommendations cost about $2 billion to implement and save about $575 million each year. A future BRAC would be an efficiency BRAC round, which would likely yield similar returns on investment.

Mr. MCGINN. GAO's 2012 report found that most of the cost increase could be tied to only 14 of the total 182 DOD recommendations. Those increases were largely due to deliberate and subsequent decisions to expand the originally-envisioned scope of construction and recapitalization to address deficiencies in enduring facilities or to expand the capabilities they provide. Second, BRAC 2005 occurred during a time of growth (both personnel and resources) and as such contributed to scope increases. Finally, lessons learned and the findings of GAO will inform our analysis and cost estimating processes in a future round of BRAC.

Ms. FERGUSON. The Air Force cannot speculate on how accurate future estimates may be; however, it is important to note that the Air Force completed all of its BRAC 2005 actions on schedule and within the estimated total costs and achieved savings, both during the 6-year implementation period and annually thereafter.

17. Senator AYOTTE. Mr. Conger, when do you expect to reach the aggregate break-even point for the 2005 BRAC round? In other words, when will the aggregate savings exceed the costs?

Mr. CONGER. Accumulated savings will exceed one-time implementation costs in 2018.

MILITARY CONSTRUCTION AND SUSTAINMENT FUNDING FOR THE NATIONAL GUARD AND RESERVE

18. Senator AYOTTE. Secretary Hammack, a major concern for the subcommittee has been the underfunding of the infrastructure needs of our National Guard and Reserve components. Over 46 percent of Army Guard Readiness Centers are 50-years-old and older, and many are not suitable to put soldiers in. The decrease in facility investment will lead to lasting negative impacts on the National Guard's ability to effectively serve the Nation and its communities during crises. How would you assess the overall infrastructure readiness of the Army National Guard and Reserve units?

Ms. HAMMACK. The Army has concerns regarding all Army facilities including those of the Army National Guard (ARNG) and Army Reserve. Projected funding levels present challenges to adequately support a modern force with modern equipment.

In the short term, in order to meet the mission, the Army will rely more on sustainment, restoration and modernization funding to balance the lower MILCON levels. The Army will also closely monitor potential life/health/safety issues caused by facility degradation and utilize mitigation strategies.

To ensure the Reserve components are being funded at appropriate levels with limited resources, the Army implemented an integrated Facility Investment Strategy (FIS) for MILCON funding distribution between the components. This distribution is based on models of record that provide facility condition and requirement data using business rules that are replicable and transparent. In addition, the Army has recognized readiness centers and vehicle maintenance shops as focus areas in its facility investment strategy.

The ARNG is in the final phase of developing its Readiness Center Transformation Master Plan (RCTMP), which will provide a comprehensive capital investment strategy for both MILCON and restoration and modernization for every State. The Army anticipates the study will identify many opportunities for consolidation and divesture dependent upon the mission, demographics, and facility condition.

19. Senator AYOTTE. Secretary Hammack, how does the Army prioritize its MILCON and facility sustainment funding across the Active, National Guard, and Reserve Forces?

Ms. HAMMACK. As we shape the Army of 2020 and beyond through a series of strategic choices, the Army Senior Leadership implements an integrated FIS in support of Total Army priorities and requirements across all components. The Army FIS uses MILCON funding to focus on the highest need to replace failing facilities and build out critical facility shortages. As a result, MILCON funding is spread across the Active, National Guard, and Army Reserve appropriations according to a parity formula that is based on facility requirements and condition. Prioritization of MILCON is also based on facility requirements in support of Army Senior Leader Initiatives required for equipment fielding, force structure updates, and readiness. Examples of these needs include the activation of the 13th Combat Aviation Brigade, establishment of the Army Cyber Command, elimination of inadequate training barracks, and new facilities for the Gray Eagle Unmanned Aerial System in the United States (the system was initially fielded directly to combat). MILCON prioritization across all components is additionally focused on the extent to which a project addresses obsolete, failed, or failing facilities, alleviates critical space deficits on an installation or site, eliminates leased facilities, and provides for demolition of older facilities balanced with new construction.

Sustainment funding level is equally distributed across the Active, National Guard, and Army Reserve in accordance with the OSD Facilities Sustainment Model (FSM). It is the Army's intent to fund sustainment at the same percentage across the components. Although our goal is 90 percent of FSM requirements, the Army and all Services have taken risk and resourced sustainment at lower levels due to budget reductions in support of our Nation's deficit reduction goal. Components target the allocated sustainment in support of life, health, and safety projects to protect the quality of life of our soldiers, then focus funding towards the sustainment projects with the highest return on investment based on facility requirements, conditions, and mission need.

20. Senator AYOTTE. Ms. Ferguson, how is the Air Force handling the underfunding of the infrastructure needs of our National Guard and Reserve Forces and installations?

Ms. FERGUSON. In our fiscal year 2015 President's budget request, the Air Force—both Active and Reserve components—attempted to strike the delicate balance of a

ready force today and a modern force tomorrow, while also recovering from the impacts of sequestration and adjusting to budget reductions.

To help achieve that ready and modern force balance, the Air Force elected to accept risk in installation support, MILCON, and facilities sustainment. Major commands, the National Guard Bureau, and Air Force Reserve Command played a significant role in determining the amount of risk we could assume. Ultimately, the Air Force funded facilities sustainment at 65 percent of the OSD's FSM; reduced restoration and modernization account by 33 percent, and MILCON by 28 percent, from the fiscal year 2014 President's budget. The decrease in MILCON defers current mission infrastructure recapitalization requirements while supporting higher priority new mission MILCON, including combatant commander requirements, weapon system beddowns, and capabilities to execute the Defense Strategic Guidance. In the future, as new weapon system requirements are fielded across the total force, MILCON recapitalizing current infrastructure will continue to be difficult to resource. We acknowledge near-term facilities sustainment, restoration and modernization, and MILCON program reductions will have long-term effects on the health of infrastructure. To overcome the underfunding of infrastructure, we will continue to employ centralized asset management principles to target our severely limited resources against mission-critical, worst-first requirements. However, in the MILCON account, the Reserve component received at, or above, their fair-share of available funding.

NATIONAL GUARD BUREAU'S READINESS CENTER TRANSFORMATION STUDY

21. Senator AYOTTE. Mr. Conger, I understand that the National Guard Bureau is conducting a Readiness Center Transformation Study for all States, territories, and the District of Columbia, to determine the costs of replacing, modernizing, or restoring aging infrastructure, while closing unacceptable facilities, as needed. In December 2013, the National Guard Bureau submitted an interim report to DOD for review. When will this report be delivered to Congress?

Mr. CONGER. The Army National Guard is on track to deliver the final report of the RCTMP in December 2014.

22. Senator AYOTTE. Mr. Conger, Secretary Burke, Secretary Hammack, and Ms. Ferguson, will DOD use this study to address infrastructure shortfalls in the National Guard and Reserve Forces?

Mr. CONGER and Ms. BURKE. DOD will use the report to help inform Reserve center investment decisions. However, as in most investment decisions, there are many factors that must be considered as we build our long-term facility recapitalization priorities.

Ms. HAMMACK. Yes, DOD will use the RCTMP to inform investment decisions for the ARNG infrastructure in a myriad of scenarios including BRAC. The study only addresses National Guard Readiness Centers, not Army Reserve facilities.

In August 2010, Senate Report 111–201 requested a study be conducted on ARNG readiness centers followed by a report on findings. In response to the study, the ARNG is now in the final phase of developing a RCTMP as a part of its final report. This plan will provide a comprehensive capital investment strategy for both MILCON and restoration and modernization for every State. The study is identifying many opportunities for consolidation and divesture where it makes sense for the mission, demographics, and facility condition. The investment strategy is prioritized to ensure optimal mission and response effectiveness. The final report is scheduled for completion in December 2014.

The RCTMP can be used to inform facility condition of Guard readiness centers. The initial trends from the study indicate an average facility condition slipping from amber to red, and a 40 percent space shortfall. It also indicates roughly 32 percent of the readiness centers are located in areas not supported by demographics or mission requirements.

The RCTMP will provide a valuable investment plan for both MILCON and facilities sustainment restoration and modernization, because it utilizes a risk-based prioritized strategy developed from robust methodology, consistent criteria, and creditable data.

Ms. FERGUSON. Senate Report 111–201, accompanying the NDAA for Fiscal Year 2011, directs the Secretary of the Army to report to the Senate Armed Services Committee no later than February 1, 2011, on the results and recommendations of an independent study which shall review:

(1) Standards for facility size, configuration, and equipment for the range of missions and training supported by readiness centers;

(2) An assessment of each readiness center to objectively measure and determine the current facility condition and capability to support authorized manpower, unit training, and operations;
(3) An assessment of supporting facilities and functions to include equipment storage, classrooms, force protection, utilities, maintenance, administration, and proximity of support and training facilities;
(4) Recommendations for the placement of new readiness centers, the relocation of existing readiness centers, or a change in the mission of units assigned to readiness centers to ideally position the ARNG in current or projected population centers;
(5) Recommendations for enhanced use of readiness centers to facilitate ARNG family support programs during deployments;
(6) An analysis of the feasibility, potential costs, and benefits of shared use of ARNG readiness centers with other local, State, or Federal agencies to improve response to local emergencies as well as the community support provided by readiness centers; and
(7) An investment strategy and proposed funding amounts in a prioritized project list to correct the most critical facility shortfalls across the inventory of ARNG readiness centers.

The study was directed to the Secretary of the Army, and conducted by the ARNG to address ARNG readiness center requirements; the Air Force has thus not used it to assess or address ANG or Air Force Reserve missions or facility requirements.

PAYMENT-IN-KIND

23. Senator AYOTTE. Mr. Conger, the NDAA for Fiscal Year 2014 contained language that requires all future MILCON projects funded using in-kind payments pursuant to a bilateral agreement with partner nations be submitted to Congress for prior authorization. This language was included in the bill due to concerns about how DOD selects and prioritizes host nation funded construction projects. In your written statement, you said you disagreed with the provision because it was overly restrictive. However, this subcommittee's review of certain costs associated with U.S. military presence in Germany and the Asia-Pacific region identified a number of concerns regarding the spending and oversight of foreign government payments, particularly in-kind payments used for MILCON projects. What actions has DOD taken to comply with the new restrictions and to improve oversight?

Mr. CONGER. DOD adheres to the relevant statutes pertaining to in-kind payments. To implement changes in the NDAA for Fiscal Year 2014 regarding in-kind payments, we are drafting policy that will clarify the definition of in-kind payments, and the processes the military departments and combatant commands will follow to recommend projects that will use the in-kind payments, to include required notifications to Congress. In order to improve the existing oversight and transparency of this program, we intend on providing Congress with an annual report that provides a list of construction projects provided by a host nation as compensation for the residual value of U.S. funded improvements returned to that host nation (i.e., in-kind payments) and host nation support provided in the form of direct construction rather than a cash contribution for the explicit purpose of defraying some, or all, of DOD's costs to station, maintain, and train military forces in their country (i.e., Japan and Korea). Additionally, my staff has expanded its review of the documentation supporting both the in-kind payments and voluntary contributions by host nations and will begin conducting scheduled program management reviews and establishing consistent investment policies.

REBASING OF MARINES FROM OKINAWA TO GUAM

24. Senator AYOTTE. Mr. Conger and Secretary McGinn, one of the most significant rebasing actions DOD is undertaking is the relocation of thousands of marines from Okinawa to Guam, Australia, Iwakuni, Hawaii, and the continental United States. This movement is a key part of our combat capability in the Asia-Pacific region. What are the current dates each of the movements should be complete?

Mr. CONGER. Guam: With congressional support and subject to several assumptions, our current projection is to have the first Marine Corps units start moving to Guam in 2021, establish an initial Marine Air Ground Task Force (MAGTF) capability by 2022/2023, and relocate the final Marine Corps units from Okinawa to Guam by 2026.

Hawaii: The Marine Corps plans to increase its presence in Hawaii by approximately 900 personnel (not including dependents) to accommodate numerous changes

to the Marine Corps Aviation Plan by fiscal year 2018. The relocation of approximately 2,700 marines from Okinawa to Hawaii—planned to arrive beginning in 2027—is currently in the very early stages of planning.

Australia: In April 2014, the Marine Corps began the execution of the first Phase 2 deployment, an infantry battalion supported by a CH–53E detachment of four aircraft and a small logistics detachment, as part of Marine Rotational Force-Darwin. The prerequisites to move through phases are: (1) Bilateral approval; (2) Facilities availability; and (3) Marine Corps unit and equipment sourcing solution. Phase 3 (a Battalion Landing Team with aviation and logistics elements) is in the early stages of planning and discussions, and will build capability over time, progressing to the Phase 4, 2,500-personnel MAGTF.

Iwakuni: The Marine Corps recently held the grand opening of new aircraft hangars and facilities at MCAS Iwakuni in support of the VMGR–152 (KC–130 aircraft) move from MCAS Futenma this summer, as part of the ongoing construction focused on rebuilding 77 percent of the station under the Defense Policy Review Initiative.

Okinawa: The Okinawa Consolidation Plan was unveiled on April 5, 2013, and contained projected completion dates for land returns. The Government of Japan (GoJ) derived these dates from joint timelines for construction and development and reflect a GoJ assessment of their own legal requirements and construction capabilities. The dates represent an optimistic best-case scenario and ministers welcomed the progress on land returns in the October 2013 U.S.-Japan Security Consultative Committee, also referred to as the 2+2 talks. To date, the Marine Corps has completed agreements that are over a year ahead of schedule. Per bilateral agreement, the Marine Corps must complete unilateral Okinawa consolidation master plans by December 2015 and obtain bilateral agreement prior to April 2016.

The April 2012 Security Consultative Committee Joint Statement states that the Marine Corps will not turn over MCAS Futenma until the air facility at Camp Schwab is complete and operative; the completion of which is a primary driver for the closure of MCAS Futenma. Following the December 27, 2013, approval of the landfill permit at Henoko Bay, the GoJ continued their commitment with the recent Ministry of Defense announcement of the awarding of eight contracts totaling $14.4 million using JFY 2013 funds for survey and design work for the landfill. Internal analysis indicates that the Marine Corps Air Facility at Camp Schwab will be operational in 10 years. The GoJ is looking into ways to shorten the timeline.

Mr. MCGINN. Guam: In accordance with section 102(2)(c) of the National Environmental Policy Act (NEPA), the Department of the Navy is preparing a "Supplemental Environmental Impact Statement (SEIS) for the Guam and Commonwealth of the Northern Mariana Islands Military Relocation (2012 Roadmap Adjustments)." The SEIS evaluates potential alternatives for construction and operation of a main cantonment area, including family housing, and a Live-Fire Training Range Complex (LFTRC) to support the relocation of a substantially reduced number of marines than previously analyzed in the 2010 EIS. Construction projects at the main cantonment and the LFTRC cannot commence until after the Record of Decision for the SEIS is executed in 2015; however, the Marine Corps is authorized by exception to move forward on projects that support current and future training and are unencumbered by the SEIS (specifically; Andersen Air Force Base North Ramp, Andersen South and Apra Harbor locations). With congressional support and subject to several assumptions, our current projection is to have the first Marine Corps units start moving to Guam in 2021, establish an initial MAGTF capability by 2022/2023, and relocate the final Marine Corps units from Okinawa to Guam by 2026.

Hawaii: The Marine Corps plans to increase its presence in Hawaii by approximately 900 personnel (not including dependents) to accommodate numerous changes to the Marine Corps Aviation Plan by fiscal year 2018. To accommodate the training, readiness, and quality of life requirements for these additional units, the Marine Corps has so far received nearly $300 million in MILCON funding from Congress in fiscal year 2013/2014 and has requested $53 million in fiscal year 2015. Additional projects are currently being developed and reviewed. The relocation of approximately 2,700 marines from Okinawa to Hawaii—planned to arrive beginning in 2027—is currently in the very early stages of planning. Several initial studies have been completed; these will inform future NEPA analysis and are essential before accurate and budget-quality cost estimates and a master plan for the relocation to Hawaii can be completed. The environmental review process is currently planned to begin in 2019 and will identify and address issues of local concern, such as compatible land uses, off-base infrastructure improvements, traffic impacts, natural and cultural resources impacts, and necessary school upgrades. Final basing decisions and construction cannot occur until after an EIS and Record of Decision have been completed.

Australia: In April 2014, the Marine Corps began the execution of the first Phase 2 deployment, an infantry battalion supported by a CH–53E detachment of four aircraft and a small logistics detachment, as part of Marine Rotational Force-Darwin. The prerequisites to move through phases are: (1) Bilateral approval; (2) Facilities availability; and (3) Marine Corps unit and equipment sourcing solution. Phase 3 (a Battalion Landing Team with aviation and logistics elements) is in early stages of planning and discussions, and will build capability over time, progressing to the Phase 4, 2,500-personnel MAGTF.

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Okinawa: The Okinawa Consolidation Plan was unveiled on April 5, 2013, and contained projected completion dates for land returns. The GoJ derived these dates from joint timelines for construction and development and reflect a GoJ assessment of their own legal requirements and construction capabilities. The dates represent an optimistic best-case scenario and ministers welcomed the progress on land returns in the October 2013 U.S.-Japan Security Consultative Committee, also referred to as the 2+2 talks. To date, the Marine Corps has completed joint committee agreements on four areas eligible for immediate return: (1) Camp Kinser North Access Road has been transferred to Urasoe City; (2) West Futenma Housing Area of Camp Foster is in the process of being returned; (3) A bilateral referral is being executed for a portion of the warehouse area within the Camp Foster Facilities Engineering Compound; and (4) Camp Kinser area near gate 5 is in the process of being returned. All of these agreements are over a year ahead of schedule. The Shirahi River area has also been identified as an additional area available for immediate return and is under coordination. Per bilateral agreement, the Marine Corps must complete unilateral Okinawa consolidation master plans by December 2015 and obtain bilateral agreement prior to April 2016.

The April 2012 Security Consultative Committee Joint Statement states that the Marine Corps will not turn over MCAS Futenma until the air facility at Camp Schwab is complete and operative; the completion of which is a primary driver for the closure of MCAS Futenma. Following the December 27, 2013, approval of the landfill permit at Henoko Bay, the GoJ continued their commitment with the recent Ministry of Defense announcement of the awarding of eight contracts totaling $14.4 million using JFY 2013 funds for survey and design work for the landfill. Although the Governor of Okinawa requested that flight operations at MCAS Futenma cease in 5 years, the current U.S. Marine Corps and U.S. Forces-Japan internal analysis indicates that the Marine Corps Air Facility at Camp Schwab will be operational in 10 years. The GoJ is looking into ways to shorten the timeline.

25. Senator AYOTTE. Mr. Conger and Secretary McGinn, what are the final estimated force sizes at each of these locations?

Mr. CONGER. The Marine Corps' Distributed Laydown is a key part of the rebalance strategy for the Asia-Pacific region and provides U.S. Pacific Command (PACOM) with agile and responsive MAGTFs in four geographical regions across the Pacific: Japan, Guam, Hawaii, and Australia, and supports the Secretary of Defense's requirement for 22,500 marines to remain west of the International Date Line.

Japan: While our presence on Okinawa will gradually be reduced to approximately 10,000 personnel, Okinawa will continue to be the mainstay of our forward deployed Marine Corps forces in the Asia-Pacific region. It is a cornerstone of our Distributed Laydown. In addition to Okinawa, there will be approximately 3,500 marines in Iwakuni. Per the terms of our mutual defense treaty, Japan will continue to provide facilities on Okinawa and mainland Japan for our use.

Guam: The approximately 5,000 person 3rd Marine Expeditionary Brigade will consist of its Command Element, a Ground Combat Element comprised of the 4th Marine Regiment (headquarters, two infantry battalions, and combat support attachments), a robust Air Combat Element, and a Combat Service Support Element tailored to its needs. This Marine Expeditionary Brigade-sized MAGTF will be able to support the PACOM commander's needs from engagement to crisis response.

Australia: In April 2014, the Marine Corps began the execution of the first Phase 2 deployment, an infantry battalion supported by a CH–53E detachment of four aircraft and a small logistics detachment, as part of Marine Rotational Force-Darwin. The intent in the coming years is to establish a rotational presence of up to a 2,500 person MAGTF in the Northern Territory.

Hawaii: The relocation of approximately 2,700 marines from Okinawa to Hawaii—planned to arrive beginning in 2027—will bring the total forces in Hawaii to approximately 8,800.

Mr. MCGINN. The Marine Corps' Distributed Laydown is a key part of the rebalance strategy for the Asia-Pacific region and provides PACOM with agile and responsive MAGTFs in four geographical regions across the Pacific; Japan, Guam, Hawaii, and Australia, and supports the Secretary of Defense's requirement for 22,500 marines to remain west of the International Date Line.

Japan: While our presence on Okinawa will gradually be reduced to approximately 10,000 personnel, Okinawa will continue to be the mainstay of our forward deployed Marine Corps forces in the Asia-Pacific region, and a cornerstone of our Distributed Laydown, which in addition to Okinawa, there will be approximately 3,500 in Iwakuni. Per the terms of our mutual defense treaty with Japan, they will continue to provide facilities on Okinawa and mainland Japan for our use.

Guam: Once the realignment of forces in Okinawa is complete, the approximately 5,000 personnel 3rd Marine Expeditionary Brigade will consist of its Command Element, a Ground Combat Element comprised of the 4th Marine Regiment (headquarters, two infantry battalions, and combat support attachments), a robust Air Combat Element, and a Combat Service Support Element tailored to its needs. This Marine Expeditionary Brigade-sized MAGTF will be able to support the PACOM commander's needs from engagement to crisis response.

Australia: In April 2014, the Marine Corps began the execution of the first Phase 2 deployment, an infantry battalion supported by a CH–53E detachment of four aircraft and a small logistics detachment, as part of Marine Rotational Force-Darwin. The intent in the coming years is to establish a rotational presence of up to a 2,500 person MAGTF in the Northern Territory.

Hawaii: The relocation of approximately 2,700 marines from Okinawa to Hawaii—planned to arrive beginning in 2027—will bring the total forces in Hawaii to approximately 8,800.

26. Senator AYOTTE. Mr. Conger and Secretary McGinn, do we have a final estimated cost to the U.S. Government for this overall relocation?

Mr. CONGER. No. The Department of the Navy is using a $12.1 billion cost estimate as a planning figure to cover MILCON, major categories including family housing, equipment, furnishings, environmental mitigation, and non-military infrastructure. With the exception of a limited number of near-term projects for which we have budget level detail, the current estimate is conservative and programmatic.

As the Department of the Navy proceeds with preparation of the SEIS for Guam, we will continue to refine the cost estimate and remain committed to providing Congress with comprehensive costing and detailed planning information. The current Distributed Laydown plan envisions that the Hawaii relocation will commence after the Guam build out, and therefore the plans for the scope and costs for Hawaii have less fidelity than that for Guam.

Mr. MCGINN. I am confident in the reliability of the current $12.1 billion cost estimate as a planning figure and that the Marine Corps employed the appropriate approach and methodology for determining the estimate for the Distributed Laydown. We are using the $12.1 billion cost estimate as a planning figure to cover MILCON, family housing, equipment, furnishings, environmental mitigation, and non-military infrastructure. With the exception of a limited number of near-term projects for which we have budget level detail, the current estimate is conservative and programmatic. The estimate also does not include any potential costs for strategic lift or for the relocation of marines to Australia. Cost-share negotiations with the Government of Australia are currently ongoing. The State Department, with DOD in support, is currently leading negotiations with the Australian Government for an access agreement. These negotiations—which will address cost sharing principles—are in the initial stages.

As we proceed with preparation of the SEIS for Guam, we will continue to refine the cost estimate and remain committed to providing Congress with comprehensive costing and detailed planning information as it becomes available. The current Distributed Laydown plan envisions that the Hawaii relocation will commence after the Guam build out, and therefore the plans for the scope and costs for Hawaii have less fidelity than that for Guam.

27. Senator AYOTTE. Mr. Conger and Secretary McGinn, are there any issues this subcommittee needs to be aware of at this time?

Mr. CONGER. The realignment of marines to Guam is a priority for DOD and a central element of the administration's rebalance to the Asia-Pacific region. The establishment of a LFTRC is essential to maintaining training and readiness of Ma-

rine Corps personnel relocating to Guam. The Department of the Navy and the Fish and Wildlife Service recently identified a legal obstacle under the National Wildlife Refuge System Administration Act as it pertains to the LFTRC's surface danger zone which would overlay a portion of the Ritidian Unit of the Guam National Wildlife Refuge. The surface danger zone is necessary to operate the LFTRC.

Congresswoman Bordallo has proposed legislation that would support the establishment of a LFTRC at Andersen Air Force Base-Northwest Field, which is our preferred alternative for the LFTRC in the recently released Draft SEIS. This legislation resolves the legal issue and is essential to enabling and ensuring agreement between the Navy and the Fish and Wildlife Service.

Mr. MCGINN. Yes, Congresswoman Bordallo has proposed legislation that would support the establishment of a LFTRC at Andersen Air Force Base-Northwest Field, which is our preferred alternative for the LFTRC in the recently released Draft SEIS. The bill is H.R. 4402, "The Guam Military Readiness and Training Act of 2014." Establishment of the LFTRC is essential to maintaining training and readiness of Marine Corps personnel on Guam as required by section 5063, title 10, U.S.C. We continue to work with the Fish and Wildlife Service to resolve the legal issues under the National Wildlife Refuge System Administration Act which the bill seeks to address.

OVERSEAS BASING

28. Senator AYOTTE. Mr. Conger, what is the current status of the Secretary of Defense's directed review of our European infrastructure?

Mr. CONGER. We plan to have completed our analyses and have recommendations ready for the Secretary of Defense's review in late spring. We have provided briefs to your staffs in a classified forum on our progress to date.

29. Senator AYOTTE. Mr. Conger, is that review taking into account recent developments with respect to Russia and Ukraine?

Mr. CONGER. Our review is based on a defined force structure provided by the Joint Staff and does not involve any changes to that force structure or associated capabilities. However, operational and policy military considerations and inputs are informed by current events. In fact, the results of our efforts will enhance our presence in Europe by more efficiently supporting our existing force structure.

30. Senator AYOTTE. Mr. Conger, what is included in the analyses of basing requirements?

Mr. CONGER. We are comprehensively evaluating our infrastructure relative to the requirements of a defined force structure while emphasizing military value, joint utilization, elimination of excess capacity, and obligations to our allies.

31. Senator AYOTTE. Mr. Conger, is DOD assessing all combatant command areas of responsibility?

Mr. CONGER. Over the course of this past year, DOD has conducted analysis that included the elimination, consolidation, and realignment of combatant commands. DOD determined that based on the current global security environment, the current structure of six geographic commands and three functional commands remains the most effective construct. However, DOD continues to look for opportunities to cut costs—including modifications in our organization constructs—that will not also risk attaining our national security objectives.

FACILITIES SUSTAINMENT AND RECAPITALIZATION

32. Senator AYOTTE. Mr. Conger, you stated in your testimony that "sustainment represents the Department's single most important investment in the conditions of its facilities . . . Proper sustainment retards deterioration, maintains safety, and preserves performance over the life of a facility, and helps improve the productivity and quality of life of our personnel." But I understand that we funded sustainment of our facilities at 65 percent of the requirement in fiscal year 2013, 74 percent in fiscal year 2014, and are planning to fund sustainment at 65 percent in fiscal year 2015. How much more risk—more delays and cuts—can the infrastructure absorb?

Mr. CONGER. We don't really know, because many factors can impact risk and produce negative outcomes. Until the Budget Control Act impacts are normalized, DOD will continue to take risks in its infrastructure. DOD will continue to monitor key indicators of failure and prioritize funding to preclude the most detrimental outcomes. However, lesser impacts to quality of life and operational efficiency will accu-

mulate that will degrade morale, increase operational costs, and eventually impact mission effectiveness. Given that most facilities have long service lives and degrade at a relatively slow pace, it can take years for the degradation to manifest into mission impacts. This is not the optimal means to manage such a large facility inventory, but until the DOD budget stabilizes, we will continue to see small(er) facility investments.

33. Senator AYOTTE. Mr. Conger, what are the signs of a failing infrastructure and are we starting to see some of those signs?

Mr. CONGER. DOD is seeing signs of failing facilities. In 2007, DOD adopted the Federal Real Property Council's, "Guidance for Real Property Inventory Reporting," which uses a Facility Condition Index to measure an asset's health. The Facility Condition Index is a ratio of repair needs to plant replacement value; results are presented as a percentage where higher values mean better conditions. As of September 2013, there were 30,000 assets rated in a failed status, 8 percent of the inventory. We anticipate this will grow over time at current sustainment and restoration and modernization funding levels.

34. Senator AYOTTE. Mr. Conger, what is the plan to dig us out of the hole we are putting ourselves into?

Mr. CONGER. DOD is putting in place policy and guidance that will help better track the condition of our immense facility inventory so we can invest in the facilities that have the most impact on our missions. In order to reverse the impact of declining facility budgets, DOD's plan is to eliminate the unneeded infrastructure through a new BRAC round, which we requested in this year's budget request. Keeping only those facilities that are needed to support mission requirements will reduce the requirement to sustain and recapitalize infrastructure. We need Congress' support in achieving that part of our plan. Second, DOD contends that Congress could also assist in reversing the decline in infrastructure investment by permanently fixing the impact of sequestration. While the Bipartisan Budget Agreement helped in restoring some of the training and maintenance shortfalls, the outyear budget levels under sequestration will continue to put considerable stress on our infrastructure spending. Until a more stable level of funding is available, DOD will continue to prioritize available funding that preserves a safe living and working environment for our personnel and families.